KYOCERA

Fax System (K)

SERVICE MANUAL

Published in February 2005
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CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

CAUTION

Double-pole/neutral fusing.

Revision history

Revision	Date	Replaced pages	Remarks

KYOCERA

Safety precautions

This booklet provides safety warnings and precautions for our service personnel to ensure the safety of their customers, their machines as well as themselves during maintenance activities. Service personnel are advised to read this booklet carefully to familiarize themselves with the warnings and precautions described here before engaging in maintenance activities.

Safety warnings and precautions

Various symbols are used to protect our service personnel and customers from physical danger and to prevent damage to their property. These symbols are described below:

⚠**DANGER**: High risk of serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠**WARNING**:Serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠**CAUTION**: Bodily injury or damage to property may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

Symbols

The triangle (△) symbol indicates a warning including danger and caution. The specific point of attention is shown inside the symbol.

 General warning.

 Warning of risk of electric shock.

 Warning of high temperature.

⃠ indicates a prohibited action. The specific prohibition is shown inside the symbol.

 General prohibited action.

 Disassembly prohibited.

● indicates that action is required. The specific action required is shown inside the symbol.

 General action required.

 Remove the power plug from the wall outlet.

 Always ground the copier.

1. Installation Precautions

⚠ WARNING

- Do not use a power supply with a voltage other than that specified. Avoid multiple connections to one outlet: they may cause fire or electric shock. When using an extension cable, always check that it is adequate for the rated current. .....

- Connect the ground wire to a suitable grounding point. Not grounding the copier may cause fire or electric shock. Connecting the earth wire to an object not approved for the purpose may cause explosion or electric shock. Never connect the ground cable to any of the following: gas pipes, lightning rods, ground cables for telephone lines and water pipes or faucets not approved by the proper authorities. .....

⚠ CAUTION:

- Do not place the copier on an infirm or angled surface: the copier may tip over, causing injury. .....

- Do not install the copier in a humid or dusty place. This may cause fire or electric shock. .....

- Do not install the copier near a radiator, heater, other heat source or near flammable material. This may cause fire. .....

- Allow sufficient space around the copier to allow the ventilation grills to keep the machine as cool as possible. Insufficient ventilation may cause heat buildup and poor copying performance. .....

- Always handle the machine by the correct locations when moving it. .....

- Always use anti-toppling and locking devices on copiers so equipped. Failure to do this may cause the copier to move unexpectedly or topple, leading to injury. .....

- Avoid inhaling toner or developer excessively. Protect the eyes. If toner or developer is accidentally ingested, drink a lot of water to dilute it in the stomach and obtain medical attention immediately. If it gets into the eyes, rinse immediately with copious amounts of water and obtain medical attention. .....

- Advice customers that they must always follow the safety warnings and precautions in the copier's instruction handbook. .....

2. Precautions for Maintenance

⚠WARNING

- Always remove the power plug from the wall outlet before starting machine disassembly. .....

- Always follow the procedures for maintenance described in the service manual and other related brochures. .....

- Under no circumstances attempt to bypass or disable safety features including safety mechanisms and protective circuits. .....

- Always use parts having the correct specifications. .....

- Always use the thermostat or thermal fuse specified in the service manual or other related brochure when replacing them. Using a piece of wire, for example, could lead to fire or other serious accident. .....

- When the service manual or other serious brochure specifies a distance or gap for installation of a part, always use the correct scale and measure carefully. .....

- Always check that the copier is correctly connected to an outlet with a ground connection. .....

- Check that the power cable covering is free of damage. Check that the power plug is dust-free. If it is dirty, clean it to remove the risk of fire or electric shock. .....

- Never attempt to disassemble the optical unit in machines using lasers. Leaking laser light may damage eyesight. .....

- Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly. .....

⚠CAUTION

- Wear safe clothing. If wearing loose clothing or accessories such as ties, make sure they are safely secured so they will not be caught in rotating sections. .....

- Use utmost caution when working on a powered machine. Keep away from chains and belts. .....

- Handle the fixing section with care to avoid burns as it can be extremely hot. .....

- Check that the fixing unit thermistor, heat and press rollers are clean. Dirt on them can cause abnormally high temperatures. .....

- Do not remove the ozone filter, if any, from the copier except for routine replacement. .....

• Do not pull on the AC power cord or connector wires on high-voltage components when removing them; always hold the plug itself. .....

• Do not route the power cable where it may be stood on or trapped. If necessary, protect it with a cable cover or other appropriate item. .....

• Treat the ends of the wire carefully when installing a new charger wire to avoid electric leaks. .....

• Remove toner completely from electronic components. .....

• Run wire harnesses carefully so that wires will not be trapped or damaged. .....

• After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws. .....

• Check that all the caution labels that should be present on the machine according to the instruction handbook are clean and not peeling. Replace with new ones if necessary. .....

• Handle greases and solvents with care by following the instructions below: .....
· Use only a small amount of solvent at a time, being careful not to spill. Wipe spills off completely.
· Ventilate the room well while using grease or solvents.
· Allow applied solvents to evaporate completely before refitting the covers or turning the main switch on.
· Always wash hands afterwards.

• Never dispose of toner or toner bottles in fire. Toner may cause sparks when exposed directly to fire in a furnace, etc. .....

• Should smoke be seen coming from the copier, remove the power plug from the wall outlet immediately. .....

3. Miscellaneous

⚠WARNING

• Never attempt to heat the drum or expose it to any organic solvents such as alcohol, other than the specified refiner; it may generate toxic gas. .....

CONTENTS

1-1-1 Specifications

Type	Optional Fax Kit
Compatibility	Group 3
Line requirement	Subscription telephone line
Transmission speed	Less than 3 seconds (33600 bps, JBIG, ITU-T #1 chart)
Modem speed	33600/31200/28800/26400/24000/21600/19200/16800/14400/12000/9600/7200/4800/2400 bps
Data compression	JBIG/MMR/MR/MH
Error correction	ECM
Document dimensions	120 V specifications 8 1/2" × 11", 8 1/2" × 14", 5 1/2" × 8 1/2" 220-240 V specifications A4R, B5R, A5R, Folio, Custom (80 to 216 × 148 to 356 mm)
Paper dimensions	120 V specifications 8 1/2" × 11", 8 1/2" × 14", 5 1/2" × 8 1/2" 220-240 V specifications A4R, A5R, Folio
Auxiliary scanning line density	Horizontal × Vertical Normal (8 dots/mm × 3.85 lines/mm) Fine (8 dots/mm × 7.7 lines/mm) Super fine (8 dots/mm × 15.4 lines/mm) Ultra fine (16 dots/mm × 15.4 lines/mm)
Recording resolution	600 dpi × 600 dpi
Grayscale	256 levels (Value differential diffusion)
One-Touch dial	Max. 8 destinations (1-8)
Broadcast transmission	Max. 100 destinations
Polling reception	Max. 1 location
Imaging memory	3.5 MB
Functions	See pages 1-1-2 to 1-1-3.

Reception functions	Manual reception Automatic reception Fax/telephone auto selection TAD reception D.R.D. reception*1 Remote switching
Transmission functions	One-touch dialing*2 Program*2 Chain dialing*2 Redialing (manual/automatic)
Communication functions	Direct feed transmission Memory transmission Direct reception Memory reception (subaddress-based confidential reception)
Additional communication functions	Broadcast transmission (up to 100 numbers) Polling communication Encrypted communication Password check communication Memory fax forwarding Reserved transmission Timer transmission Interrupt transmission Short protocol ECM Subaddress transmission Subaddress-based confidential reception Subaddress-based bulletin board communication
Supplementary communication functions	Send to and printing out from subaddress confidential box Manual transmission Telephone directory Canceling communication Transmission destination display Tone transmission Communication result display
Supplementary transmission functions	Batch transmission TTI transmission Bulletin board Initial communication speed setting Line type setting*1
Supplementary reception functions	Memory reception 2-in-1 reception Auto reduce reception Rotation reception Recording paper feed setting (paper type) Reception date and time recording Bulk fax output

Reports	Communication management report Transmission report Reception report Status page Subaddress box list Network status page
Others	Memory editing Remote diagnosis Smoothing reception Fax priority printout Network fax functions

*1: For 120 V specifications only.
*2: To be registered under one-touch keys. Up to 8 one-touch keys can be used for one-touch dialing, program and chain dialing.

1-1-2 Parts names

(1) Main body

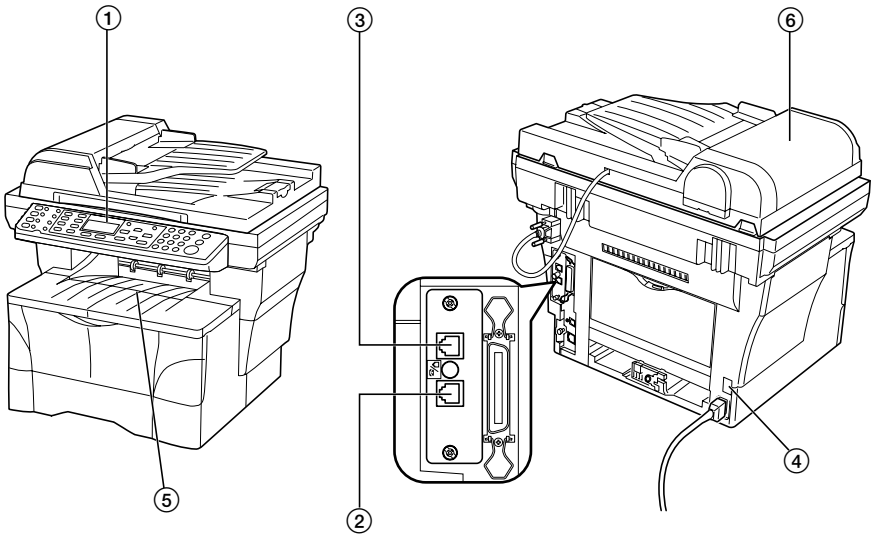


Figure 1-1-1

① Operation panel
② Telephone jack
③ Line jack
④ Power switch
⑤ Output tray
⑥ Optional document processor

(2) Operation panel

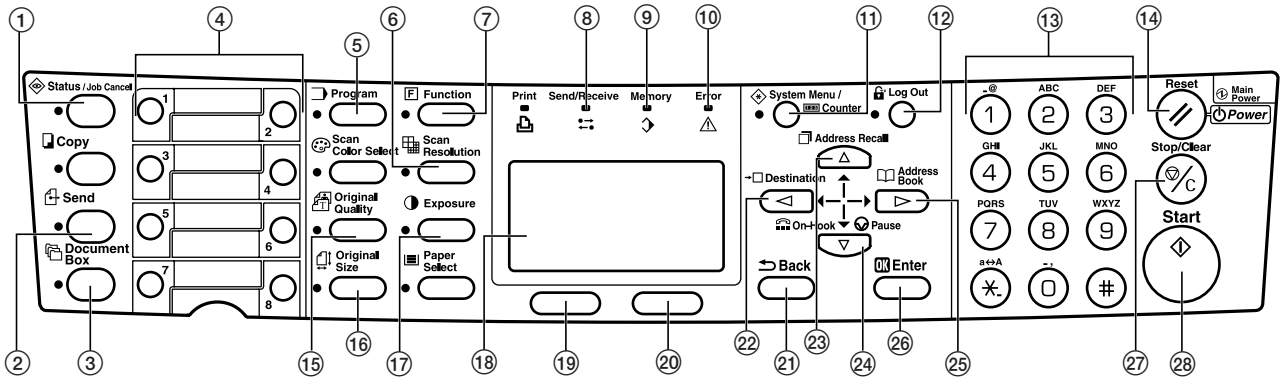


Figure 1-1-2

① Status/Job cancel key and indicator
② Send key and indicator
③ Document box key and indicator
④ One-touch keys (1 to 8)
⑤ Program key and indicator
⑥ Scan resolution key and indicator
⑦ Function key and indicator
⑧ Send/receive indicator
⑨ Memory indicator
⑩ Error indicator
⑪ System menu/counter key and indicator
⑫ Log out key and indicator
⑬ Numeric keys
⑭ Reset/power key
⑮ Original quality key and indicator
⑯ Original size key and indicator
⑰ Exposure key and indicator
⑱ Message display
⑲ Left select key
⑳ Right select key
㉑ Back key
㉒ Left cursor key (Destination key)
㉓ Up cursor key (Address recall key)
㉔ Down cursor key (On-hook/Pause key)
㉕ Right cursor key (Address book key)
㉖ Enter Key
㉗ Stop/clear key
㉘ Start key and indicator

1-1-3 Mechanical construction

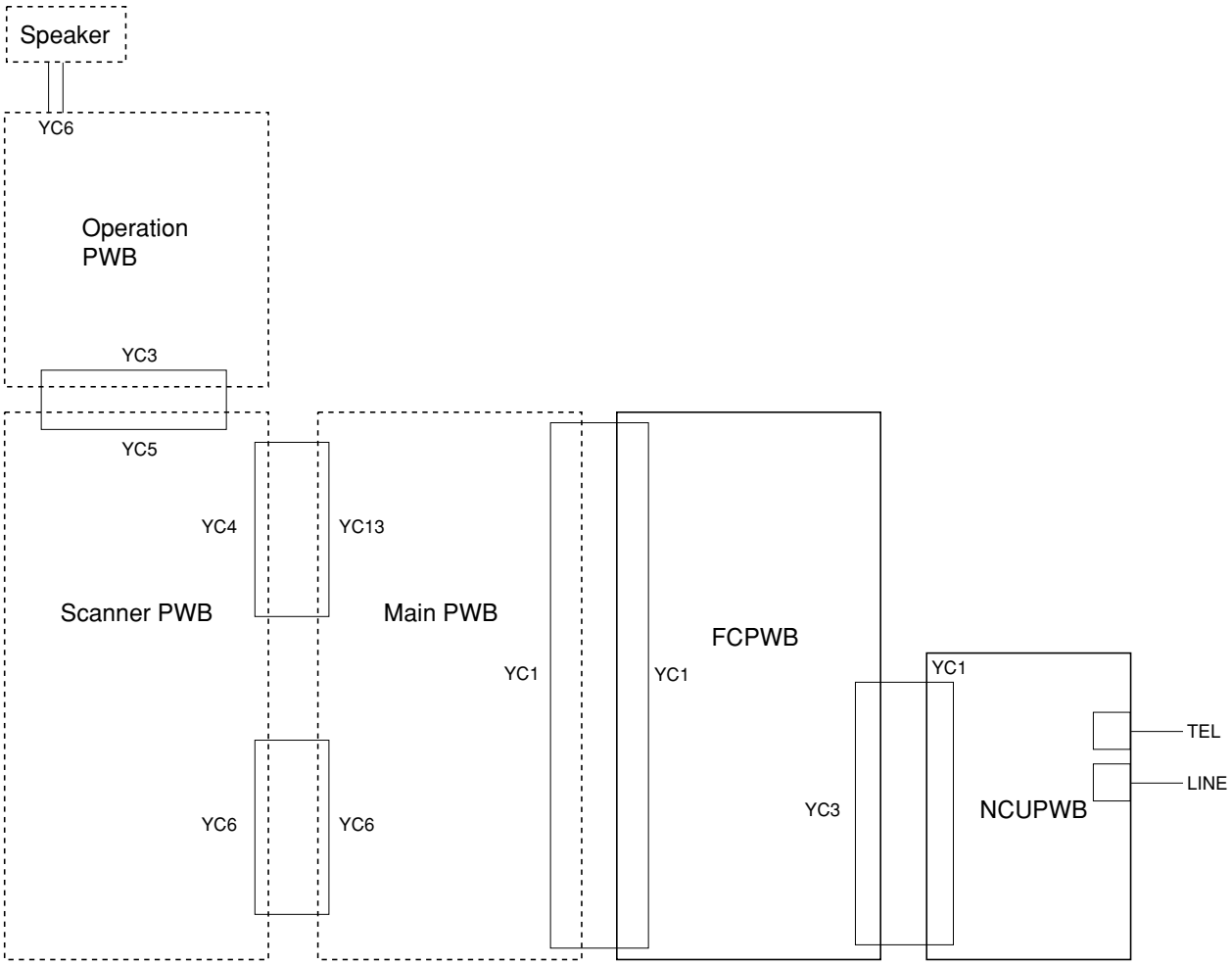


Figure 1-1-3

The fax system consists of the fax control PWB (FCPWB) and NCU PWB (NCUPWB).

