SHARP SERVICE MANUAL

CODE: 00ZARFX4//A1E

DIGITAL LASER COPIER/ PRINTER OPTION
FAX EXPANSION KIT
(For U.S.A./Canada)

MODEL AR-FX4

EXPANSION MEMORY
2MB: AR-MM5
4MB: AR-MM6
8MB: AR-MM7

—— CONTENTS ——

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.
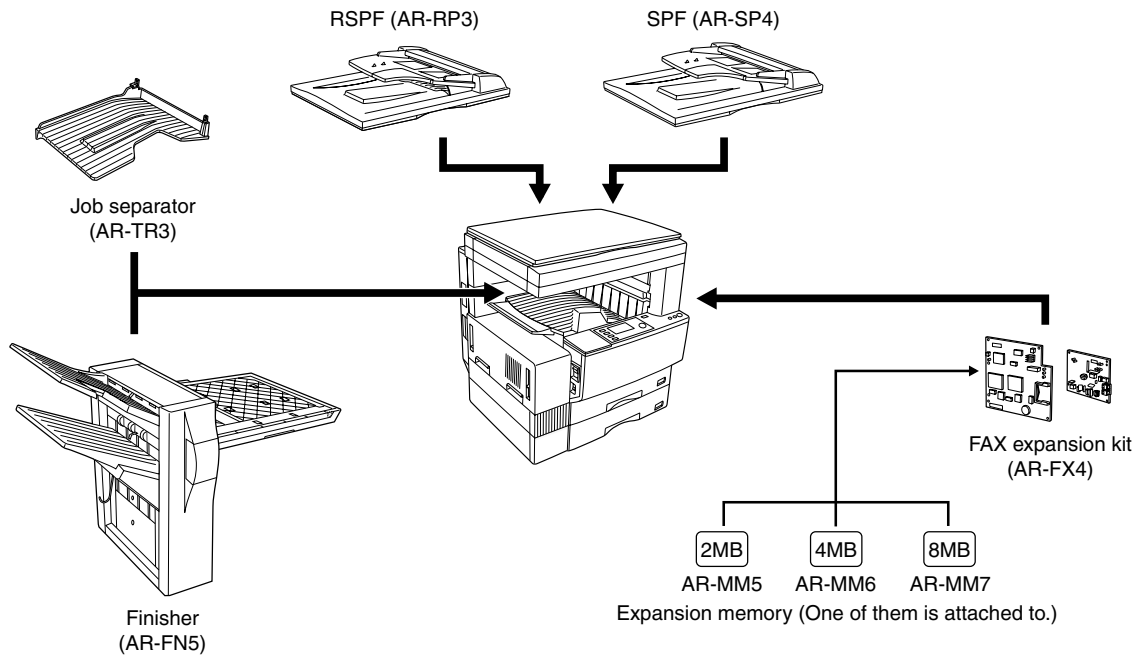
SHARP CORPORATION

CONTENTS

[1] OUTLINE

This unit is a fax expansion kit which provides facsimile functions by attaching to the digital machine AR-235/275 series.

To expand facsimile functions, use of SPF/RSPF is recommendable. By attaching a job separator/finisher, copy output and fax output can be separately discharged to different trays.

The fax board of the fax expansion kit is provided with 2MB flash memory (standard). An expansion memory of one of 2MB/4MB/8MB can be added. (2MB expansion memory for fax, AR-MM5; 4MB expansion memory for fax, AR-MM6; 8MB expansion memory for fax, AR-MM7)

RSPF (AR-RP3)　　SPF (AR-SP4)

Job separator
(AR-TR3)

FAX expansion kit
(AR-FX4)

| 2MB | 4MB | 8MB |
| AR-MM5 | AR-MM6 | AR-MM7 |

Expansion memory (One of them is attached to.)