1-2-1 Unpacking and installation

(1) Unpacking and installation

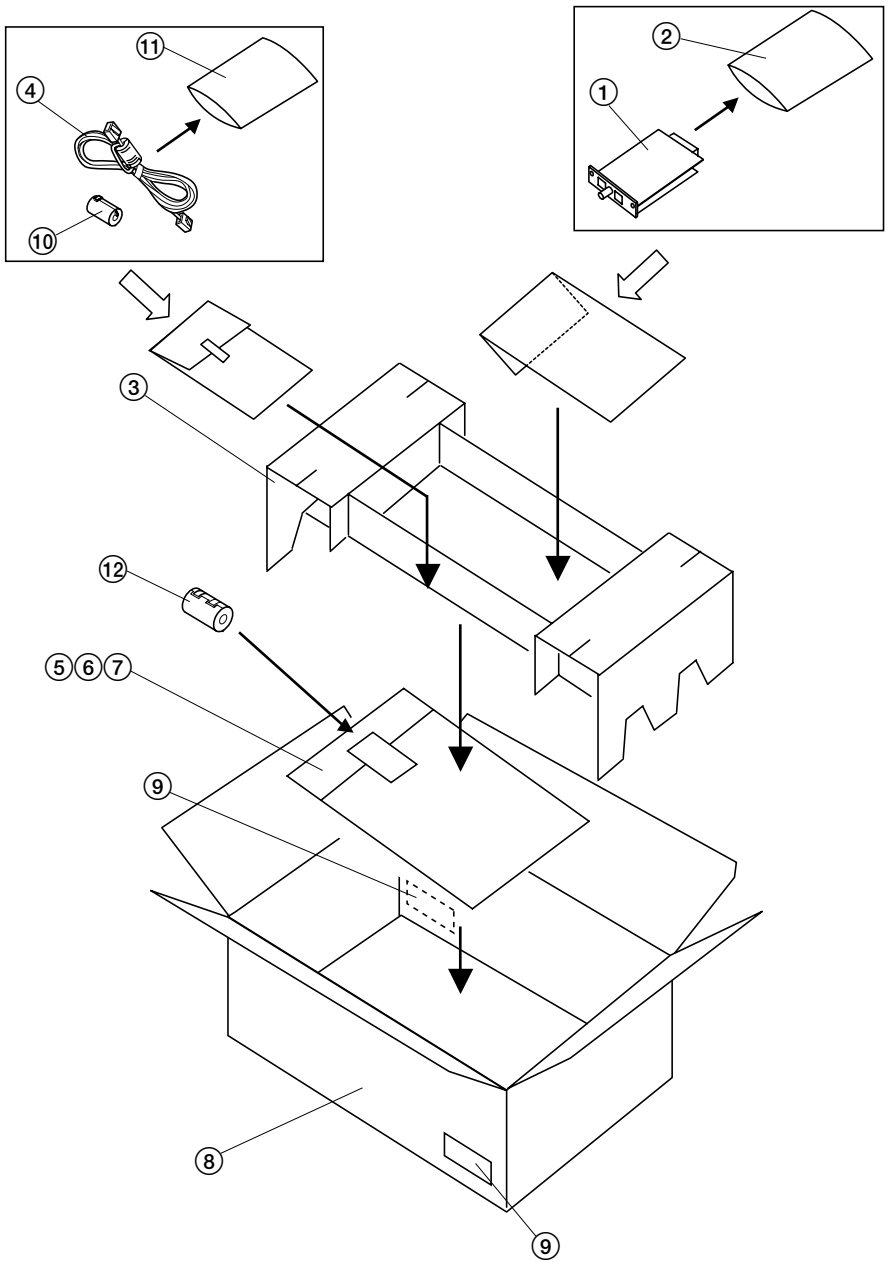


Figure 1-2-1 Unpacking

① Fax assembly
② Antistatic air-padded bag
③ Spacer
④ Modular cord*1
⑤ Installation guide
⑥ Operation guide*1
⑦ Plastic bag
⑧ Outer case
⑨ Barcode labels
⑩ Ferrite core*1
⑪ Plastic bag*1
⑫ Core*2

*1: 120 V specifications only.
*2: 220-240 V specifications only.

Turn the machine's power switch to OFF and unplug the machine from the power supply before installing the fax system.

Precautions for handling the FAX assembly
The FAX assembly is delivered in an antistatic air-padded bag.
To prevent any damage, briefly touch a large metal object to ensure discharge of static electricity before removing the FAX assembly from the bag.

Hold the FAX assembly by the metal plate on front as shown.
Do not touch the circuits or electronic components on the PWB.

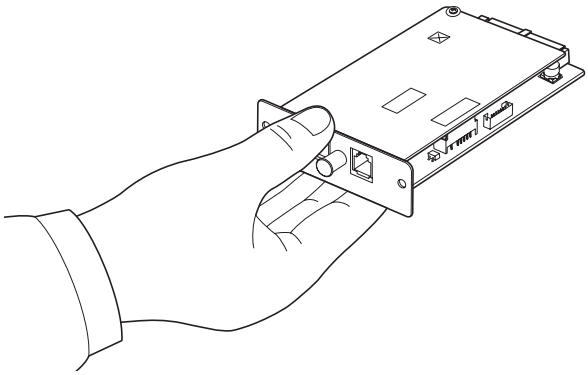


Figure 1-2-2

Procedure

1. On the rear of the machine, remove two screws and then remove the plate.

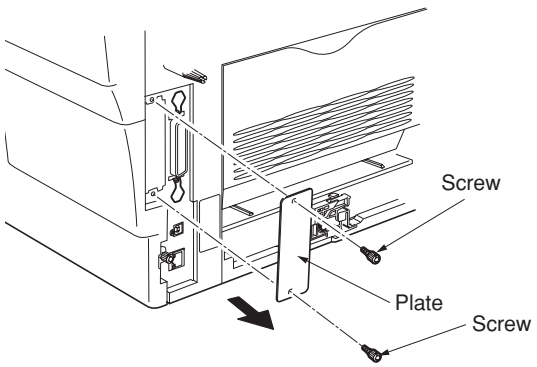


Figure 1-2-3

2. Insert the FAX assembly along the rail in the machine until it clicks in place. Attach the fax assembly using two screws from step 1. IMPORTANT: When inserting the FAX assembly, slide it slowly and firmly all the way in.

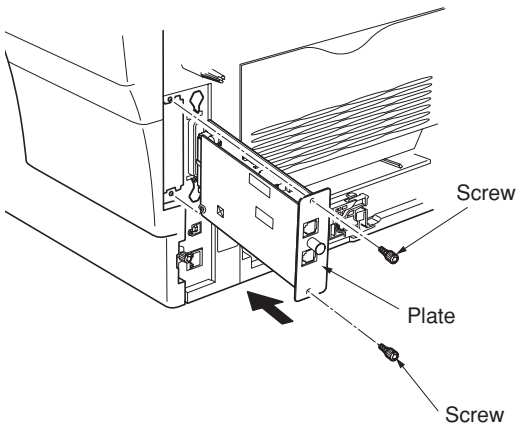


Figure 1-2-4

3. Connect the modular cord to the line jack.
   120 V specifications: Connect the provided modular cord which the ferrite core is attached into the machine.

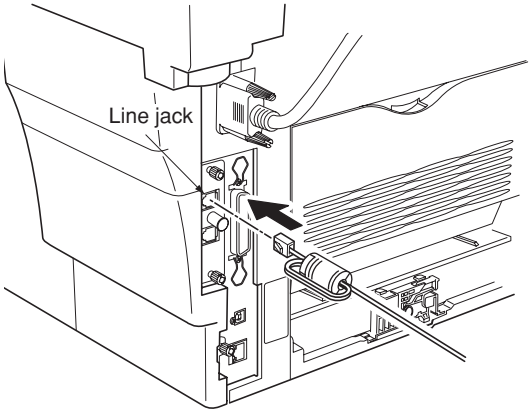


Figure 1-2-5

220-240 V specifications only

4. Attach the core to the power cord of the machine so that the stopper section is located near the power plug as shown in the illustration.

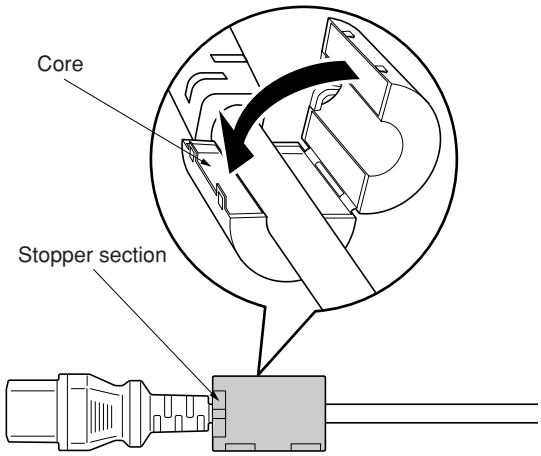


Figure 1-2-6

5. Plug the power cord into the machine. Turn the machine on.
   NOTE (120 V specifications only)
   When connecting a phone to the machine, attach the ferrite core to the modular cord before connection. Loop the modular cord through the ferrite core twice.

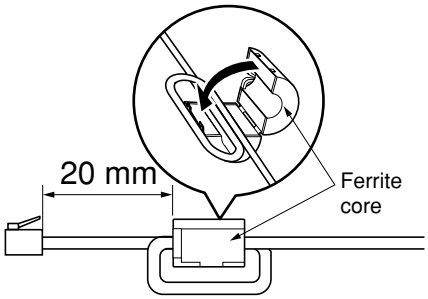


Figure 1-2-7

Initialization procedure after installation of facsimile system

1. Insert the machine power plug to the wall outlet and turn the power switch on.
2. Run maintenance item U601.
3. Enter a destination code using the numeric keys (refer to the destination code list) and then press the enter key.
   * Enter a destination code with three digits.

Code	Destination	Code	Destination	Code	Destination
000	Japan	159	South Africa	253	Sweden
009	Australia	169	Thailand		France
080	Hong Kong	181	U.S.A.		Austria
084	Indonesia	242	South America		Switzerland
088	Israel	243	Saudi Arabia		Belgium
108	Malaysia	253	CTR21 (European nations)		Denmark
126	New Zealand		Italy		Finland
136	Peru		Germany		Portugal
137	Philippines		Spain		Ireland
152	Middle East		U.K.		Norway
156	Singapore		Netherlands	254	Taiwan

4. Enter the OEM code (000) and then press the enter key.
5. After data initialization, the entered destination, OEM codes and ROM version are displayed. A ROM version displays three kinds, application, IPL, and boot.

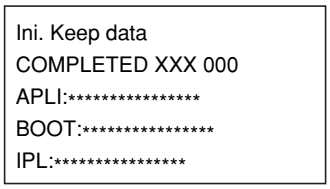


Figure 1-2-8

6. After completing the installation, run a communications test to confirm that the fax system is working correctly.

1-3-1 Maintenance mode

The machine is equipped with a maintenance function which can be used to maintain and service the machine.

(1) Executing a maintenance item

(2) Maintenance mode item list

Section	Item No.	Maintenance item contents	Initial setting*
Fax	U600	Initializing all data	—
	U601	Initializing permanent data	—
	U603	Setting user data 1	—
	U604	Setting user data 2	—
	U605	Clearing data	—
	U610	Setting system 1 • Setting the number of lines to be ignored when receiving a fax at 100% magnification • Setting the number of lines to be ignored when receiving a fax in the auto reduction mode • Setting the number of lines to be ignored when receiving a fax (A4R, 8 1/2 x 11) in the auto reduction mode	 3 3 3
	U611	Setting system 2 • Setting the number of adjustment lines for automatic reduction • Setting the number of adjustment lines for automatic reduction when A4 paper is set • Setting the number of adjustment lines for automatic reduction when letter size paper is set	 7 22 26
	U612	Setting system 3 • Selecting if auto reduction in the auxiliary direction is to be performed • Setting the automatic printing of the protocol list	 — —
	U620	Setting the communication system	—
	U625	Setting the trasmission system • Setting the auto redialing interval • Setting the number of times of auto redialing	 — —
	U630	Setting communication control 1 • Setting the communication starting speed • Setting the reception speed • Setting the waiting period to prevent echo problems at the sender • Setting the waiting period to prevent echo problems at the receiver	 — — — —
	U631	Setting communication control 2 • Setting ECM transmission • Setting ECM reception • Setting the frequency of the CED signal	 — — —
	U632	Setting communication control 3 • Setting the DIS signal to 4 bytes • Setting the short protocol transmission • Setting the reception of a short protocol transmission • Setting the CNG detection times in the fax/telephone auto select mode	 — — — —
	U633	Setting communication control 4 • Enabling/disabling V.34 communication • Setting the V.34 symbol speed (3429 Hz) • Setting the number of times of DIS signal reception • Setting the reference for RTN signal output	 — — — —
	U634	Setting communication control 5	
	U640	Setting communication time 1 • Setting the one-shot detection time for remote switching • Setting the continuous detection time for remote switching	 — —
	U641	Setting communication time • Setting the T0 time-out time • Setting the T1 time-out time • Setting the T2 time-out time • Setting the Ta time-out time • Setting the Tb1 time-out time • Setting the Tb2 time-out time • Setting the Tc time-out time • Setting the Td time-out time	 — — 69 30 20 80 60 —

Section	Item No.	Maintenance item contents	Initial setting
Fax	U650	Setting modem 1 • Setting the G3 transmission cable equalizer • Setting the G3 reception cable equalizer • Setting the modem detection level	 — — —
	U651	Setting modem 2 • Setting the modem output level • Setting the DTMF (high-frequency group) output level • Setting the DTMF (low-frequency group) output level	 — — —
	U660	Setting the NCU • Setting the connection to PBX/PSTN • Setting PSTN dial tone detection • Setting busy tone detection • Setting for a PBX	 — — — —
	U670	Outputting lists • Settings list • Action list • Own-status report • Protocol list • Error list	 — — — — —
	U680	Transmission modem output	—
	U681	V.34 test mode	—
	U682	Tonal test mode	—
	U683	DTMF signal test mode	—
	U684	Board test mode	—
	U685	Relay test mode	—
	U690	10 pps dial test mode	—
	U691	20 pps dial test mode	—
	U692	DTMF dial test mode	—
	U693	Transmission time test mode	—
	U699	Setting the software switches	—

(3) Contents of maintenance mode items

Maintenance item No.	Description
U600	**Initializing all data** **Description** Initializes software switches and all data in the backup data on the fax control PWB, according to the destination and OEM. Executes the check of the file system, when abnormality of the file system is detected, initializes the file system, communication past record and register setting contents. **Purpose** To initialize the fax control PWB. **Method** 1. Press the enter key. 2. Select Execute using up/down cursor keys. 3. Press the enter key. The screen for entering the destination code is displayed. Enter a destination code using the numeric keys (refer to the destination code list on page 1-3-4 for the destination code). Ini. All data COUNTRY CODE:000 4. Press the enter key. The screen for entering the OEM code is displayed. There is no operation necessary on this screen. Ini. All data OEM CODE:000 5. Press the enter key. Data initialization starts. To cancel data initialization, press the back key. 6. After data initialization, the entered destination, OEM codes and ROM version are displayed. A ROM version displays three kinds, application, IPL, and boot. Ini. All data COMPLETED 000 000 APLI:********** BOOT:********** IPL:**********

Maintenance item No.	Description
U600 (cont.)	**Destination code list**

Code	Destination	Code	Destination	Code	Destination
000	Japan	159	South Africa	253	Sweden
009	Australia	169	Thailand		France
080	Hong Kong	181	U.S.A.		Austria
084	Indonesia	242	South America		Switzerland
088	Israel	243	Saudi Arabia		Belgium
108	Malaysia	253	CTR21 (European nations)		Denmark
126	New Zealand		Italy		Finland
136	Peru		Germany		Portugal
137	Philippines		Spain		Ireland
152	Middle East		U.K.		Norway
156	Singapore		Netherlands	254	Taiwan

U601 **Initializing permanent data**

Description

Initializes software switches on the fax control PWB according to the destination and OEM.

Purpose

To initialize the fax control PWB without changing user registration data.

Method

1. Press the enter key. The screen for selecting an item is displayed.
2. Select Execute using the up/down cursor keys.
3. Press the enter key. The screen for entering the destination code is displayed.
   Enter a destination code using the numeric keys (refer to the destination code list on page 1-3-5 for the destination code).

   ```
   Ini. Keep data
   COUNTRY  CODE:000
   ```

4. Press the enter key. The screen for entering the OEM code is displayed.
   There is no operation necessary on this screen.

   ```
   Ini. Keep data
   OEM  CODE:000
   ```

5. Press the enter key. Data initialization starts. To cancel data initialization, press the back key.
6. After data initialization, the entered destination, OEM codes and ROM version are displayed. A ROM version displays three kinds, application, IPL, and boot.