Finisher
(AR-FN5)

[2] SPECIFICATIONS

1. Communication system

(1) Electronic transmission system

Transmission time	About 3 sec (Super G3/33660bps) About 6sec (G3 ECM/14400bps)
Compression system	MH, MR, MMR, JBIG
Modem speed	33600bps → 2400 auto fall back
Mutual communication	Super G3/G3
Employed line	Public Switched Telephone Network (PSTN), Private Branch Exchange (PBX)
Number of employed lines	One line (no additional line allowed)
ECM	YES

2. Scanning system

(1) Document size

Max. document width		297mm (11.7")
Unscanable area		Lead edge 5mm or less, rear edge 5mm or less left & right edges 6mm or less
Auto detection size	OC AB series	A3/B4/A4/A4R/A5
	Inch series	11 x 17/8.5 x 14/8.5 x 11/ 8.5 x 11R/5.5 x 8.5
	SPF/ RSPF AB series	A3/B4/A4/A4R/A5
	Inch series	11 x 17/8.5 x 14/8.5 x 11/ 8.5 x 11R/5.5 x 8.5

Document size specified	AB series	A3/B4/A4/A4R/A5/8.5 x 11/ 8.5 x 11R
	Inch series	11 x 17/8.5 x 14/8.5 x 11/ 8.5 x 11R/5.5 x 8.5/A4/A4R
	AB series + foolscap	A3/B4/A4/A4R/A5/8.5 x 11/ 8.5 x 11R/8.5 x 13
Duplex document specified		YES
Long document		Max. 1000mm,.depending on the document width and resolution Differs in single/duplex.

(2) Transmission mode document load quantity scan cycle (SPF/RSPF capacity)

SPF/OC transmission select	NO (Selection inhibited during scanning of a document)
Continuous auto paper feed	YES
Document load capacity	30 sheets

(3) Half-tone reproduction density adjustment

Document scan cycle	About 40 pages/min (Normal, A4R memory transmission, guaranteed scan pages = 30 pages)
Document scan speed	About 1.5sec/page (Normal, A4R memory transmission)
Half-tone (Photo mode)	Equivalent to 256 gradations (Combination of fine/super fine/ultra fine is possible.)
Density selection	Auto/manual in 5 steps

3. Image process system

(1) Image selection

Normal	8dot/mm x 3.85line/mm
Fine	8dot/mm x 7.7line/mm
Super fine	8dot/mm x 15.4line/mm
Ultra fine	16dot/mm x 15.4line/mm: ITU-T conforming (reception impossible without additional memory. Receives in super fine mode.)

(2) Print resolution

600dpi (with resolution correction)

4. Print system

(1) Recording size

Max. record width	293mm (11.5")	
Recording paper size detection	YES (All sizes except for multi paper feed. → Recognition of the set size. The tray has no function to detect the actual paper size.)	
Recording paper size	AB series	A3/B4/A4/A4R/A5/8.5 x 11/8.5 x 11R
	Inch series	11 x 17/8.5 x 14/8.5 x 11/8.5 x 11R/ 5.5 x 8.5/A4/A4R

(2) Recording paper

Cassette capacity	Machine: 500 x 1 or 500 x 2 Option: 500 x 1 or 500 x 2
Recording paper empty detection	YES
Paper feed	All installed trays except for multi-manual tray.

5. Transmission function system

(1) Simplified dialing function

Rapid key dialing	50 items
Speed dialing	300 items
Group dialing	50 items (including rapid key dialing)
Telephone directory transmission	Any of other parties registered to speed dialing, rapid key dialing, and group dialing can be searched for using the first 10 letters.
Chain dialing	YES
Redialing	The preceding number is saved, and is not cleared even with CLEAR ALL key.
Program	9 items
Mode recall	NO

(2) F-code communication

Sub address	YES (Max. 20 digits)
Password	YES (Max. 20 digits)

(3) Time specification

Time specification: Transmission/polling	Time is specified in transmission/polling.

(4) Recall mode

Auto recall mode when other party is busy.	Interval	1min to 15min, default 3min
	Number of times	0 to 14 times / 0: No resend Default 2 times
Auto recall mode when in a communication error	Interval	1min to 15min / 0: Resend immediately after disconnection of the line Default 1min
	Number of times	1 time only / 0: No resend Default 1 times
	Send page	After the error page
Number of transmissions counted in recall mode simultaneously.	Max. 50 items	

(5) Automatic reduction transmission

Message is reduced according to the receiver's machine.	YES (ON/OFF by key operator program)

(6) Memory transmission/direct transmission

Memory transmission	Memory transmission	YES
	Number of transmission reservation to be set	Max. 50 items
	Process in memory full	Transmission cancel or only scanned data transmission
Quick online transmission	YES (Enable/Disable setup by key operator program)	
Direct transmission	YES (30 pages from SPF, only 1 page from OC)	
Default setup	Set by key operator program	