   ```
   Ini. Keep data
   COMPLETED  000  000
   APLI:**********
   BOOT:**********
   IPL:**********
   ```

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U603</td><td>
Setting user data 1
Description
Makes user settings to enable the use of the MFP as a fax.
Purpose
To be run after installation of the facsimile kit if necessary.
Method
1. Press the enter key.
2. Change the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1: DTMF
2: 10
3: 20</td><td>DTMF
10 PPS
20 PPS</td></tr>
</table>
3. Press the enter key. The value is set.
Completion
Press the back key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U604</td><td>
Setting user data 2
Description
Makes user settings to enable the use of the MFP as a fax.
Purpose
Use this if the user wishes to adjust the number of rings that occur before the unit switches into fax receiving mode when fax/telephone auto-select is enabled.
Method
1. Press the enter key.
2. Change the setting using the left/right cursor keys.
<table>
<tr><th>Description</th><th>Setting range</th></tr>
<tr><td>Number of fax/telephone rings</td><td>0 to 15</td></tr>
</table>
If you set this to 0, the unit will start fax reception without any ringing.
3. Press the enter key. The value is set.
Completion
Press the back key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U605</td><td>
Clearing data
Description
Initializes data related to the fax transmission such as transmission history.
Purpose
To clear the transmission history or image data.
Method
1. Press the enter key. The screen for executing is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1:CLEAR COM. REC</td><td>Clears the activity report, error list, action list, transmission history of each department as listed on the department control report, transmission history for displaying the transmission results, document number, timer program information, protocol list, and other transmission history such as image data, excluding items regarding the machine variation adjustment.</td></tr>
</table>
2. Press the enter key. Initialization processing starts. When processing is finished, the screen for selecting a maintenance item No. is displayed.
Completion
Press the back key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U610	**Setting system 1** **Description** Makes settings for fax reception regarding the sizes of the fax paper and received images and automatic printing of the protocol list. **Start** 1. Press the enter key. The screen for selecting an item is displayed. 2. Select the item to be set using the up/down cursor keys.

Display	Description
1:CUT LINE (100%)	Sets the number of lines to be ignored when receiving a fax at 100% magnification.
2:CUT LINE (AUTO)	Sets the number of lines to be ignored when receiving a fax in the auto reduction mode.
3:CUT LINE (A4)	Sets the number of lines to be ignored when receiving a fax (A4R, letter) in the auto reduction mode.

Setting the number of lines to be ignored when receiving a fax at 100% magnification

Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when recording the data at 100% magnification. If the number of excess lines is below the setting, those lines are ignored. If over the setting, they are recorded on the next page.

1. Change the setting using the left/right cursor keys.

Description	Setting range	Initial setting	Change in value per step
Number of lines to be ignored when receiving at 100%	0 to 22	3	16 lines

Increase the setting if a blank second page is output, and decrease it if the received image does not include the entire transmitted data.

2. Press the enter key. The value is set.

Setting the number of lines to be ignored when receiving a fax in the auto reduction mode

Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode. If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.

1. Change the setting using the left/right cursor keys.

Description	Setting range	Initial setting	Change in value per step
Number of lines to be ignored when receiving in the auto reduction mode	0 to 22	3	16 lines

Increase the setting if a page received in the reduction mode is over-reduced and too much trailing edge margin is left. Decrease it if the received image does not include all transmitted data.

2. Press the enter key. The value is set.

Setting the number of lines to be ignored when receiving a fax (A4R, 8 1/2 x 11) in the auto reduction mode

Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode onto A4R or 8 1/2 x 11 paper under the conditions below. If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.

- With A4R present and folio absent in the drawers
- With letter-size paper present and legal-size paper absent in the drawers

1. Change the setting using the left/right cursor keys.

Description	Setting range	Initial setting	Change in value per step
Number of lines to be ignored when receiving a fax (A4R, letter) in the auto reduction mode	0 to 22	3	16 lines

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U610 (cont.)</td><td>Increase the setting if a page received in the reduction mode is over-reduced and too much trailing edge margin is left. Decrease it if the received image does not include all transmitted data.
2. Press the enter key. The value is set.
Completion
Press the back key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U611</td><td>Setting system 2
Description
Sets the number of adjustment lines for automatic reduction.
Start
1. Press the enter key.
2. Select the item to be set using the up/down cursor keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1: ADJ LINES
2: ADJ LINES (A4)

3: ADJ LINES (LT)</td><td>Sets the number of adjustment lines for automatic reduction.
Sets the number of adjustment lines for automatic reduction when A4 paper is set.
Sets the number of adjustment lines for automatic reduction when letter size paper is set.</td></tr>
</table>
Setting the number of adjustment lines for automatic reduction
Sets the number of adjustment lines for automatic reduction.
1. Change the setting using the left/right cursor keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Number of adjustment lines for automatic reduction</td><td>0 to 22</td><td>7</td></tr>
</table>
2. Press the enter key. The value is set.
Setting the number of adjustment lines for automatic reduction when A4 paper is set
Sets the number of adjustment lines for automatic reduction when A4 paper is set.
1. Change the setting using the left/right cursor keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Number of adjustment lines for automatic reduction when A4 paper is set</td><td>0 to 22</td><td>22</td></tr>
</table>
2. Press the enter key. The value is set.
Setting the number of adjustment lines for automatic reduction when letter size paper is set
Sets the number of adjustment lines for automatic reduction when letter size paper is set.
1. Change the setting using the left/right cursor keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Number of adjustment lines for automatic reduction when letter size paper is set</td><td>0 to 26</td><td>26</td></tr>
</table>
2. Press the enter key. The value is set.
Completion
Press the back key. The screen for selecting a maintenance item No. is displayed.</td></tr>
</table>

Maintenance item No.	Description
U612	**Setting system 3** **Description** Makes settings for fax transmission regarding operation and automatic printing of the protocol list. **Start** 1. Press the enter key. The screen for selecting an item is displayed. 2. Select the item to be set using the up/down cursor keys. 3. Press the enter key. The screen for the selected item appears.

Display	Description
1:AUTO REDU	Selects if auto reduction in the auxiliary directionis to be performed.
2:PROTOCOL LIST	Sets the automatic printing of the protocol list.

Selecting if auto reduction in the auxiliary direction is to be performed

Sets whether to receive a long document by automatically reducing it in the auxiliary direction or at 100% magnification.

1. Change the setting using the up/down cursor keys.

Display	Description
1: ON	Auto reduction is performed if the received document is longer than the fax paper.
2: OFF	Auto reduction is not performed.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the automatic printing of the protocol list

Sets if the protocol list is automatically printed out.

1. Change the setting using the up/down cursor keys.

Display	Description
1: OFF	The protocol list is not printed out automatically.
2: ERROR	The protocol list is automatically printed out after communication only if a communication error occurs.
3: ON	The protocol list is automatically printed out after communication.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Completion

Press the back key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U620</td><td>
Setting the communication system
Description
Sets the signal detection method for remote switching. Be sure to change the setting according to the type of telephone connected to the machine.
Method
1. Press the enter key. The screen for selecting an item is displayed.
2. Press the enter key.
3. Change the setting using the up/down cursor keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1: ONE
2: CONT</td><td>One-shot detection
Continuous detection</td></tr>
</table>
4. Press the enter key. The value is set.
5. To return to the screen for selecting an item, press the back key.
Completion
Press the back key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U625</td><td>
Setting the trasmission system
Description
Makes settings for the auto redialing interval and the number of times of auto redialing.
Purpose
Change the setting to prevent the following problems: fax transmission is not possible due to too short redial interval, or fax transmission takes too much time to complete due to too long redial interval.
Start
1. Press the enter key.
2. Select the item to be set using the up/down cursor keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1:INTERVAL
2:TIMES</td><td>Sets the auto redialing interval.
Sets the number of times of auto redialing.</td></tr>
</table>
Setting the auto redialing interval
1. Change the setting using the left/right cursor keys.
<table>
<tr><th>Description</th><th>Setting range</th></tr>
<tr><td>Redialing interval</td><td>1 to 9 (min.)</td></tr>
</table>
2. Press the enter key. The value is set.
Setting the number of times of auto redialing
1. Change the setting using the left/right cursor keys.
<table>
<tr><th>Description</th><th>Setting range</th></tr>
<tr><td>Number of redialing</td><td>0 to 9</td></tr>
</table>
When set to 0, no redialing is performed.
2. Press the enter key. The value is set.
Completion
Press the back key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U630	**Setting communication control 1**

Description

Makes settings for fax transmission regarding the communication.

Start

1. Press the enter key. The screen for selecting an item is displayed.
2. Select the item to be set using the up/down cursor keys.
3. Press the enter key. The screen for the selected item appears.

Display	Description
1:TX SPEED	Sets the communication starting speed.
2:RX SPEED	Sets the reception speed.
3:TX ECHO	Sets the waiting period to prevent echo problems at the sender.
4:RX ECHO	Sets the waiting period to prevent echo problems at the receiver.

Setting the communication starting speed

Sets the initial communication speed when starting transmission. When the destination unit has V.34 capability, V.34 is selected for transmission, regardless of this setting.

1. Change the setting using the up/down cursor keys.

Display	Description
1: 14400bps/V17	V.17, 14400 bps
2: 9600bps/V29	V.29, 9600 bps
3: 4800bps/V27ter	V.27ter, 4800 bps
4: 2400bps/V27ter	V.27ter, 2400 bps

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the reception speed

Sets the reception speed that the sender is informed of using the DIS or NSF signal. When the destination unit has V.34 capability, V.34 is selected, regardless of the setting.

1. Change the setting using the up/down cursor keys.

Display	Description
1: 14400bps	V.17, V.33, V.29, V.27ter
2: 9600bps	V.29, V.27ter
3: 4800bps	V.27ter
4: 2400bps	V.27ter (fallback only)

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the waiting period to prevent echo problems at the sender

Sets the period before a DCS signal is sent after a DIS signal is received. Used when problems occur due to echoes at the sender.

1. Change the setting using the up/down cursor keys.

Display	Description
1: 500	Sends a DCS 500 ms after receiving a DIS.
2: 300	Sends a DCS 300 ms after receiving a DIS.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U630 (cont.)</td><td>
Setting the waiting period to prevent echo problems at the receiver
Sets the period before an NSF, CSI or DIS signal is sent after a CED signal is received. Used when problems occur due to echoes at the receiver.
1. Change the setting using the up/down cursor keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1: 500
2: 75</td><td>Sends an NSF, CSI or DIS 500 ms after receiving a CED.
Sends an NSF, CSI or DIS 75 ms after receiving a CED.</td></tr>
</table>
2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.
Completion
Press the back key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U631	**Setting communication control 2** **Description** Makes settings regarding fax transmission. **Start** 1. Press the enter key. The screen for selecting an item is displayed. 2. Select the item to be set using the up/down cursor keys. 3. Press the enter key. The screen for the selected item appears.

Display	Description
1:ECM TX 2:ECM RX 3:CED FREQ.	Sets ECM transmission. Sets ECM reception. Sets the frequency of the CED signal.

Setting ECM transmission

To be set to OFF when reduction of transmission costs is of higher priority than image quality.

1. Change the setting using the up/down cursor keys.

Display	Description
1: ON 2: OFF	ECM transmission is enabled. ECM transmission is disabled.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting ECM reception

To be set to OFF when reduction of transmission costs is of higher priority than image quality.

1. Change the setting using the up/down cursor keys.

Display	Description
1: ON 2: OFF	ECM reception is enabled. ECM reception is disabled.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the frequency of the CED signal

Sets the frequency of the CED signal. Used as one of the measures to improve transmission performance for international communications.

1. Change the setting using the up/down cursor keys.

Display	Frequency of the CED signal
1: 2100 2: 1100	2100 Hz 1100 Hz

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Completion

Press the back key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U632	**Setting communication control 3** **Description** Makes settings for fax transmission regarding the communication. **Start** 1. Press the enter key. The screen for selecting an item is displayed. 2. Select the item to be set using the up/down cursor keys. 3. Press the enter key. The screen for the selected item appears.

Display	Description
1:DIS 4BYTE 2:SHORT PROTO TX 3:SHORT PROTO RX 4:NUM OF CNG (F/T)	Sets the DIS signal to 4 bytes. Sets the short protocol transmission. Sets the reception of short protocol transmission. Sets the CNG detection times in the fax/telephone auto select mode.

Setting the DIS signal to 4 bytes

Sets if bit 33 and later bits of the DIS/DTC signal are sent.

1. Change the setting using the up/down cursor keys.

Display	Description
1: ON 2: OFF	Bit 33 and later bits of the DIS/DTC signal are not sent. Bit 33 and later bits of the DIS/DTC signal are sent.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the short protocol transmission

Sets if short protocol transmission is performed.

1. Change the setting using the up/down cursor keys.

Display	Description
1: ON 2: OFF	Short protocol transmission is performed. Short protocol transmission is not performed.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the reception of a short protocol transmission

Selects whether to receive or ignore transmission using short protocol.

If a short protocol transmission is received when an auto switching device is attached to the machine, communication problems, including auto switching inability, sometimes occur. Change the setting to ignore short protocol transmission to prevent such problems.

1. Change the setting using the up/down cursor keys.

Display	Description
1: ON 2: OFF	Receives short protocol transmission. Ignores short protocol transmission.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the CNG detection times in the fax/telephone auto select mode

Sets the CNG detection times in the fax/telephone auto select mode.

1. Change the setting using the up/down cursor keys.

Display	Description
1: 1 TIME 2: 2 TIMES	Detects CNG once. Detects CNG twice.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Completion

Press the back key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U633	**Setting communication control 4** **Description** Makes settings for fax transmission regarding the communication. **Purpose** To reduce transmission errors when a low quality line is used. **Start** 1. Press the enter key. The screen for selecting an item is displayed. 2. Select the item to be set using the up/down cursor keys. 3. Press the enter key. The screen for the selected item appears.

Display	Description
1:V.34	Enables or disables V.34 communication.
2:V.34-3429Hz	Sets the V.34 symbol speed (3429 Hz).
3:DIS 2RES	Sets the number of times of DIS signal reception.
4:RTN CHECK	Sets the reference for RTN signal output.

Enabling/disabling V.34 communication

Sets whether V.34 communication is enabled/disabled for transmission and reception.

1. Change the setting using the cursor up/down keys.

Display	Description
1: ON	V.34 communication is enabled for both transmission and reception.
2: TX	V.34 communication is enabled for transmission only.
3: RX	V.34 communication is enabled for reception only.
4: OFF	V.34 communication is disabled for both transmission and reception.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the V.34 symbol speed (3429 Hz)

Sets if the V.34 symbol speed 3429 Hz is used.

1. Change the setting using the cursor up/down keys.

Display	Description
1: ON	V.34 symbol speed 3429 Hz is used.
2: OFF	V.34 symbol speed 3429 Hz is not used.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the number of times of DIS signal reception

Sets the number of times to receive the DIS signal to once or twice. Used as one of the correction measures for transmission errors and other problems.

1. Change the setting using the cursor up/down keys.

Display	Description
1: ONCE	Responds to the first signal.
2: TWICE	Responds to the second signal.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the reference for RTN signal output

Sets the error line rate as the reference for RTN signal output. If transmission errors occur frequently due to the quality of the line, they can be reduced by lowering this setting.

1. Change the setting using the cursor up/down keys.

Display	Description
1: 5%	Error line rate of 5%
2: 10%	Error line rate of 10%
3: 15%	Error line rate of 15%
4: 20%	Error line rate of 20%

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U633 (cont.)</td><td>Completion
Press the back key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U634</td><td>Setting communication control 5
Description
Sets the maximum number of error bytes judged acceptable when receiving a TCF signal. Used as a measure to ease transmission conditions if transmission errors occur.
Method
1. Press the enter key.
2. Change the setting using the left/right cursor keys.
<table>
<tr><th>Description</th><th>Setting range</th></tr>
<tr><td>Number of allowed error bytes when detecting TCF</td><td>0 to 255</td></tr>
</table>
3. Press the enter key. The value is set.
Completion
Press the back key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U640</td><td>Setting communication time 1
Description
Sets the detection time when one-shot detection is selected for remote switching. (This setting item will be displayed, but the setting made is ineffective.)
Sets the detection time when continuous detection is selected for remote switching. (This setting item will be displayed, but the setting made is ineffective.)
Method
1. Press the enter key.
2. Select the item to be set using the up/down cursor keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th></tr>
<tr><td>1:TIME (ONE)
2:TIME (CON)</td><td>Sets the one-shot detection time for remote switching.
Sets the continuous detection time for remote switching.</td><td>0 to 255
0 to 255</td></tr>
</table>
3. Change the setting using the left/right cursor keys.
4. Press the enter key. The value is set.
Completion
Press the back key. The screen for selecting a maintenance item No. is displayed.</td></tr>
</table>

Maintenance item No.	Description
U641	**Setting communication time 2** **Description** Sets the time-out time for fax transmission. **Purpose** Used mainly to improve transmission performance for international communications. **Start** 1. Press the enter key. 2. Select the item to be set using the up/down cursor keys.

Display	Description
1:T0 TIME OUT	Sets the T0 time-out time.
2:T1 TIME OUT	Sets the T1 time-out time.
3:T2 TIME OUT	Sets the T2 time-out time.
4:Ta TIME OUT	Sets the Ta time-out time.
5:Tb1 TIME OUT	Sets the Tb1 time-out time.
6:Tb2 TIME OUT	Sets the Tb2 time-out time.
7:Tc TIME OUT	Sets the Tc time-out time.
8:Td TIME OUT	Sets the Td time-out time.

Setting the T0 time-out time

Sets the time before detecting a CED or DIS signal after a dialing signal is sent. Depending on the quality of the exchange, or when the auto select function is selected at the destination unit, a line can be disconnected. Change the setting to prevent this problem.

1. Change the setting using the left/right cursor keys.

Description	Setting range
T0 time-out time	30 to 90 s

2. Press the enter key. The value is set.

Setting the T1 time-out time

Sets the time before receiving the correct signal after call reception. No change is necessary for this maintenance item.

1. Change the setting using the left/right cursor keys.

Description	Setting range
T1 time-out time 3	0 to 90 s

2. Press the enter key. The value is set.

Maintenance item No.	Description
U641 (cont.)	

Setting the T2 time-out time

The T2 time-out time decides the following.

- From CFR signal output to image data reception
- From image data reception to the next signal reception
- In ECM, from RNR signal detection to the next signal reception

1. Change the setting using the left/right cursor keys.

Description	Setting range	Initial setting	Change in value per step
T2 time-out time	1 to 255	69	100 ms

2. Press the enter key. The value is set.

Setting the Ta time-out time

In the fax/telephone auto select mode, sets the time to continue ringing an operator through the connected telephone after receiving a call as a fax machine (see figure 1-3-1). A fax signal is received within the Ta set time, or the fax mode is selected automatically when the time elapses. In fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1. Change the setting using the left/right cursor keys.

Description	Setting range	Initial setting
Ta time-out time	1 to 255 s	30

2. Press the enter key. The value is set.

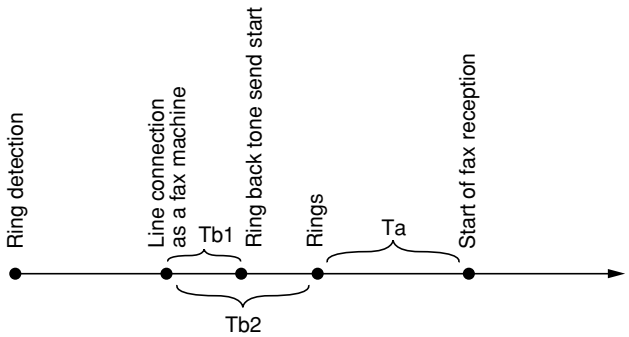


Figure 1-3-1 Ta/Tb1/Tb2 time-out time

Setting the Tb1 time-out time

In the fax/telephone auto select mode, sets the time to start sending the ring back tone after receiving a call as a fax machine (see figure 1-3-1). In fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1. Change the setting using the left/right cursor keys.

Description	Setting range	Initial setting	Change in value per step
Tb1 time-out time	1 to 255	20	100 ms

2. Press the enter key. The value is set.

Setting the Tb2 time-out time

In the fax/telephone auto select mode, sets the time to start ringing an operator through the connected telephone after receiving a call as a fax machine (see figure 1-3-1). In the fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1. Change the setting using the left/right cursor keys.

Description	Setting range	Initial setting	Change in value per step
Tb2 time-out time	1 to 255	80	100 ms

2. Press the enter key. The value is set.

Maintenance item No.	Description
U641 (cont.)	**Setting the Tc time-out time** In the TAD mode, set the time to check if there are any triggers for shifting to fax reception after a connected telephone receives a call. Only the telephone function is available if shifting is not made within the set Tc time. In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call. 1. Change the setting using the left/right cursor keys.

Description	Setting range	Initial setting
Tc time-out time	1 to 255 s	60

2. Press the enter key. The value is set.

Setting the Td time-out time

Sets the length of the time required to determine silent status (fax), one of the triggers for Tc time check. In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call. Be sure not to set it too short; otherwise, the mode may be shifted to fax while the unit is being used as a telephone.

1. Change the setting using the left/right cursor keys.

Description	Setting range
Td time-out time	1 to 255 s

2. Press the enter key. The value is set.

Completion

Press the back key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U650	**Setting modem 1** **Description** Sets the G3 cable equalizer. Sets the modem detection level. **Start** 1. Press the enter key. The screen for selecting an item is displayed. 2. Select the item to be set using the up/down cursor keys. 3. Press the enter key. The screen for the selected item appears.

Display	Description
1:REG. G3 TX EQR 2:REG. G3 RX EQR 3:RX MODEM LEVEL	Sets the G3 transmission cable equalizer. Sets the G3 reception cable equalizer. Sets the modem detection level.

Setting the G3 transmission cable equalizer

Perform the following adjustment to make the equalizer compatible with the line characteristics.

1. Change the setting using the up/down cursor keys.

Display	Description
1: 0dB 2: 4dB 3: 8dB 4: 12dB	0 km 4 km 8 km 12 km

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the G3 reception cable equalizer

Perform the following adjustment to make the equalizer compatible with the line characteristics.

1. Change the setting using the up/down cursor keys.

Display	Description
1: 0dB 2: 4dB 3: 8dB 4: 12dB	0 km 4 km 8 km 12 km

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting the modem detection level

To improve the transmission performance when a low quality line is used.

1. Change the setting using the up/down cursor keys.

Display	Description
1: 33dBm 2: 38dBm 3: 43dBm 4: 48dBm	–33 dBm –38 dBm –43 dBm –47 dBm

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Completion

Press the back key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U651	**Setting modem 2** **Description** Sets the modem output level. Sets the DTMF output level of a push-button dial telephone. **Purpose** Used if problems occur when sending a signal with a push-button dial telephone. **Start** 1. Press the enter key. 2. Select the item to be set using the up/down cursor keys.

Display	Description	Setting range
1:SGL LEVEL MODEM	Modem output level	0 to 15
2:DTMF TX LEVEL (H)	DTMF (high-frequency group) output level	0 to 15
3:DTMF TX LEVEL (L)	DTMF (low-frequency group) output level	0 to 15

3. Change the setting using the left/right cursor keys.
4. Press the enter key. The value is set.

Completion
Press the back key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U660	**Setting the NCU** **Description** Makes setting regarding the network control unit (NCU). **Purpose** To be set when installing the facsimile kit. **Start** 1. Press the enter key. The screen for selecting an item is displayed. 2. Select the item to be set using the up/down cursor keys. 3. Press the enter key. The screen for the selected item appears.

Display	Description
1: EXCHANGE	Sets the connection to PBX/PSTN.
2: DIAL TONE	Sets PSTN dial tone detection.
3: BUSY TONE	Sets busy tone detection.
4: PBX SETTING	Setting for a PBX.
5: DC LOOP	Sets the loop current detection before dialing.

Setting the connection to PBX/PSTN

Selects if a fax is to be connected to either a PBX or public switched telephone network.

1. Change the setting using the up/down cursor keys.

Display	Description
1: PSTN	Connected to the public switched telephone network.
2: PBX	Connected to a PBX.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting PSTN dial tone detection

Selects if the dial tone is detected to check the telephone is off the hook when a fax is connected to a public switched telephone network.

1. Change the setting using the up/down cursor keys.

Display	Description
1: ON	Detects the dial tone.
2: OFF	Does not detect the dial tone.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

Setting busy tone detection

When a fax signal is sent, sets whether the line is disconnected immediately after a busy tone is detected, or the busy tone is not detected and the line remains connected until T0 time-out time.
Fax transmission may fail due to incorrect busy tone detection. When set to 2, this problem may be prevented. However, the line is not disconnected within the T0 time-out time even if the destination line is busy.

1. Change the setting using the up/down cursor keys.

Display	Description
1: ON	Detects busy tone.
2: OFF	Does not detect busy tone.

2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U660 (cont.)</td><td>
Setting for a PBX
Selects the mode to connect an outside call when connected to a PBX.
According to the type of the PBX connected, select the mode to connect an outside call.
1. Change the setting using the up/down cursor keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1: EARTH
2: FLASH
3: LOOP</td><td>Earth mode
Flashing mode
Code number mode</td></tr>
</table>
2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.
Setting the loop current detection before dialing
Sets if the loop current detection is performed before dialing.
1. Change the setting using the up/down cursor keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1: ON
2: OFF</td><td>Performs loop current detection before dialing.
Does not perform loop current detection before dialing.</td></tr>
</table>
2. Press the enter key. The value is set.
3. To return to the screen for selecting an item, press the back key.
Completion
Press the back key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U670</td><td>
Outputting lists
Description
Outputs a list of data regarding fax transmissions.
Purpose
To check conditions of use, settings and transmission procedures of the fax.
Method
1. Press the enter key.
2. Select the item to be output using the up/down cursor keys.
3. Press the enter key. The selected list is output.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1: SETTING LIST</td><td>Outputs a list of software switches, self telephone number, confidential boxes, ROM versions and other information.</td></tr>
<tr><td>2: ACTION LIST</td><td>Outputs a list of error history, transmission line details and other information.</td></tr>
<tr><td>3: SELF ST REPORT</td><td>Outputs a list of settings in maintenance mode (own-status report) regarding fax transmission only.</td></tr>
<tr><td>4: PROTOCOL LIST</td><td>Outputs a list of transmission procedures.</td></tr>
<tr><td>5: ERROR LIST</td><td>Outputs a list of error.</td></tr>
</table>
</td></tr>
</table>

Maintenance item No.	Description
U680	**Transmission modem output** This maintenance item is for a test mode and do not execute.
U681	**V.34 test mode** This maintenance item is for a test mode and do not execute.
U682	**Tonal test mode** This maintenance item is for a test mode and do not execute.
U683	**DTMF signal test mode** This maintenance item is for a test mode and do not execute.
U684	**Board test mode** This maintenance item is for a test mode and do not execute.
U685	**Relay test mode** This maintenance item is for a test mode and do not execute.
U690	**10 pps dial test mode** This maintenance item is for a test mode and do not execute.
U691	**20 pps dial test mode** This maintenance item is for a test mode and do not execute.
U692	**DTMF dial test mode** This maintenance item is for a test mode and do not execute.
U693	**Transmission time test mode** This maintenance item is for a test mode and do not execute.
U699	**Setting the software switches** **Description** Sets the software switches on the fax control PWB individually. **Purpose** Use to change the setting when a problem such as split output of received originals occurs. Since the communication performance is largely affected, normally this setting need not be changed. **Method** 1. Press the enter key. 2. Enter the desired software switch number (3 digits) using the numeric keys and press the enter key. 3. Use numeric keys 7 to 0 to switch each bit between 0 and 1. 4. Press the enter key to set the value. **Completion** Press the back key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U699 (cont.)	**List of Software Switches of Which the Setting Can Be Changed**

<System setting>

No.	Bit	Item
10	0	One-touch name and telephone number display on the destination check screen
14	5	Communication end buzzer after reception
16	1	Ringer frequency detection method
17	0	Top-bottom inversion in duplex reception
19	7	F code check in NW-FAX reception
	6	Transfer of polling-received originals to PC
	5	Resolution in TIFF files
22	3	Automatic protocol list output at busy time
23	21	Debug information report output format
24	5	Recovery of transmission mode after end of fax operation
	3	Prohibition of split of standard size
	21	Declaration of reception size in automatic paper source selection for fax
	0	Declaration of reception size in setting "declaration based on the status of drawers"
33	76543210	Number of adjustment lines in PDF files

<Machine default>

No.	Bit	Item
66	765	Selection of scanning density
67	654	Selection of reception mode

<Communication control procedure>

No.	Bit	Item
101	2	Automatic reception level adjustment (V. 17)
	1	Automatic reception level adjustment (V. 29)
	0	Automatic reception level adjustment (V. 27ter)
106	7654	Coding format in transmission
	3210	Coding format in reception
107	5	33600 bps/V34
	4	31200 bps/V34
	3	28800 bps/V34
	2	26400 bps/V34
	1	24000 bps/V34
	0	21600 bps/V34
108	7	19200 bps/V34
	6	16800 bps/V34
	5	14400 bps/V34
	4	12000 bps/V34
	3	9600 bps/V34
	2	7200 bps/V34
	1	4800 bps/V34
	0	2400 bps/V34
111	3	FSK detection in V.8
112	6	CNG transmission stop condition
	2	FIF length in transmission of more than 4 times of DIS/DTC signal
	0	Automatic reception level adjustment (V. 33)
113	76543210	Adjustment width in automatic reception level adjustment

Maintenance item No.	Description
U699 (cont.)	**List of Software Switches of Which the Setting Can Be Changed**

<Communication time setting>

No.	Bit	Item
123	76543210	T3 timeout setting
124	76543210	T4 timeout setting (automatic equipment)
125	76543210	T5 timeout setting
130	76543210	Time before transmission of CNG (1100 Hz) signal
133	76543210	T0 timeout setting (manual equipment)
134	7	Phase C timeout in ECM reception
136	76543210	Timeout 1 in countermeasures against echo
137	76543210	Timeout 2 in countermeasures against echo
138	76543210	Timeout for FSK detection start in V.8

<Modem setting>

No.	Bit	Item
155	76543210	RTH offset (lower byte)
156	76543210	RTH offset (upper byte)

<NCU setting>

No.	Bit	Item
161	7654	Dial tone/busy tone detection pattern
162	7654	Busy tone detection pattern
	1	Busy tone detection in automatic FAX/TEL switching
165	76543210	Access code registration for connection to PSTN
166	7654	FAX/TEL automatic switching ringback tone ON/OFF cycle
167	10	Pseudo-ringer duty ratio

<Calling time setting>

No.	Bit	Item
174	76543210	DTMF signal transmission time
175	76543210	DTMF signal pause time
182	76543210	Ringer detection cycle (minimum)
183	76543210	Ringer detection cycle (maximum)
184	76543210	Ringer ON time detection
185	76543210	Ringer OFF time detection
186	76543210	Ringer OFF non-detection time
188	76543210	Dial tone detection time (continuous tone)
189	76543210	Allowable dial tone interruption time
192	76543210	Time for transmitting selection signal after closing the DC circuit
195	76543210	Ringer frequency detection invalid time

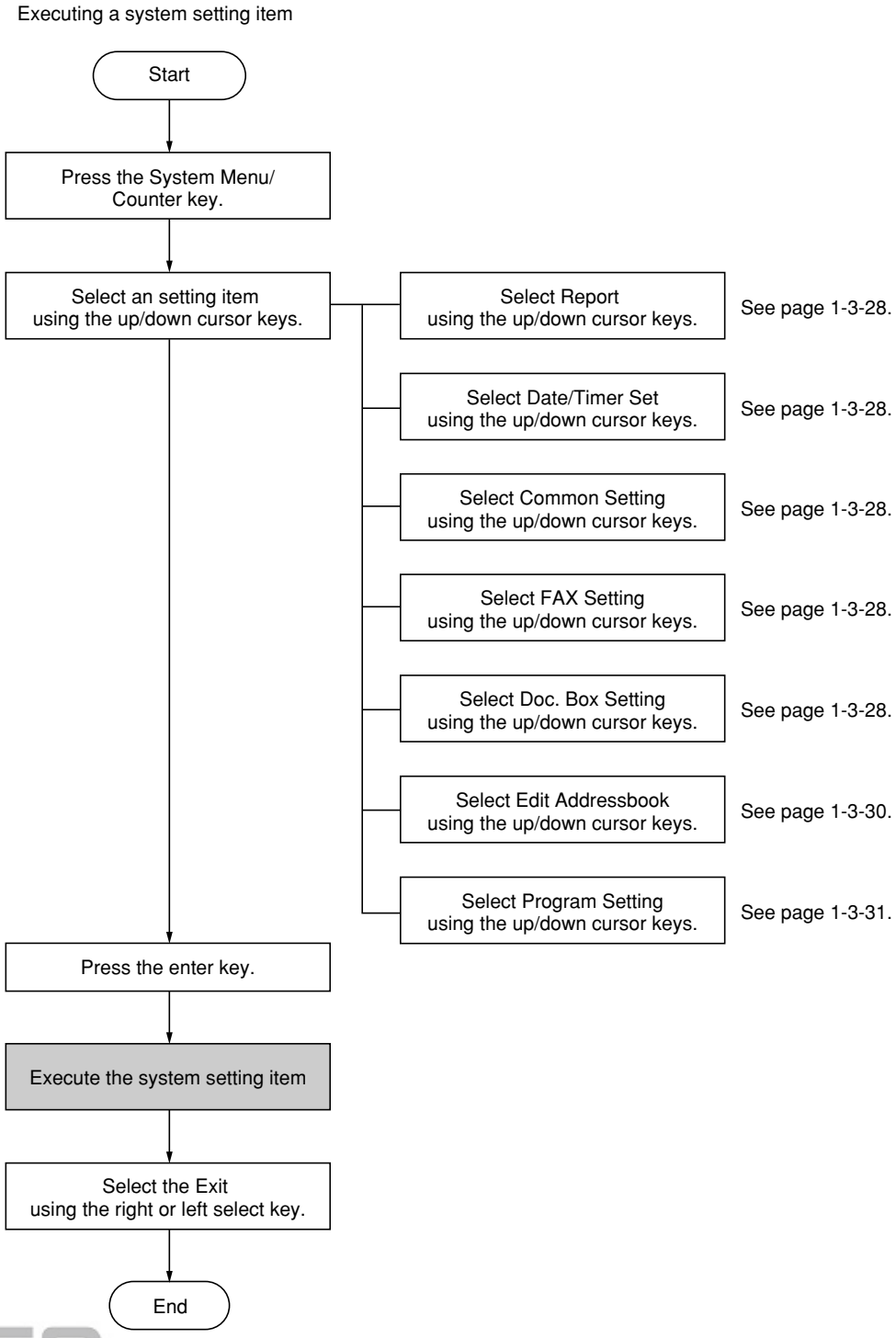
<Experimental modem setting>

No.	Bit	Item
596	76543210	Experimental tone detector level judgment (for CNG only: THRESH L) lower part
597	76543210	Experimental tone detector level judgment (for CNG only: THRESH L) upper part
598	76543210	Experimental tone detector level judgment (for CNG only: THRESH U) lower part
599	76543210	Experimental tone detector level judgment (for CNG only: THRESH U) upper part

1-3-2 System settings

In addition to a maintenance function, the machine is equipped with a system settings which can be operated by users (mainly by the machine administrator). In this machine system settings, default settings can be changed.