(7) Broadcast function

Broadcast transmission	Number of destinations	200 destinations (When group dialing is used, the number of other parties registered to group dialing is added.)
	Transmission method	Broadcast key, group key
	Usable dial	10-key entry, rapid key dialing, speed dialing. However, those of which sub address is registered cannot be used.
Group dialing		Transmitted by group dialing registered to rapid key dialing
Relay broadcast transmission	Instructing station	Only from the machine having Sharp relay broadcast instructing transmission function
	Relay station	Only from the machine having Sharp relay broadcast transmission function
	Multiple relay	NO
	Number of relay groups	10 groups
	Number of receiving stations that may be specified per group	120 items in rapid key dialing, 240 items in speed dialing

(8) Confidential function

Confidential transmission	Other station	Only Sharp machine having confidential function

(9) Scan specification

Page division	YES (Allowed only from OC)
Page coupling	NO

(10) Priority function

Transmission reservation interrupt	YES (by direct transmission)
Broadcast interrupt	YES (by direct transmission)

(11) Serial transmission function

Serial transmission	NO

(12) Rotation transmission

Paper size	AB series	A4 → A4R, 8.5 x 11 → 8.5 x 11R
	Inch series	8.5 x 11 → 8.5 x 11R, A4 → A4R,

(13) Book document transmission

Transmission method	By OC mode
Page division	YES

(14) Finish stamp

NO

(15) Bulletin board, polling transmission functions

Bulletin board	Bulletin board	YES
Protection function	Check by other party's number	YES
	Check by matching of system number (user's own machine), ID number (other party's machine) (between Sharp machines only)	YES

6. Reception function system

(1) Reception mode

Default setup		Automatic reception (Reception state switchable)
Automatic reception	Automatic reception setup	YES
	Number of calls	0 to 9 times (Factory setup 2 times, variable)
	Automatic switching of Telephone/Fax	NO
	Non-call reception	Allowed by setting the number of calls to 0.
Manual reception	Manual reception setup	YES
	Setup for switching to automatic reception	NO
	Number of calls to switch to automatic reception in manual reception mode	NO
Dial-in		NO
Answering machine connection	Answering connection	NO
Reception mode time switch		NO

(2) Zoom reception

Reduction	Reduction to regular size	YES (ON/OFF by key operator program)
	Reduction between regular sizes	YES (by print condition setup of key operator program)
Enlargement		NO

(3) Memory reception function

Proxy reception	Only when output is disabled.
Compulsory memory reception	NO

(4) Received data override output

YES

(5) Transfer

Transfer destination registration	YES (Registered by key operator program)
Transfer procedure	YES (Operated with function menu)

(6) Specified number reception

Reception of only specified numbers allowed	NO
Reception of specified numbers inhibited	YES

(7) Confidential function

Confidential reception	Sender	Sharp machine having confidential function only
	Confidential box	Registered up to 10 boxes
	Confidential box name	36 letters
	Confidential ID code	May be set per confidential box

(8) Rotation reception

Paper is outputted by rotating 90 degrees to the set direction of paper in cassette

(9) Division reception

Division size	When no paper for reception of long document
Division reception setup	YES (by print condition setup of key operator program)

(10) Duplex reception

NO

(11) 2 in 1 reception

NO

(12) Polling (send request)

Polling	YES
Resolution at send request	Variable by soft SW. Default: fine

(13) Turn around transmission

NO

7. Registration system

(1) Number registration

Speed dialing	Number of items	300 items
	Number of digits of other party's number	40 digits
	Registered name	36 letters
	Searched letters	Up to 10 letters
	User tag classification	NO
	International communication mode setup	YES
	Transmission method	Speed dialing key + (000 to 299) + Start key
Rapid key dialing	Number of items	50 items
	Number of digits of other party's number	40 digits
	Registered name	36 letters
	Searched letters	Up to half-size 10 letters
	User tag classification	NO
	International communication mode setup	YES
	Transmission method	Rapid dialing key (01 – 50)
Group dialing	Registered key	Rapid dialing key
	Max. number of registration per group dialing	100 items (The total number of registration is 150 items.)
	Registerable number	Numbers registered to speed dialing, rapid dialing, and numbers entered with 10-key
	Registered name	36 letters
	Searched letters	Up to 10 letters
	User tag classification	NO
	Transmission method	Rapid dialing key

Program	Number of items	9 items
	Registerable item	All items that can be set in transmission, except for time setup
	Registered name	36 letters
	Call method	By pressing program key
	Change in setup after calling	YES

(2) Sender registration

Sender's name	36 letters, registered with key operator program
Sender's number	20 digits, registered with key operator program

(3) Polling (send request), bulletin board (remote transmission) allow number registration)

Send request allow number	Registration of other party to which send request is made	10 digits, 20 digits, registered by key operator program
System number	System number registration	Up to 1 number, registered in key operator program
ID number	ID number registration	Up to 10 items in 4 digits. Registered by key operator program.