(1) Executing a system setting item



(2) Report

Printing lists of subaddress boxes
Print a list of subaddress boxes.
1. Select Report Print using the up/down cursor keys and press the enter key.
2. Select SubAddr Box List using the up/down cursor keys and press the enter key.
3. Press the left select key to print the list.

Fax TX report and Fax RX report settings
Set up fax transmission and/or reception reporting.
1. Select Report Setting using the up/down cursor keys and press the enter key.
2. Select FAX TX Report or FAX RX Report using the up/down cursor keys and press the enter key.
3. Select On or Off using the up/down cursor keys and press the enter key.

Send result settings
Set up printing of transmission results.
1. Select Result Rep. Set using the up/down cursor keys and press the enter key.
2. Select Send Result using the up/down cursor keys and press the enter key.
3. Select Off, On, or On (Conditions) using the up/down cursor keys and press the enter key.
   *Choose On (Conditions) to print the report of transmission result when an error occurs in transmission.

Fax RX result settings
Set up printing of reception results.
1. Select Result Rep. Set. using the up/down cursor keys and press the enter key.
2. Select FAX RX Result. using the up/down cursor keys and press the enter key.
3. Select Off, On, or On (Conditions) using the up/down cursor keys and press the enter key.
   *Choose On (Conditions) to print the report of reception result when an error occurs in fax reception.
4. Select Report Print or E-mail using the up/down cursor keys and press the enter key.
5. Select Address Entry or Address Book using the up/down cursor keys and press the enter key.

(3) Date/Timer setting
Set the date and time to appear in the message display. Set the time zone before setting the date and time.

Setting the time zone
1. Select Time Zone using the up/down cursor keys and press the enter key.
2. Select the desired time zone using the up/down cursor keys and press the enter key.

Setting date and time
1. Select Year/Time using the up/down cursor keys and press the enter key.
2. Enter the current year using the up/down cursor keys and press the right cursor key.
3. Enter the current month using the up/down cursor keys and press the right cursor key.
4. Enter the current day using the up/down cursor keys and press the enter key.
5. Enter the current hour using the up/down cursor keys and press the right cursor key.
6. Enter the current minute using the up/down cursor keys and press the right cursor key.
7. Enter the current second using the up/down cursor keys and press the enter key.

(4) Common setting
Adjusting speaker levels
Adjust the volume of the built-in speaker in off-hook mode.
1. Select Sound Setting using the up/down cursor keys and press the enter key.
2. Select FAX Speaker using the up/down cursor keys and press the enter key.
3. Select the volume (4 levels) using the up/down cursor keys and press the enter key.

Adjusting the monitor tone volume
Adjust the volume of the built-in speaker during auto-transmission in off-hook mode.
1. Select Sound Setting using the up/down cursor keys and press the enter key.
2. Select FAX Monitor using the up/down cursor keys and press the enter key.
3. Select the volume (4 levels) using the up/down cursor keys and press the enter key.

Setting up one-touch keys
Assign one-touch keys to specific destinations or programs.
1. Select One Touch Set using the up/down cursor keys and press the enter key.
2. Select Program or Destination using the up/down cursor keys and press the enter key.

Assigning destinations
Assign destinations in the address book to one-touch keys.
1. Select One Touch Keys using the up/down cursor keys and press the enter key.
2. Select an unassigned number for a one-touch key using the up/down cursor keys and press the enter key.
3. Select Address Book using the up/down cursor keys and press the enter key.
4. Select the destination party to assign using the up/down cursor keys and press the enter key.
5. Select the destination fax number using the up/down cursor keys and press the enter key.

(5) FAX setting
Registering new encryption keys
1. Select FAX Common Set using the up/down cursor keys and press the enter key.
2. Select Encryption Key using the up/down cursor keys and press the enter key.
3. Select an unassigned number using the up/down cursor keys and press the enter key.
4. Enter the encryption key (16 digits) using the numeric keys and press the enter key.

Configuring TTI settings
Set up printing details for the Transmit Terminal Identifier (TTI).
1. Select FAX TX Setting using the up/down cursor keys and press the enter key.
2. Select TTI using the up/down cursor keys and press the enter key.
3. Select to print or not print TTI information and the position if printed. Press the enter key.

Entering fax information (local information)
Enter identifying information about fax number, station name, and station ID.
Entering the fax number
1. Select FAX TX Setting using the up/down cursor keys and press the enter key.
2. Select Local FAX Number using the up/down cursor keys and press the enter key.
3. Enter the local station number using the numeric keys and press the enter key.

Entering the station name
1. Select FAX TX Setting using the up/down cursor keys and press the enter key.
2. Select Local FAX Name using the up/down cursor keys and press the enter key.
3. Enter the local station name and press the enter key.

Entering the station ID
1. Select FAX TX Setting using the up/down cursor keys and press the enter key.
2. Select Local FAX ID using the up/down cursor keys and press the enter key.
3. Enter a four-digit station ID using the numeric keys and press the enter key.

Selecting the line type (120 V specifications only)
Set the line type corresponding to the telephone service.
1. Select FAX TX Setting using the up/down cursor keys and press the enter key.
2. Select FAX Line Setting using the up/down cursor keys and press the enter key.
3. Select Tone (DTMF) or Pulse (10pps) using the up/down cursor keys and press the enter key.

Redial
Specify the number of redial attempts if the other party's line is busy.
1. Select FAX TX Setting using the up/down cursor keys and press the enter key.
2. Select Retry Times using the up/down cursor keys and press the enter key.
3. Enter the number of redial attempts (0 to 15) using the numeric keys and press the enter key.

Fax media type
Select the paper type used to print received faxes.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select FAX Media Type using the up/down cursor keys and press the enter key.
3. Select the paper type using the up/down cursor keys and press the enter key.

Setting the number of rings (auto fax reception)
Specify the number of rings in auto reception mode.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select Rings (Normal) using the up/down cursor keys and press the enter key.
3. Enter the number of rings (1 to 15) using the up/down cursor keys and press the enter key.

Setting the number of rings (TAD reception)
Specify the number of rings until fax reception begins when the answering machine is off.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select Rings (TAD) using the up/down cursor keys and press the enter key.
3. Enter the number of rings (1 to 15) using the up/down cursor keys and press the enter key.

Setting the number of rings (Fax/Tel switching) (120 V specifications only)
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select Rings (FAX/TEL) using the up/down cursor keys and press the enter key.
3. Enter the number of rings (0 to 15) using the up/down cursor keys and press the enter key.

Activating Fax forwarding
Activate fax forwarding.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select Forward Setting using the up/down cursor keys and press the enter key.
3. Select On or Off using the up/down cursor keys and press the enter key.

Fax reception mode setting
Select the fax reception mode.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select RX Setting using the up/down cursor keys and press the enter key.
3. Select a reception mode using the up/down cursor keys and press the enter key.

Reception date and time
Set to print the date and time of reception, sender identification, and the page number.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select RX Date/Time using the up/down cursor keys and press the enter key.
3. Select On or Off using the up/down cursor keys and press the enter key.

2in1 reception
Set to print two 5 1/2" x 8 1/2"/A5-sized faxes received consecutively on a single 11" x 8 1/2"/A4 sheet.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select 2in1 RX using the up/down cursor keys and press the enter key.
3. Select On or Off using the up/down cursor keys and press the enter key.

Bulk printing
Set to print all fax image data together upon completed reception.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select RX Bulk Print using the up/down cursor keys and press the enter key.
3. Select On or Off using the up/down cursor keys and press the enter key.

Changing the remote switching number
Change the remote switching number (the default value is 55).
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select Remote SW Dial using the up/down cursor keys and press the enter key.
3. Enter the new remote switching number (2 digits) using the numeric keys and press the enter key.

Registering new authorized telephone numbers
Register authorized telephone numbers.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select TX/RX Restrict using the up/down cursor keys and press the enter key.
3. Select Permit No. List using the up/down cursor keys and press the enter key.
4. Press right select key.
5. Select Add FAX Number using the up/down cursor keys and press the enter key.
6. Enter the authorized fax number using the numeric keys.

Registering new authorized Ids
Register authorized ID numbers.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select TX/RX Restrict using the up/down cursor keys and press the enter key.
3. Select Permit ID List using the up/down cursor keys and press the enter key.
4. Press right select key.
5. Select Add FAX ID using the up/down cursor keys and press the enter key.
6. Enter the ID number using the numeric keys and press the enter key.

Activating password-based communications
Activate to restrict transmission or reception to authorized users.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select TX/RX Restrict using the up/down cursor keys and press the enter key.
3. Select TX Restriction using the up/down cursor keys and press the enter key.
4. Select Use Permit List or Off using the up/down cursor keys and press the enter key.
5. Select RX Restriction using the up/down cursor keys and press the enter key.
6. Select Use Permit List or Off using the up/down cursor keys and press the enter key.

Setting Up Encrypted Reception
To receive encrypted transmissions, complete the encrypted reception setting and specify the encryption key.
1. Select FAX RX Setting using the up/down cursor keys and press the enter key.
2. Select Encryption RX using the up/down cursor keys and press the enter key.
3. Select On using the up/down cursor keys and press the enter key.
4. Select the encryption key ID using the up/down cursor keys and press the enter key.

(6) Document box setting
Paper setting for printing from boxes
Specify the paper type for jobs from the subaddress box.
1. Select Box Media Type using the up/down cursor keys and press the enter key.
2. Select the paper type using the up/down cursor keys and press the enter key.

Setting up subaddress boxes
Register new subaddress boxes.
1. Select Sub Address Box using the up/down cursor keys and press the enter key.
2. Press the right select key.
3. Select Add Box using the up/down cursor keys and press the enter key.
4. Enter the subaddress of the box and press the enter key.
5. Enter the box name and press the enter key.
6. Enter the box number using the numeric keys.
7. Select Exit using the up/down cursor keys and press the enter key.

Polling transmission settings
Set the system to continue storing the documents stored for polling transmission or to delete them after polling.
1. Select Polling Setting using the up/down cursor keys and press the enter key.
2. Select Remain File or Delete File using the up/down cursor keys and press the enter key.

(7) Edit address book
Entering destinations in the address book
Enter fax recipients in the address book.
1. Press the right select key.
2. Select Add Address using the up/down cursor keys and press the enter key.
3. Select Contact using the up/down cursor keys and press the enter key.
4. Display Contact Name using the up/down cursor keys and press right select key.
5. Enter the destination name and press the enter key.
6. Display FAX Number using the up/down cursor keys and press right select key.
7. Enter the fax number using the numeric keys and press the enter key.
8. Display Address Number using the up/down cursor keys and press right select key.
9. Enter the address number to be registered using the numeric keys and press the enter key.
10. Enter e-mail addresses and the folder for saving documents sent to computers.
11. Press the enter key.

Entering group destinations in the address book

Enter a group of destinations in the address book.

1. Press the right select key.
2. Select Add Address using the up/down cursor keys and press the enter key.
3. Select Group using the up/down cursor keys and press the enter key.
4. Select Group Name using the up/down cursor keys and press right select key.
5. Enter a group name and press the enter key.
6. Select Group Member using the up/down cursor keys and press right select key.
7. Press the right select key.
8. Select Add Member using the up/down cursor keys and press the enter key.
9. Select the destination to register to the group using the up/down cursor keys. Press the enter key.
10. Press the enter key.
11. Display Address Number using the up/down cursor keys and press the right select key.
12. Enter the address number to register using the numeric keys and press the enter key.
13. Press the enter key.

(8) Program Setting

Registering programs

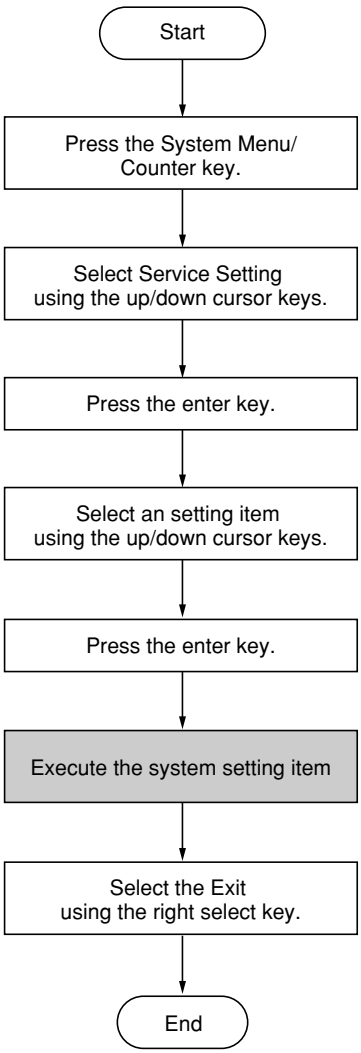
1. Select an unassigned number for a program number using the up/down cursor keys and press the enter key.
2. Select Copy or Send using the up/down cursor keys and press the enter key.
3. Press the left select key.

1-3-3 Service settings

The machine is equipped with a service settings which can be operated by service person.

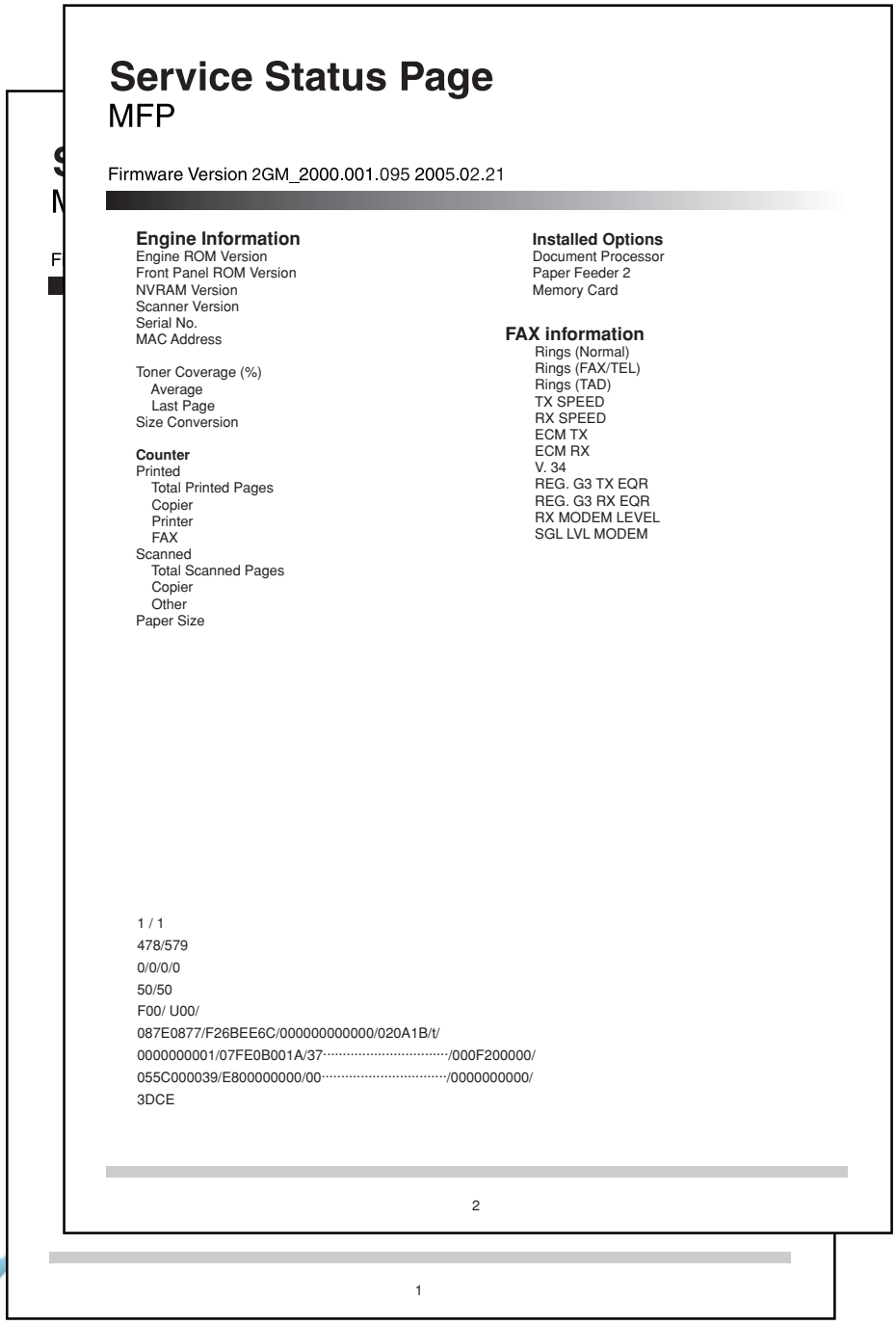
(1) Executing a service setting item

¥ Executing a system setting item



(2) Contents of service setting items

Service items	Description
Ser. Status Page	**Printing a status page for service purpose** **Description** Prints a status page for service purpose. The status page includes various printing settings and service cumulatives. **Procedure** 1.Select [Ser. Status Page] using up/down cursor keys and press the enter key. 2.Select [Yes] using the left select key. Service status pages (2 pages) are output. **Sample of service status page**



Service Status Page
MFP

Firmware Version 2GM_2000.001.095 2005.02.21

Engine Information
Engine ROM Version
Front Panel ROM Version
NVRAM Version
Scanner Version
Serial No.
MAC Address

Toner Coverage (%)
Average
Last Page
Size Conversion

Counter
Printed
Total Printed Pages
Copier
Printer
FAX
Scanned
Total Scanned Pages
Copier
Other
Paper Size

Installed Options
Document Processor
Paper Feeder 2
Memory Card

FAX information
Rings (Normal)
Rings (FAX/TEL)
Rings (TAD)
TX SPEED
RX SPEED
ECM TX
ECM RX
V. 34
REG. G3 TX EQR
REG. G3 RX EQR
RX MODEM LEVEL
SGL LVL MODEM

1 / 1
478/579
0/0/0/0
50/50
F00/ U00/
087E0877/F26BEE6C/000000000000/020A1B/t/
0000000001/07FE0B001A/37·····/000F200000/
055C000039/E800000000/00·····/0000000000/
3DCE

2

1

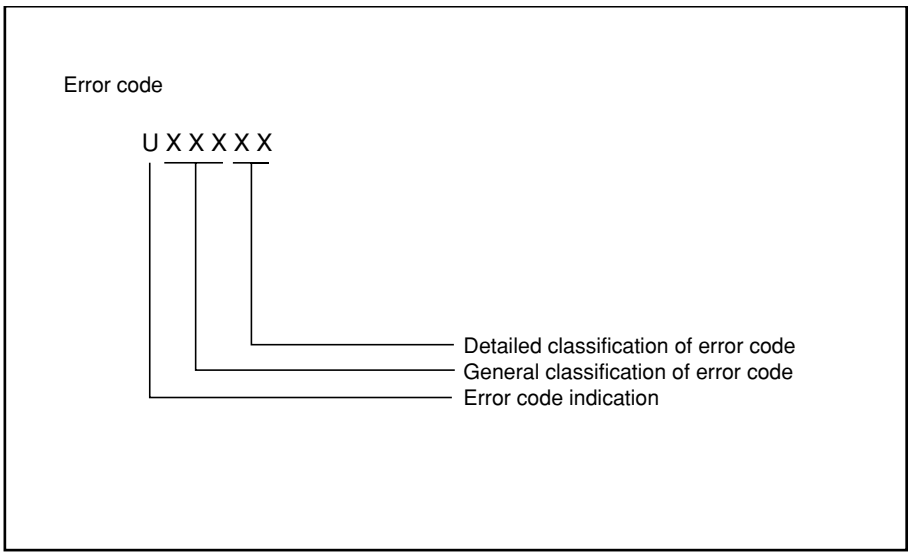
Service items	Description
FAX Country Code	**Setting the FAX destination code** **Description** To set the fax destination code. Basically, the setting need not be changed. **Procedure** 1. Select [FAX Country Code] using up/down cursor keys and press the enter key. 2. Enter the country code using the numeric keys.
Remote Diag. Set	**Setting the FAX remote diagnosis system** **Description** Set to take advantage of our remote diagnosis system. **Procedure** 1. Select [Remote Diag. Set] using up/down cursor keys and press the enter key. 2. Select [Off] or [On] using the up/down cursor keys and press the enter key.
Remote Diag. ID	**Entering the FAX remote ID number** **Description** Register the designated remote test ID for remote diagnosis. In order to perform the remote diagnosis, it needs to be set as On by setting the FAX remote diagnosis system. **Procedure** 1. Select [Remote Diag. ID] using cursor up/down keys and press the enter key. 2. Enter a 4-digit ID using the numeric keys.

1-4-1 Error codes

(1) Error code

Error codes are listed on the communication reports, activity report, etc. The codes consist of an error code indication U followed by a 5-digit number. (Error codes for V34 communication errors start with an E indication, followed by five digits.)

The upper three of the five digits indicate general classification of the error and its cause, while the lower two indicate the detailed classification. Items for which detailed classification is not necessary have 00 as the last two digits.



(2) Table of general classification

Error code	Description
U00000	No response or busy after the set number of redials.
U00100	Transmission was interrupted by a press of the stop/clear key.
U00200	Reception was interrupted by a press of the stop/clear key.
U00300	Recording paper on the destination unit has run out during transmission.
U004XX	A connection was made but interrupted during handshake with the receiver unit (refer to page 1-4-4 “U004XX error code table”).
U00500	Multiple communication was interrupted and call was not made on destination units after interruption.
U006XX	Communication was interrupted because of a machine problem (refer to page 1-4-5 “U006XX error code table”).
U00700	Communication was interrupted because of a problem in the destination unit.
U008XX	A page transmission error occurred in G3 mode (refer to page 1-4-5 “U008XX error code table”).
U009XX	A page reception error occurred in G3 mode (refer to page 1-4-5 “U009XX error code table”).
U010XX	Transmission in G3 mode was interrupted by a signal error (refer to page 1-4-6 “U010XX error code table”).
U011XX	Reception in G3 mode was interrupted by a signal error (refer to page 1-4-8 “U011XX error code table”).
U01400	An invalid one-touch key was specified during communication.
U01500	A communication error occurred when calling in V.8 mode.
U01600	A communication error occurred when called in V.8 mode.
U017XX	A communication error occurred before starting T.30 protocol during transmission in V.34 mode (refer to page 1-4-10 “U017XX error code table”).
U018XX	A communication error occurred before starting T.30 protocol during reception in V.34 mode (refer to page 1-4-10 “U018XX error code table”).
U02000	Relay broadcast was refused by a relay station because of a mismatch in permit ID number and permit telephone number when a relay command was issued.
U02100	A relay command failed because the destination unit (relay station) had no relay broadcast capability.
U02200	A relay command from a command station failed because a telephone number that was not registered in the relay station was specified. Or, relay broadcast was requested to a relay station but failed because a telephone number that was not registered in the relay station was specified.
U023XX	Receiving station information was not normally received in reception of a relay command (refer to page 1-4-10 “U023XX error code table”).
U02400	An interoffice subaddress-based relay transmission was interrupted because of a mismatch in the specified relay box number.
U03000	No document was present in the destination unit when polling reception started.
U03100	In reverse polling, although no original was set in the destination unit, transmission was complete.
U03200	In confidential polling reception, data was not accumulated in the specified box in the destination unit. Or, in interoffice subaddress-based bulletin board reception, data was not stored in the box specified by the destination unit.
U03300	In polling reception from a unit of our make, operation was interrupted due to a mismatch in permit ID or telephone number. Or, in interoffice subaddress-based bulletin board reception, operation was interrupted due to a mismatch in permit ID or telephone number.
U03400	Polling reception was interrupted because of a mismatch in individual numbers (destination unit is either of our make or by another manufacturer).

Error code	Description
U03500	In confidential polling reception, the specified confidential box No. was not registered in the destination. Or, in interoffice subaddress-based bulletin board reception, the specified Subaddress confidential box number was not registered in the destination unit. Or, the destination was being accessed.
U03600	Confidential polling reception was interrupted because of a mismatch in specified confidential box No. Or, an interoffice subaddress-based bulletin board reception was interrupted because of a mismatch in the specified subaddress confidential box number.
U03700	Confidential polling reception failed because the destination unit had no confidential polling transmission capability or data was not accumulated in any box in the destination unit. Or, data was not stored in any subaddress confidential box in the destination unit.
U04000	The confidential box specified for confidential transmission was not registered in the destination unit. Or, in interoffice subaddress-based transmission mode, the specified subaddress box number was not registered in the destination unit. Or, the destination was being accessed.
U04100	Confidential transmission failed because the destination unit had no confidential capability. Or, subaddress-based transmission failed because the destination unit had no subaddress-based reception capability.
U04200	In encrypted transmission, the specified encryption box was not registered in the destination unit.
U04300	Encrypted transmission failed because the destination unit had no encrypted communication capability.
U044XX	Communication was interrupted because of an encryption key error during encrypted transmission (refer to page 1-4-10 “U044XX error code table”).
U04500	Encrypted reception was interrupted because of a mismatch in encryption keys.
U05000	In transmission with a specified number, the set number of originals was different from the number of transmitted originals.
U05100	Password check transmission was interrupted because the permit ID did not agree.
U05200	Password check reception was interrupted because the permit ID did not agree.
U05300	Destination unit in password check reception mode did not receive data because the permit ID did not agree.
U06199	When the original size setting was Letter/A4, it was going to transmit the original of Legal/Folio size from document processor, and reading was stopped because the setting and original was not match.
U09000	G3 communication was attempted but failed because the destination unit was a G2 machine.
U12000	Relay broadcast was requested from a command station but memory overflowed during reception.
U12100	Relay was commanded but memory overflowed in the destination unit (relay station).
U14000	Memory overflowed during confidential reception. Or, in subaddress-based confidential reception, memory overflowed.
U14100	Memory overflowed in the destination unit during confidential transmission. Or, in interoffice subaddress-based transmission, memory overflowed in the destination unit.
U19000	Memory overflowed during memory reception.
U19100	Memory overflowed in the destination unit during transmission.
U19200	Memory transmission failed because a decoding error occurred.
U19300	Transmission failed because an error occurred during JBIG encoding.
U19400	Reception failed because an error occurred during JBIG decoding.

(2-1) U004XX error code table: Interrupted phase B

Error code	Description
U00420	A relay request was received from the host center but interrupted because of a mismatch in permit ID or telephone number.
U00430	Polling request (confidential or reverse) was received but interrupted because of a mismatch in permit number.
U00431	Confidential polling transmission was interrupted because the specified confidential box No. was not registered.
U00432	Confidential polling transmission was interrupted because of a mismatch in confidential box ID number.
U00433	Confidential polling request was received but data was not present in the confidential box.
U00434	Confidential polling request was received but interrupted because the specified confidential box No. was intended for encryption.
U00435	Confidential polling request was received but interrupted because the specified confidential box was being accessed.
U00440	Confidential reception was interrupted because the specified confidential box No. was not registered. Or, subaddress-based confidential reception was interrupted because the specified subaddress box was not registered. Or, subaddress-based confidential reception was interrupted because the specified subaddress box No. was being accessed.
U00441	Confidential reception was interrupted because the specified confidential box No. was intended for encryption.
U00450	The destination unit in password check transmission mode interrupted transmission because of a mismatch in permit ID.
U00460	Encrypted reception was interrupted because the specified encryption box number was not registered. Or, encrypted reception request was received but interrupted because the specified encryption box was being accessed.
U00462	Encrypted reception was interrupted because the encryption key for the specified encryption box was not registered.

(2-2) U006XX error code table: Problems with the unit

Error code	Description
U00600	The document processor cover is open.
U00601	Document jam or the document length exceeds the maximum.
U00602	Image scanning section problem.
U00603	No document feed.
U00604	Document length exceeded the limit of the bitmap memory capacity.
U00610	Recording section cover is open.
U00611	Recording paper JAM
U00613	Image writing section problem
U00614	Nearly empty of recording paper
U00615	Empty of recording paper
U00620	Copier fixing unit problem
U00622	Copier drive motor problem
U00655	CTS was not activated after RTS due to a modem error.
U00656	Data was not transmitted after CTS was activated due to a modem error.
U00670	Power was cut off during communication.
U00677	There was no file to transmit in the memory transmission mode.
U00690	System error.

(2-3) U008XX error code table: Page transmission error

Error code	Description
U00800	A page transmission error occurred because of reception of a RTN or PIN signal.
U00810	A page transmission error reoccurred after retry of transmission in the ECM mode.

(2-4) U009XX error code table: Page reception error

Error code	Description
U00900	An RTN or PIN signal was transmitted because of a page reception error.
U00910	A page reception error remained after retry of transmission in the ECM mode.

(2-5) U010XX error code table: G3 transmission

Error code	Description
U01000	An FTT signal was received for a set number of times after TCF signal transmission at 2400 bps. Or, an RTN signal was received in response to a Q signal (excluding EOP) after transmission at 2400 bps.
U01001	Function of the unit differs from that indicated by a DIS signal.
U01010	No relevant signal was received after transmission of a DNL (MPS or EOM) signal, and the preset number of command retransfers was exceeded (between units of our make).
U01011	No relevant signal was received after transmission of a DCS, TCF signal, and the preset number of command retransfers was exceeded.
U01012	No relevant signal was received after transmission of an NSS1, NSS2 (TCF) signal, and the preset number of command retransfers was exceeded (between units of our make).
U01013	No relevant signal was received after transmission of an NSS3, TCF signal, and the preset number of command retransfers was exceeded (between units of our make).
U01014	No relevant signal was received after transmission of an MPS signal, and the preset number of command retransfers was exceeded.
U01015	No relevant signal was received after transmission of an EOM signal, and the preset number of command retransfers was exceeded.
U01016	An MCF signal was received but no DIS signal was received after transmission of an EOM signal, and T1 timeout was detected.
U01017	No relevant signal was received after transmission of an EOP signal, and the preset number of command retransfers was exceeded.
U01018	No relevant signal was received after transmission of a PRI-EOP signal, and the preset number of command retransfers was exceeded.
U01019	No relevant signal was received after transmission of a CNC signal, and the preset number of command retransfers was exceeded (between units of our make).
U01020	No relevant signal was received after transmission of a CTC signal, and the preset number of command retransfers was exceeded (ECM).
U01021	No relevant signal was received after transmission of an EOR.Q signal, and the preset number of command retransfers was exceeded (ECM).
U01022	No relevant signal was received after transmission of an RR signal, and the preset number of command retransfers was exceeded (ECM).
U01023	No relevant signal was received after transmission of a PSS.NULL signal, and the preset number of command retransfers was exceeded (ECM).
U01024	No relevant signal was received after transmission of a PSS.MPS signal, and the preset number of command retransfers was exceeded (ECM).
U01025	No relevant signal was received after transmission of a PPS.EOM signal, and the preset number of command retransfers was exceeded (ECM).
U01026	No relevant signal was received after transmission of a PPS.EOP signal, and the preset number of command retransfers was exceeded (ECM).
U01027	No relevant signal was received after transmission of a PPS.PRI-EOP signal, and the preset number of command retransfers was exceeded (ECM).
U01028	T5 time-out was detected during ECM transmission (ECM).
U01040	A DCN or other inappropriate signal was received during standby for DIS signal reception.
U01041	A DCN signal was received after transmission of a DNL (MPS or EOM) signal (between units of our make).
U01042	A DCN signal was received after transmission of a DCS, TCF signal.
U01043	A DCN signal was received after transmission of an NSS1, NSS2 (TCF) signal (between units of our make).
U01044	A DCN signal was received after transmission of an NSS3, TCF signal (between units of our make).

Error code	Description
U01045	A DCN or other inappropriate signal was received after transmission of an MPS signal.
U01046	A DCN or other inappropriate signal was received after transmission of an EOM signal.
U01047	A DCN or other inappropriate signal was received after transmission of an EOP signal.
U01048	A DCN signal was received after transmission of a PRI-EOP signal.
U01049	A DCN signal was received after transmission of a CNC signal (between units of our make).
U01050	A DCN signal was received after transmission of a CTC signal (ECM).
U01051	A DCN signal was received after transmission of an EOR.Q signal (ECM).
U01052	A DCN signal was received after transmission of an RR signal (ECM).
U01053	A DCN signal was received after transmission of a PPS.NULL signal (ECM).
U01054	A DCN signal was received after transmission of a PPS.MPS signal (ECM).
U01055	A DCN signal was received after transmission of a PPS.EOM signal (ECM).
U01056	A DCN signal was received after transmission of a PPS.EOP signal (ECM).
U01057	A DCN signal was received after transmission of a PPS.PRI-EOP signal (ECM).
U01070	Polarity reversal was detected during handshake.
U01071	Polarity reversal was detected during message transmission.
U01072	A break in loop current was detected during transmission.
U01073	During reverse polling in V.34 mode at the receiver unit, a CM signal was not detected when transmitting after reception.
U01080	A PIP signal was received after transmission of a PPS.NULL signal.
U01091	During transmission in V.34 mode, communication was interrupted because a PPR signal was received over 10 times even after reducing the communication speed to the minimum with the symbol speed maintained at the level of connection.
U01092	During transmission in V.34 mode, communication was interrupted because of an impossible combination of the symbol speed and communication speed.