(4) Letter input

Input method	Key entry	YES
Letters allowed for input	Half-size characters	Alphabet, Numerical figures, Special characters, Codes

(5) Registered data write

YES (Service tool. Dial registration can be made with PC.)

(6) Date/time adjustment

Registered by key operator program.

(7) Backup

Backup of registration in power failure	SRAM used, by built-in battery

8. Telephone function system

Handset		NO
On-hook function		YES
Reserve		NO
Pause		YES (1 to 15sec: Default 2sec, set by key operator program)
Telephone transmission in power failure		No (However, external telephone transmission is allowed.)
Sound volume adjustment	Call sound volume	YES (Set by key operator program to Large/Medium/Small/No sound.)
	Line monitor sound	YES (Set by key operator program to Large/Medium/Small/No sound.)
	On-hook sound	YES (Set by key operator program to Large/Medium/Small.)
	Scan end sound	YES (Set by soft switch to Large/Medium/Small/No sound.)
	Communication end sound	YES (Set by soft switch to Large/Medium/Small/No sound.)
Tone pulse switch		PULSE/TONE selection with key operator program.
External telephone connection		YES
	Remote reception switch	YES (Switch number is in 1 digit + ∗∗) 5∗∗

9. Memory system

Memory capacity	Standard	2MB
	Option	Up to 8MB (+2MB/+4MB/+8MB)
Memory content (transmission reservation) confirmation	LCD display	YES
	Printout	YES
Memory use status		YES (% display)
Document data memory backup in power failure		YES (Flash memory)

10. Additional information function for transmission

Page counter			YES
Date printing			YES (Year/month/day, Year in 4 digits)
	Date/ display sequential switch		NO
Cover paper function	Cover paper item	Date	YES
		Receiver's name	YES
		Receiver's number	YES
		Sender's name	YES
		Sender's number	YES
		Display of number of documents transmitted	YES
		Transmission message	YES
		Print paper size	A4 (AB series) 8.5 x 11 (Inch series)
Transmission message	Regular message		CONFIDENTIAL/PLS. DISTRIBUTE/URGENT/ PLS. CALL BACK/IMPORTANT
	User message		NO
Sender print function	Sender's number		20 digits, registered with key operator program
	Sender's name		36 letters

11. Additional print function when receiving

Index print	YES (Set by key operator program)

12. Recording table system

(1) Communication record function

Communication record table size	AB series	A4 (Not output when paper greater than A4 is not set.)
	Inch series	Letter (not output if size setting is not Letter or larger)
Communication record memory capacity	50 items in total of transmission and reception	
Communication record table	Number of items	Max. 50 items for each of transmission and reception (Total of transmission and reception is up to 50 items.) Record table is outputted separately. If registration exceeds 50, the oldest one is deleted.
	Time-specified output	YES (2 times per day)
	Output when recording memory full	Soft SW provided
	Output of individual department	YES (Communication time of each department is outputted as department management record table.)
Time-specified communication table	Common with transmission record table	
Confidential reception check table	YES	

(2) Communication result report function

Communication result table (transmission)	YES (Select Always print/in failure of transmission/no print. With key operator program)

(3) Report function

Broadcast communication report	YES (Select Always print/in failure of transmission/no print. With key operator program)
Communication result table (reception)	YES (Select Always print/in failure of transmission/no print. With key operator program)
Communication result table (confidential reception)	YES (Select Always print no print. With key operator program)
Document content print in transmission error	YES (Some part of the first page is printed: ON/OFF setup by key operator program. Confidential transmission data are never printed.)

(4) Other report list

Rapid key dialing table	YES (Rapid key table)
Speed dialing table	YES (Speed dialing table)
Group table	YES (Group number table
Telephone number table	YES (Table of searched letters in rapid key dialing, speed dialing, and group dialing in alphabetical order)
Transmission message list	NO
ID/Senders list	YES
Confidential ID table	YES
Soft switch list	YES
Memory image deletion table	NO
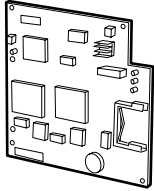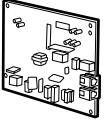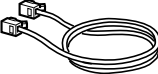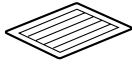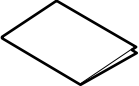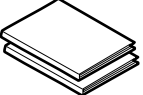
13. Others

CSI transmission function	CSI transmission	YES
Department management	Limitation on users in each department	YES
	Number of departments registered	20 items
	Charge management function for each department	NO
Operation panel display	LCD	19 letters x 5 lines
Automatic booting mode		NO

[3] INSTALLATION PROCEDURE

1. Install of expansion kit

A. Parts included

Fax key unit:	Fax PWB	TEL/LIU PWB
Speaker unit:	M3 golden screws: 2 pcs.	M3 screws with washer: 6 pcs.
PWB spacers: 2 pcs.	Fax connector cover: 1 pcs.	Line cable: 1 pcs.
Supplied label: 1 sheet	Writing label: 1 sheet	Installation manual: 1 sheet
Operation manuals: 2 pcs.		

B. Installation

Turn off the main switch of the copier and then remove the power plug of the copier from the outlet.

1) Remove the fax dummy cover.

   Open the front cover of the copier, remove the screw that fixes the fax dummy cover, and remove the fax dummy cover.
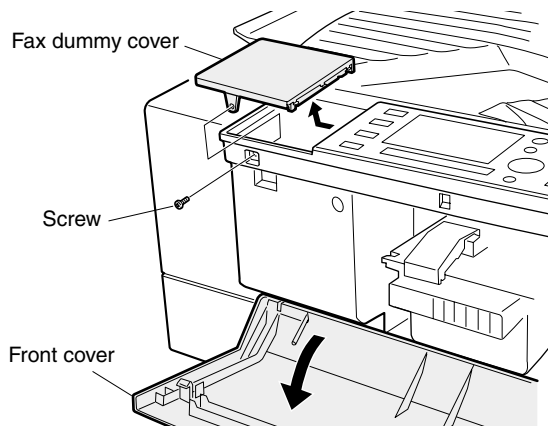
2) Attach the fax key unit.

   Connect the flat cable to the fax key unit, attach the fax key unit to the operation panel, and use the screw to fix it.

   Close the front cover of the copier.
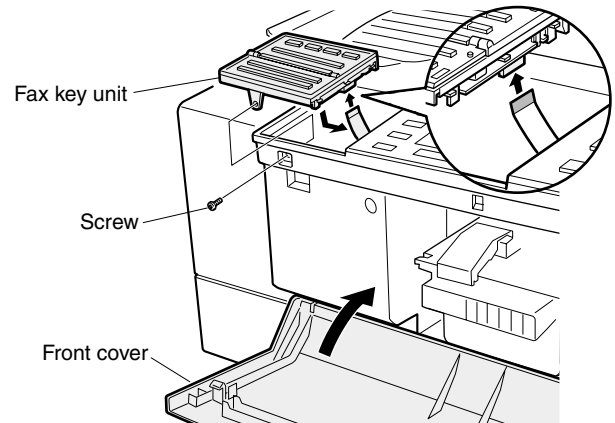
3) Remove the shielding plate and the left rear cabinet.

   Remove the 5 fixing screws on the shilding plate and take off the shilding plate with inserting the flatblade screwdriver, etc.

   Next, remove the 5 fixing screws on the left rear cabinet, and slide it backward to remove.
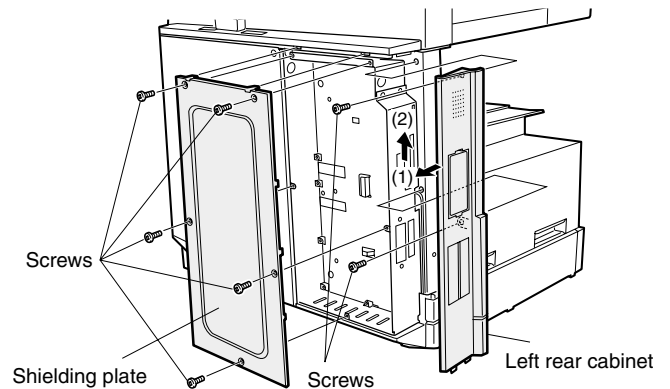
4) Work the left rear cabinet.