(2-6) U011XX error code table: G3 reception

Error code	Description
U01100	Function of the unit differs from that indicated by a DCS signal.
U01101	Function of the unit (excl. communication mode select) differs from that indicated by an NSS signal.
U01102	A DTC (NSC) signal was received when no transmission data was in the unit.
U01110	No response after transmission of a DIS signal.
U01111	No response after transmission of a DTC (NSC) signal.
U01112	No training reception after reception of a DCS or NSS signal.
U01113	No response after transmission of an FTT signal.
U01114	No message reception after transmission of a CFR signal.
U01115	No message reception after transmission of an MCF signal.
U01116	No message reception after transmission of a PPR signal.
U01117	No message reception after transmission of a CTR signal.
U01118	No message reception after transmission of an ERR signal.
U01119	No further signals were received after reception of a message.
U01120	No response after transmission of an MCF signal.
U01121	No response after transmission of an RTP signal.
U01122	No response after transmission of an RTN signal.
U01123	No response after transmission of a PIP signal.
U01124	No response after transmission of a PIN signal.
U01125	No response after transmission of a CNS signal (between units of our make).
U01126	No response after transmission of a PPR signal (ECM).
U01127	No response after transmission of an ERR signal (ECM).
U01128	No response after transmission of an RNR signal (ECM).
U01129	No response after transmission of an SPA signal (short protocol).
U01140	A DCN signal was received after transmission of a DIS signal.
U01141	A DCN signal was received after transmission of a DTC signal.
U01142	A DCN signal was received after transmission of a DCS or NSS signal.
U01143	A DCN signal was received after transmission of an FTT signal.
U01144	A DCN signal was received after transmission of a CFR signal.
U01145	A DCN signal was received after reception of a message.
U01146	A DCN signal was received after transmission of an MCF signal (interoffice communication after reception of an MPS, EOM signal or confidential interoffice communication).
U01147	A DCN signal was received after transmission of an RTP signal.
U01148	A DCN signal was received after transmission of an RTN signal.
U01149	A DCN signal was received after transmission of a PIP signal.
U01150	A DCN signal was received after transmission of a PIN signal.
U01151	A DCN signal was received after transmission of a PPR signal (ECM).
U01152	A DCN signal was received after transmission of a CTR signal (ECM).
U01153	A DCN signal was received after transmission of an ERR signal (ECM).
U01154	A DCN signal was received after transmission of an RNR signal (ECM).
U01155	A DCN signal was received after transmission of an SPA signal (short protocol).
U01160	During message reception, transmission time exceeded the maximum transmission time per line.
U01161	Number of error lines exceeded limits during message reception.
U01162	A break in loop current was detected during message reception.
U01163	Polarity reversal was detected during message reception.
U01164	One page length exceeded the specified length during message reception.
U01170	A decoding error occurred during MMR message reception.
U01172	During reverse polling in V.34 mode at the transmitting unit, a JM signal was not detected after transmission of a CM signal when receiving after transmission.

Error code	Description
U01191	Communication was interrupted because an error occurred during an image data reception sequence in the V.34 mode.
U01199	A DIS signal with different FIF was received after transmission of a DIS signal.

(2-7) U017XX error code table: V.34 transmission

Error code	Description
U01700	A communication error occurred in phase 2 (line probing).
U01720	A communication error occurred in phase 4 (modem parameter exchange).
U01721	Operation was interrupted due to the absence of a common communication speed between units.

U01700: A communication error that occurs at the transmitting unit in the period after transmission of INFO0 before entering phase 3 (primary channel equivalent device training). For example, INFO0/A/Abar (B/Bbar, for polling transmission)/INFOh was not detected.
U01720: A communication error that occurs at the transmitting unit in the period after initiating the control channel before entering the T.30 process. For example, PPh/ALT/MPh/E was not detected.
U01721: In the absence of a common communication speed between units (including when an impossible combination of communication speed and symbol speed occurs) after MPh exchange; 1) a DCN signal was received from the destination unit, and the line was cut; or 2) a DIS (NSF, CSI) signal was received from the destination unit and, in response to the signal, the unit transmitted a DCN signal, and the line was cut.

(2-8) U018XX error code table: V.34 reception

Error code	Description
U01800	A communication error occurred in phase 2 (line probing).
U01810	A communication error occurred in phase 3 (primary channel equivalent device training).
U01820	A communication error occurred in phase 4 (modem parameter exchange).
U01821	Operation was interrupted due to the absence of a common communication speed between units.

U01800: A communication error that occurs at the receiver unit in the period after transmission of INFO0 before entering phase 3 (primary channel equivalent device training). For example, INFO0/B/Bbar (A/Abar, for polling reception)/probing tone was not detected.
U01810: A communication error that occurs at the receiver unit in phase 3 (primary channel equivalent device training). For example, S/Sbar/PP/TRN was not detected.
U01820: A communication error that occurs at the receiver unit in the period after initiating the control channel before entering the T.30 process. For example, PPh/ALT/MPh/E was not detected.
U01821: In the absence of a common communication speed between units (including when an impossible combination of communication speed and symbol speed occurs) after MPh exchange, a DCN signal was transmitted to the destination unit and the line was cut.

(2-9) U023XX error code table: Relay command abnormal reception

Error code	Description
U02303	Timeout was detected before a correct DNL signal was received.
U02304	A signal other than MPS or EOM signal was received after a DNL signal was received.

(2-10) U044XX error code table: Encrypted transmission

Error code	Description
U04400	Encrypted transmission was interrupted because encryption keys did not agree.
U04401	Calling failed during encrypted transmission because the encryption key was not registered.

1-5-1 Self-diagnosis

(1) Self diagnostic codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0030	**Fax control PWB system problem** • Processing with the fax software was disabled due to a hardware or software problem.	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.
C0070	**Fax control PWB incompatibility detection problem** • Fax software is not compatible with main software.	Fax software or main software is something of the other machine.	Check the version of the Fax software and the main software, upgrade the version to the compatible software.
C0280	**Communication problem between the fax control PWB and main PWB** • Communication between the fax control PWB and the main PWB of the machine cannot be performed normally.	Poor contact in the connector terminals.	Check the connection of connector YC1 on the fax control PWB and the connector YC1 on the main PWB. Repair or replace if necessary.
		Defective main PWB or fax control PWB.	Replace the main PWB or fax control PWB and check for correct operation.
C0830	**Flash ROM program area checksum error** • A checksum error occurred with the program of the fax control PWB.	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.
C0870	**Fax control PWB to main PWB high-capacity data transfer problem** • High-capacity data transfer between the fax control PWB and the main PWB of the machine was not normally performed even if the data transfer was retried the specified times.	Poor contact in the connector terminals.	Check the connection of connector YC1 on the fax control PWB and YC1 on the main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective fax control PWB or main PWB.	Replace the fax control PWB or main PWB and check for correct operation.
C0880	**Fax control PWB program archive problem** • When power is turned on, the compressed program in the Flash ROM on the fax control PWB was not successfully decompressed.	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.
C0920	**Fax file system error** • The backup data is not retained for file system abnormality of flash memory of the fax control PWB.	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.

1-6-1 Upgrading the firmware on the fax control PWB

Firmware upgrading requires the following tools:
Compact Flash (Products manufactured by SANDISK are recommended.)

NOTE
- When writing data from a computer to a new Compact Flash, be sure to format it from the computer in advance.
- Since the data is supplied with a compressed file, extract the data and then write it to the Compact Flash.
- Do not write data other than the files below to the Compact Flash.

File
VERDEF: Configuration file
prgc.hex

Procedure

1. Turn the power switch off and disconnect the power plug.
2. Disconnect the modular cord to the line jack.
3. Remove two screws and then remove the FAX assembly.

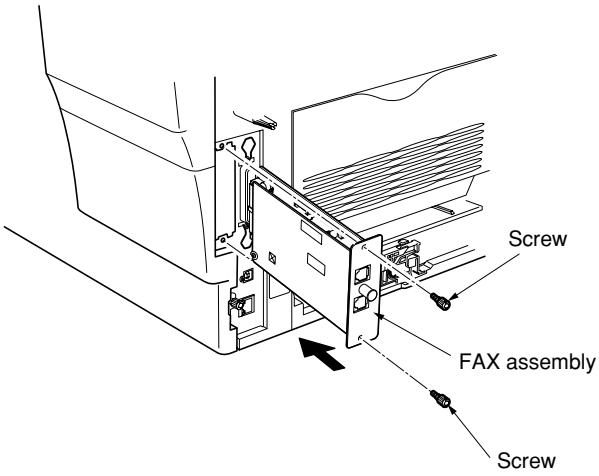


Figure 1-7-1

4. Remove the pin and then remove the memory cover.
5. Remove two screws and then remove the CF cover.

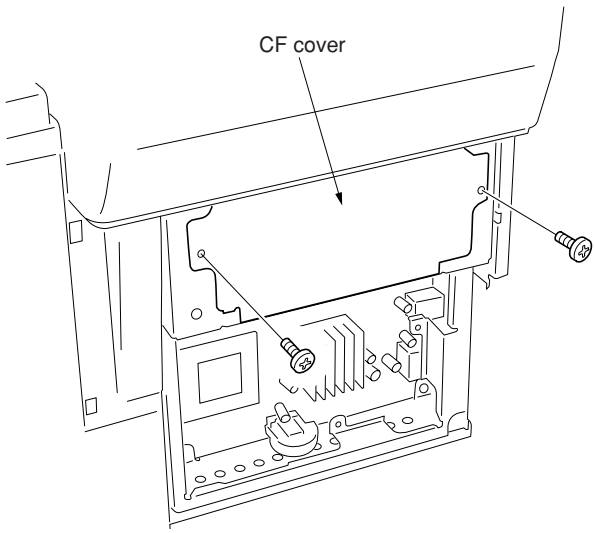


Figure 1-7-2

6. Insert Compact Flash in a CF slot on the main PWB.
   * Insert it straight all the way into the machine with the front side facing the rear of the machine. If the power switch is turned on when the Compact Flash is not properly inserted, the main PWB may be damaged.
7. Insert the FAX assembly along the rail in the machine until it clicks in place. Attach the fax assembly using two screws from step 3. IMPORTANT: When inserting the FAX assembly, slide it slowly and firmly all the way in.
8. Insert the power plug and turn the power switch on.
   * Downloading is displayed on the operation panel and firmware upgrade operation will start (for approximately 45 seconds).

   Caution:
   Never turn the power switch off during upgrading.
9. Completed is displayed on the operation panel when upgrading is complete.
10. Turn the power switch off and disconnect the power plug.
11. Remove Compact Flash from the main PWB.
12. Refit the CF cover and memory cover.
13. Connect the modular cord to the line jack.
14. Insert the power plug and turn the power switch on.

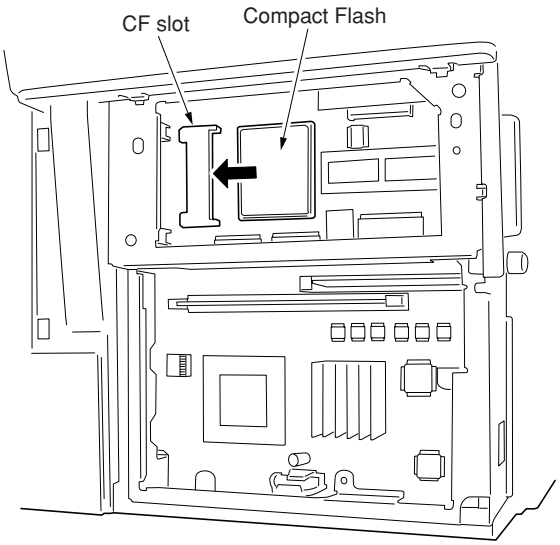


Figure 1-7-3

2-1-1 Electrical parts layout

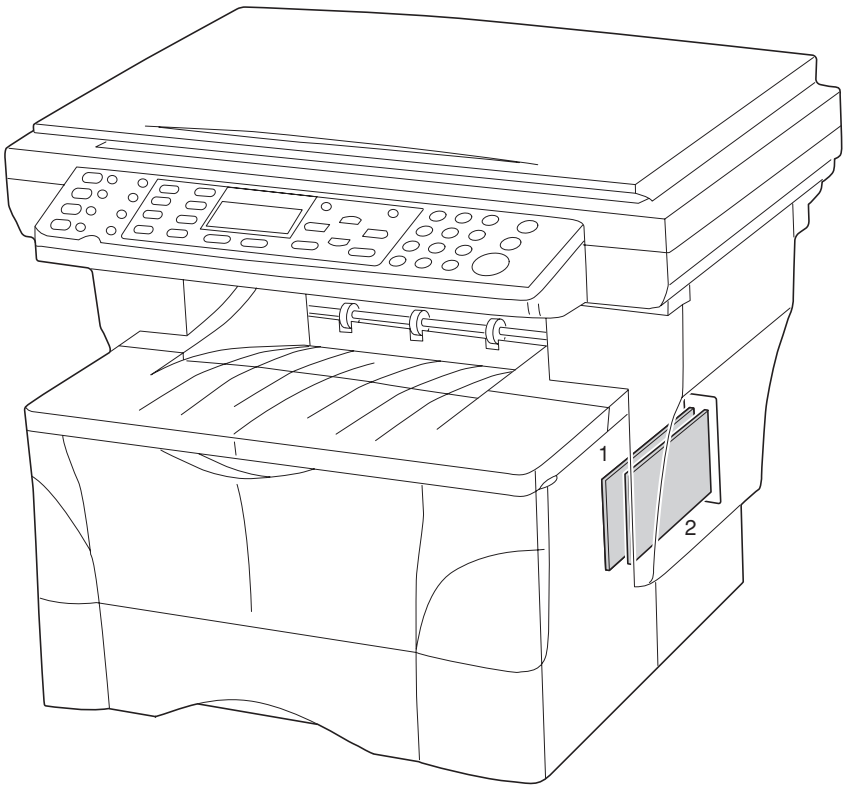


Figure 2-1-1

1. Fax control PWB (FCPWB) ..... Modulates, demodulates, compresses, decompresses and smoothes out image data, and converts resolution of image data.
2. NCU PWB (NCUPWB) ..... Controls connection to the telephone line.

2-2-1 Fax control PWB

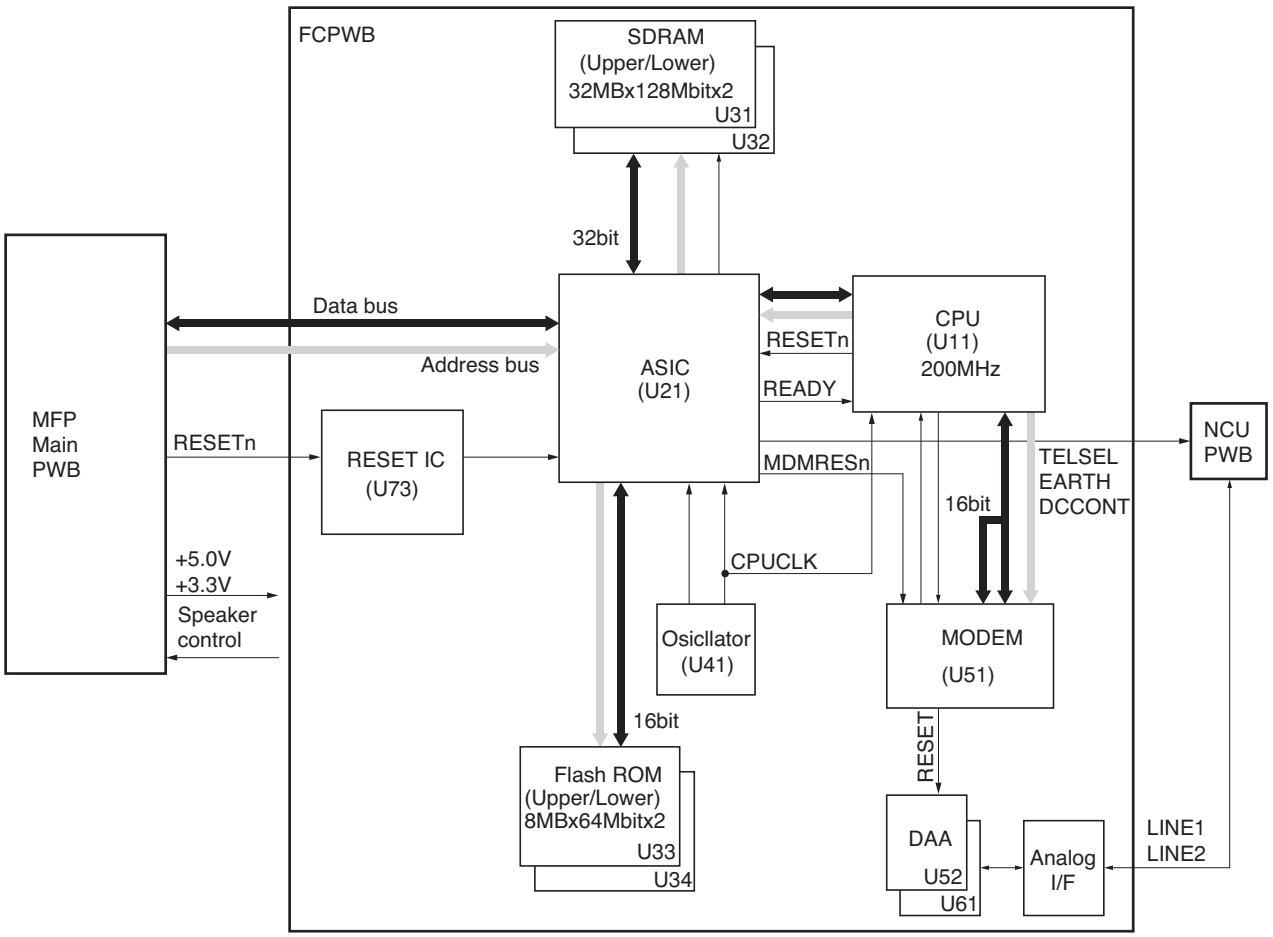


Figure 2-2-1 Fax control PWB block diagram

The fax control PWB (FCPWB) controls the overall fax operation.
To transmit a fax, image data scanned by the optical section of the MFP is processed by the main PWB and then sent to the fax control PWB (FCPWB). Received image data is first stored in the bitmap area of the SDRAM U31/U32 page by page and compressed using the MH, MR, MMR or JBIG method. The data is then stored in the image memory area of the Flash ROM U33/U34and sent to the modem LSI U51 to be modulated from digital signal to analog signal before it is sent to the telephone line via the NCU PWB (NCUPWB).
To receive a fax, analog image data received from the telephone line via the NCU PWB (NCUPWB) is sent to the modem LSI U51 and, after demodulation into digital signals, stored in the image memory area of the Flash ROM U33/U34. The image data is then decompressed and converted into the bitmap area of the SDRAM U31/U32 page by page and sent to the ASIC U21 for resolution conversion and smoothing, and is passed to the main PWB as print image data.