   Cut and remove the cut-out portion from the left rear cabinet using a tool such as nippers.

   Be careful about the direction of the tool so that the cut surface is flat.
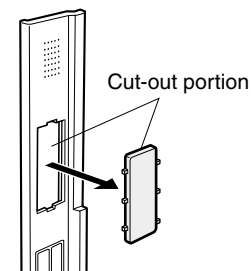
5) Attach the speaker.

Attach the speaker to the left rear cabinet using supplied two golden screws (M3).

M3 golden screws
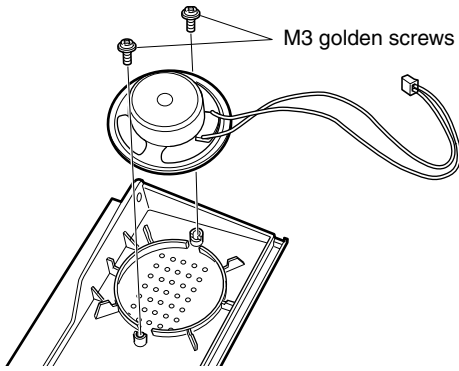
6) Attach the fax PWB.

Mount the two spacers on the fax PWB.

Next, insert the fax PWB connector into the connector on the expansion PWB, install with 4 M3 screws with washer.

M3 screws with washer

Fax PWB

Spacers

M3 screws with washer
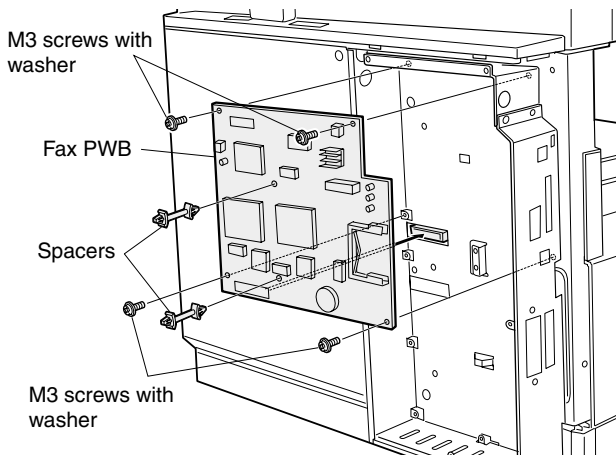
7) Attach the TEL/LIU PWB.

Insert the TEL/LIU PWB connector into the fax PWB connector, attach 2 spacers on the TEL/LIU PWB, and attach the TEL/LIU PWB with 2 M3 screws with washer.

Spacers

TEL/LIU PWB

M3 screws with washer
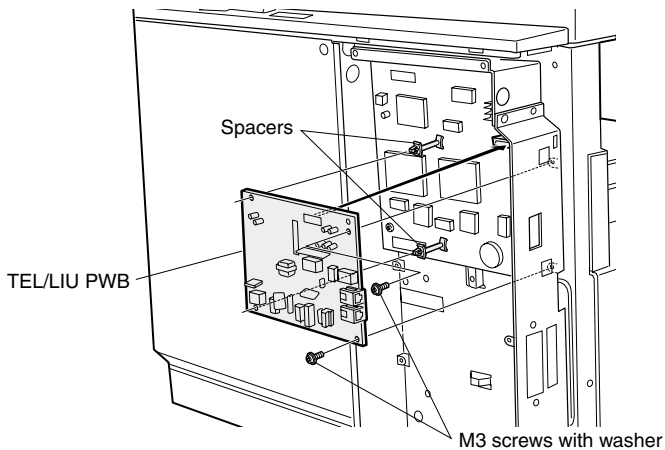
8) Reattach the left rear cabinet.

1. Pass the speaker harness through the hole of the frame of the fax expansion PWB and connect it to the connector of the fax PWB.

2. Fit the pawls of the left rear cabinet to the mounting portions of the main unit. Slide the cabinet toward the front of the main unit to attach it.

3. Fix the left rear cabinet with 2 screws.

4. Attach the supplied fax connector cover.

Speaker harness

Screw

Left rear cabinet

Fax connector cover
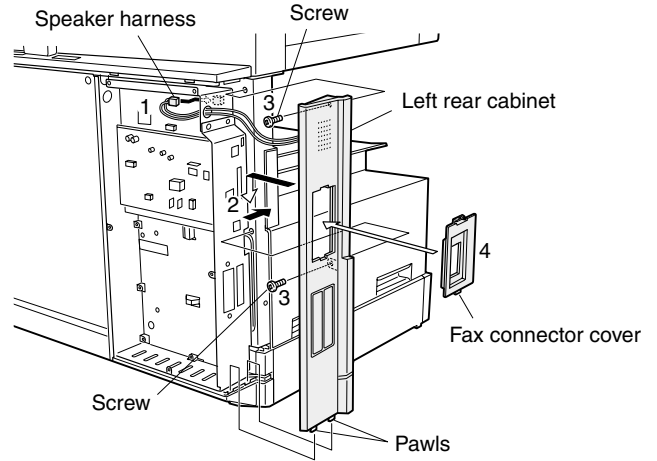
Screw

Pawls

9) Reattach the shielding plate.

Fit the pawls of the shielding plate to the main unit and secure the plate using five screws.

Screws

Shielding plate
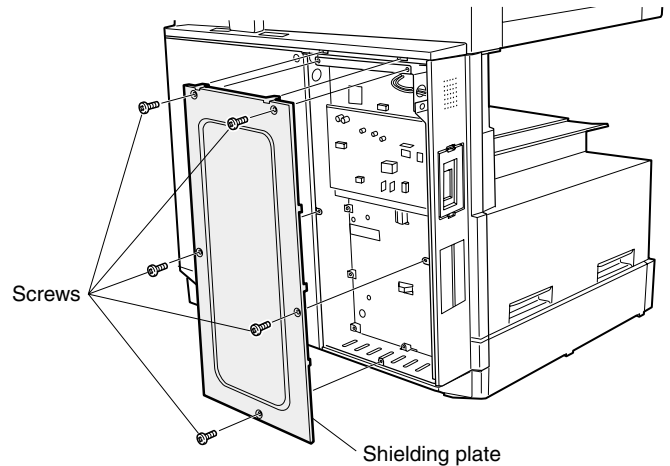
Insert the power plug of the copier to the outlet and turn on the main switch. Then, carry out the following procedure.

10) Date/time setting

Press [SPECIAL FUNCTION] key on the operation panel, select [KEY OPERATOR PROGRAM]. Input 5-digit Key Operator Code with 10-key, and select [FAX] in Mode Select.

Select [DEFAULT SETTING], [DATE/TIME SETTING], and input month/day/year in this order, and press [OK] to set.

Input hour/minute in this order, and press [OK] to set.

11) Paste the label on the left rear cabinet of the copier.

Paste the FCC label to the position shown in the illustration.

> In order to manifest the compliance with FCC Part 68 and IC CS-03, it is required to provide the machine with the FCC Registration Number (USA), Ringer Equivalence (USA) and Ringer Equivalence (Canada).
> After installing the FAX expansion kit in the machine, please put the registration label, packed with the kit, on the prescribed location.

FCC label
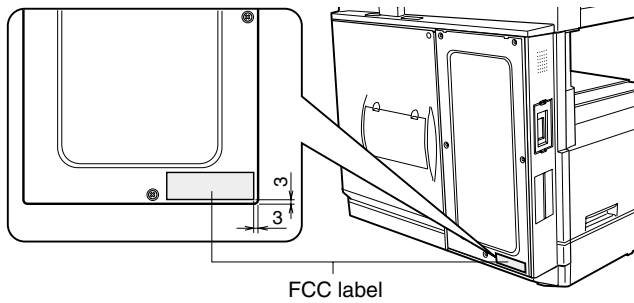
2. Mounting of additional memory (AR-MM5, MM6, MM7)

• When mounting memory, turn off the main unit.

1) Remove the fax connector cover using a flatblade screwdriver or the like.

2) Insert the memory card securely so that the model name is on the rear side.

3) Reattach the fax connector cover.

• Turn on the main unit.
   (When turning on the main unit just after expansion, the system check time will become longer due to memory initialization.)

4) Make certain that the memory was expanded by displaying SW list with SIM 66-21.