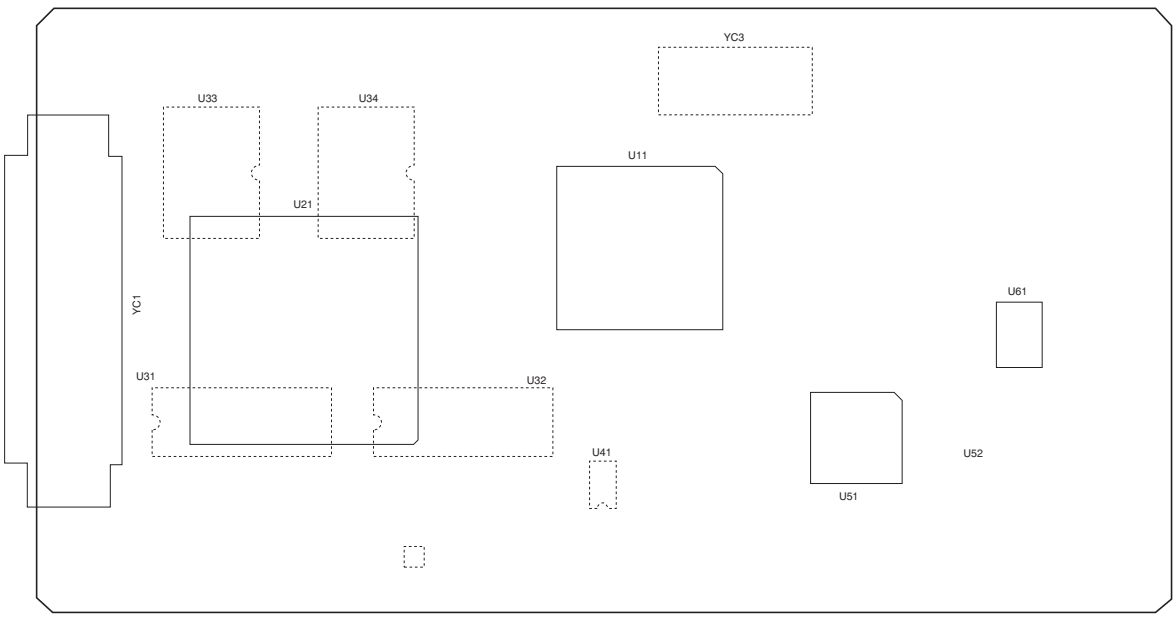


Figure 2-2-2 Fax control PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	A1	NC	-	-	Not used
Connected to the main PWB.	A2	NC	-	-	Not used
	A3	AUDIO	O	3.3 V DC	Speaker control signal
	A4	+3.3 V	I	3.3 V DC	3.3 V DC supply
	A5	GND	-	-	Ground
	A6	A13	-	-	Not used
	A7	A11	I	3.3 V DC	Address bus A11
	A8	A9	I	3.3 V DC	Address bus A9
	A9	GND	-	-	Ground
	A10	A6	I	3.3 V DC	Address bus A6
	A11	A4	I	3.3 V DC	Address bus A4
	A12	A2	I	3.3 V DC	Address bus A2
	A13	GND	-	-	Ground
	A14	OP2IFn	I	3.3 V DC	Fax control signal
	A15	OP2IRn	O	3.3 V DC	Fax control signal
	A16	RDY	I	5 V DC	Fax ready signal
	A17	GND	-	-	Ground
	A18	IORn	I	5 V DC	Fax control signal
	A19	RESETn	I	5 V DC	Reset signal
	A20	D15	I	5 V DC	Data signal D15
	A21	GND	-	-	Ground
	A22	D12	I	5 V DC	Data signal D12
	A23	D10	I	5 V DC	Data signal D10
	A24	D8	I	5 V DC	Data signal D8
	A25	GND	-	-	Ground
	A26	D5	I	5 V DC	Data signal D5
	A27	D3	I	5 V DC	Data signal D3
	A28	D1	I	5 V DC	Data signal D1
	A29	GND	-	-	Ground
	A30	NC	-	-	Not used
	B1	NC	-	-	Not used
	B2	TXDREQ	O	3.3 V DC	DREQ transmission signal
	B3	+3.3V	I	3.3 V DC	3.3 V DC supply
	B4	A15	I	3.3 V DC	Address bus A15
	B5	A14	-	-	Not used
	B6	A12	-	-	Not used
	B7	A10	I	3.3 V DC	Address bus A10
	B8	A8	I	3.3 V DC	Address bus A8
	B9	A7	I	3.3 V DC	Address bus A7
	B10	A5	I	3.3 V DC	Address bus A5
	B11	A3	I	3.3 V DC	Address busA3
	B12	A1	I	3.3 V DC	Address bus A1
	B13	+3.3V	I	3.3 V DC	3.3 V DC supply
	B14	OP2ACKn	O	3.3 V DC	Fax control signal
	B15	+5V	I	5 V DC	5 V DC supply
	B16	RXDREQ	O	5 V DC	DREQ reception signal
	B17	RXDMACKn	I	5 V DC	DMACK reception signal
	B18	IOWn	I	5 V DC	Fax control signal
	B19	TXDMACKn	I	5 V DC	DMACK transmission signal
	B20	D14	I	5 V DC	Data signal D14
	B21	D13	I	5 V DC	Data signal D13
	B22	D11	I	5 V DC	Data signal D11
	B23	D9	I	5 V DC	Data signal D9
	B24	D7	I	5 V DC	Data signal D7
	B25	D6	I	5 V DC	Data signal D6
	B26	D4	I	5 V DC	Data signal D4
	B27	D2	I	5 V DC	Data signal D2
	B28	D0	I	5 V DC	Data signal D0
	B29	NC	-	-	Not used
	B30	NC	-	-	Not used

Connector	Pin No.	Signal	I/O	Voltage	Description
YC3	A1	LINE1	I/O	-	Line signal
Connected to the NCU PWB.	A2	LINE1	I/O	-	Line signal
	A3	N.C.	-	-	Not used
	A4	N.C.	-	-	Not used
	A5	N.C.	-	-	Not used
	A6	GND	-	-	Ground
	A7	GND	-	-	Ground
	A8	GND	-	-	Ground
	A9	GND	-	-	Ground
	A10	GND	-	-	Ground
	A11	GND	-	-	Ground
	A12	+5VDC	O	DC5V	5 V DC supply
	A13	+5VDC	O	5 V DC	5 V DC supply
	A15	+5VDC	O	5 V DC	5 V DC supply
	B1	LINE2	I/O	-	Line signal
	B2	LINE2	I/O	-	Line signal
	B3	N.C.	-	-	Not used
	B4	N.C.	-	-	Not used
	B5	N.C.	-	-	Not used
	B6	TELSEL	O	5 V DC	TEL SEL signal
	B10	EARTH	O	3.3 V DC	Ground start control signal
	B12	TELOFHKn	I	3.3 V DC	External line off-hook signal
	B13	DCCONT	O	3.3 V DC	DC/DC converter control signal

2-2-2 NCU PWB

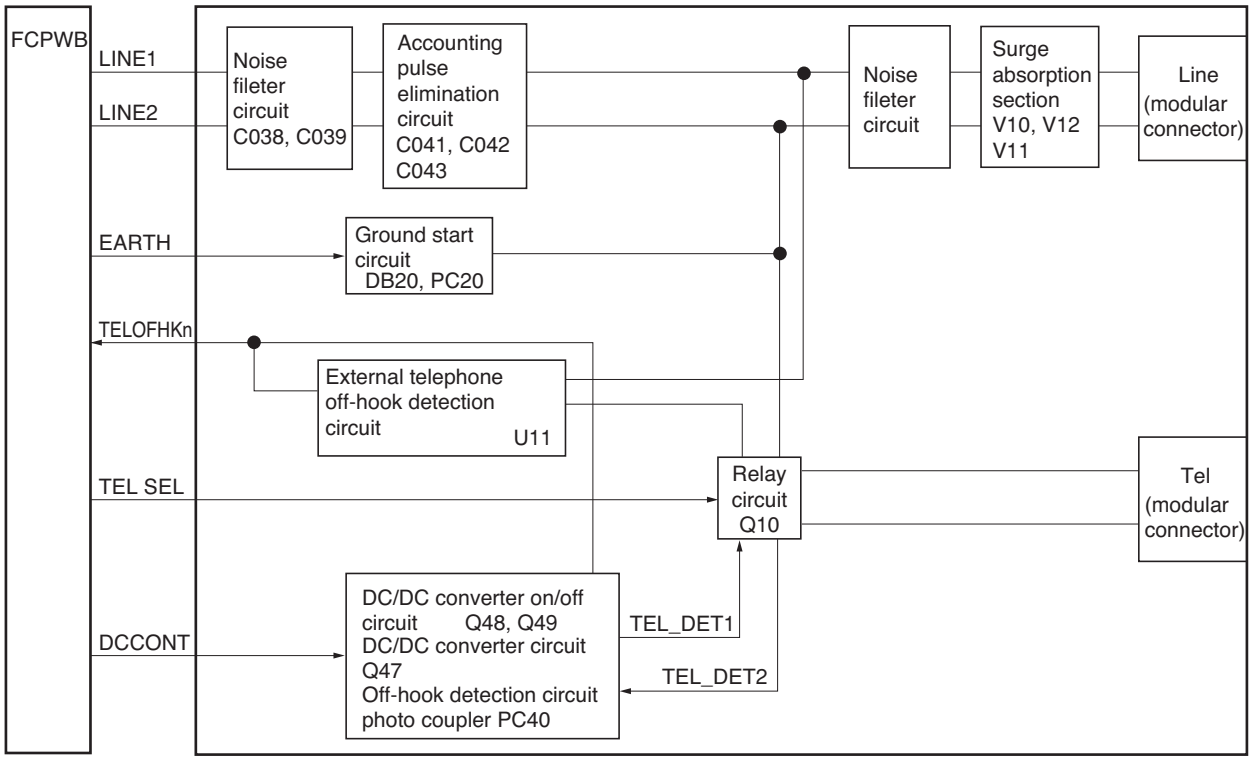


Figure 2-2-3 NCU PWB block diagram

The NCU PWB (NCUPWB) mainly controls the connection to the telephone line. It consists of the circuits shown in the block diagram.
The external telephone off-hook detection circuit U11 detects the off-hook state of the telephone connected.
In the DC/DC converter ON/OFF circuit (Q48 and Q49) , when the DCCONT signal reaches high level, Q48 becomes ON and supplys the electric current to the the DC/DC converter circuit Q47.
In the off-hook detection circuit PC40, by carrying out the off-hook of the external telephone, a loop is formed between TEL_DET1 signal and TEL_DET2 signal, when 3.3 V DC flows to a photo coupler, a TELOFHKn signal is set to low level and an off-hook is detected.
The accounting pulse elimination circuit (C041, C042 and C043) removes signals representing the communication charge information (accounting pulses) before they reach the modem when telephone line is used. This is because accounting pulses obstruct fax communications.
The ground start circuit (DB20 and PC20) requests an outside connection to the private branch exchange (PBX) when calling via the PBX.

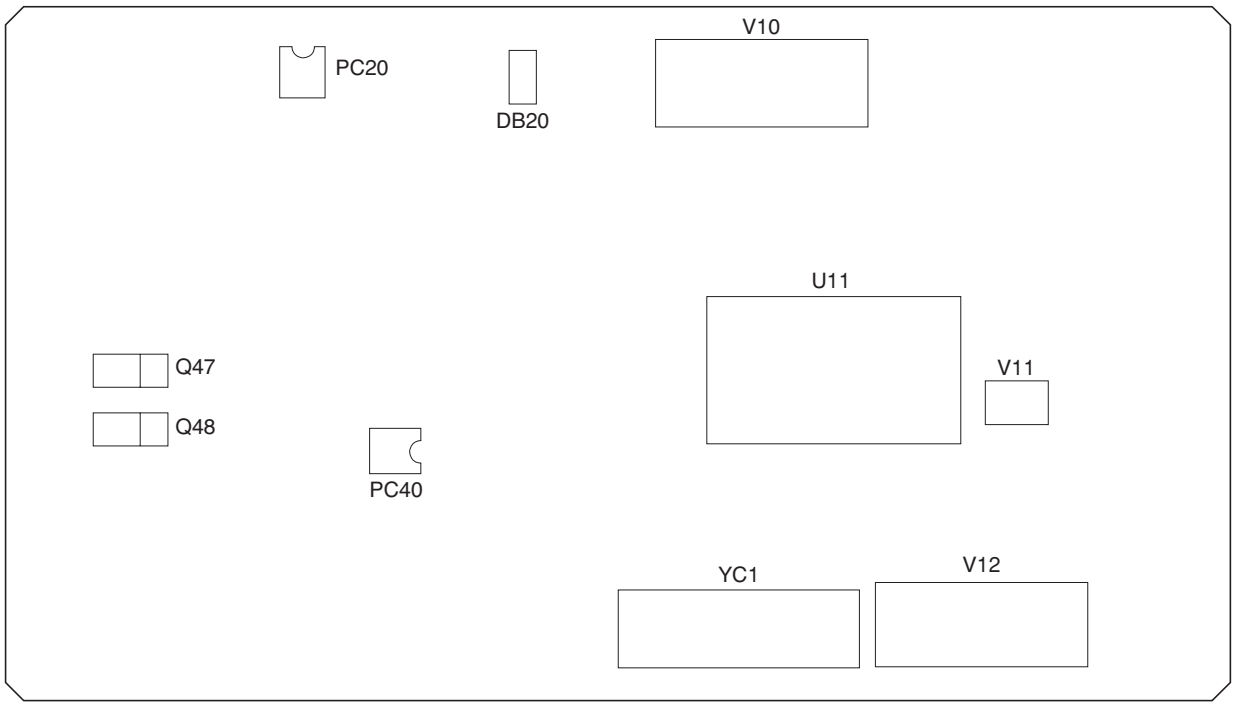


Figure 2-2-4 NCU PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1 Connected to the fax control PWB.	A1	LINE1	I/O	-	Line signal
	A2	LINE1	I/O	-	Line signal
	A3	N.C	-	-	Not used
	A4	N.C	-	-	Not used
	A5	N.C	-	-	Not used
	A6	GND	-	-	Ground
	A7	GND	-	-	Ground
	A8	GND	-	-	Ground
	A9	GND	-	-	Ground
	A10	GND	-	-	Ground
	A11	GND	-	-	Ground
	A12	+5VDC	I	5 V DC	5 V DC supply
	A13	+5VDC	I	5 V DC	5 V DC supply
	A15	+5VDC	I	5 V DC	5 V DC supply
	B1	LINE2	I/O	-	Line signal
	B2	LINE2	I/O	-	Line signal
	B3	N.C	-	-	Not used
	B4	N.C	-	-	Not used
	B5	N.C	-	-	Not used
	B6	TELSEL	I	5 V DC	TELSEL signal
	B7	TELSEL2	I	-	Not used
	B8	ILOOPUP	I	-	Not used
	B9	ILOOPUP2	I	-	Not used
	B10	EARTH	I	5 V DC	Ground start control signal
	B12	TELOFHKn	O	5 V DC	External line off-hook detection signal
	B13	DCCONT	I	5 V DC	DC/DCconverter control signal

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