Fax connector cover

Memory card
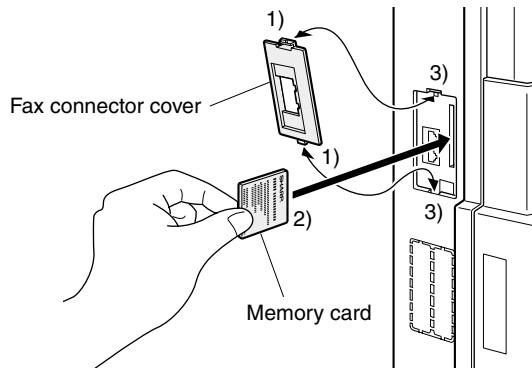
[4] ADJUSTMENTS

Section		Adjustment items		Adjustment procedures
1	Density section	A	FAX mode density adjustment (Overall mode)	<FAX mode> SIM 46-12
		B	FAX mode density adjustment (Individual mode)	<FAX mode> SIM 46-13 – 46-16
2	Communication section	A	Dial test	<FAX mode> SIM 66-13

1. Density section

A. FAX mode density adjustment (Overall mode) (<FAX mode> SIM 46-12)

1) Set the test chart (TPAP-2109SCZZ <CCITT #3 chart>) on the OC table as shown below, and close the OC cover.
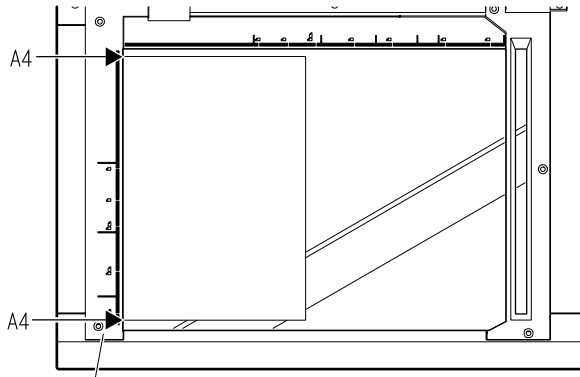
Glass holding plate

2) Switch to the FAX mode and execute SIM 46-12.

3) After warming up, shading is performed and the current density level is displayed on the lower two digits of the display section in standard and auto density mode.

4) Enter the set value with the 10-key to adjust the FAX image density.

5) Make a copy, and adjust so that the following adjustment specification is satisfied.

∗ When an adjustment is made in this mode, the exposure level for each communication mode and each density mode are automatically adjusted accordingly.

<Adjustment specifications>

Density mode	Resolution mode	SIM	CCITT #3 chart output result	Set value	Set range
Auto	Standard	FAX mode 46-12	"3" is slightly copied.	The greater the set value is, the greater the density is, and vice versa.	0 – 99

B. FAX mode density adjustment (Individual mode) (<FAX mode> SIM 46-13 –16)

1) Set the test chart (TPAP-2109SCZZ <CCITT #3 chart>) on the OC table as shown below, and close the OC cover.
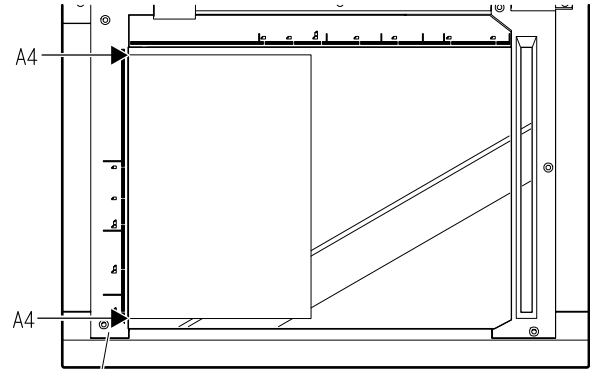
Glass holding plate

2) Switch to the FAX mode and execute SIM 46-13 to 46-16 depending on the adjustment mode.

3) After warming up, shading is performed and the current density level is displayed on the lower two digits of the display section.

4) Enter the set value with the 10-key to adjust the FAX image density.

5) Make a copy, and adjust the density with the copy as a reference.

<Adjustment specifications>

Resolution mode	Density changeover	SIM	Set value	Set range
Standard	Switched with the density select key.	FAX mode 46-13	The greater the set value is, the greater the density is, and vice versa.	0 – 99
Fine	Switched with the density select key.	FAX mode 46-14		
Super fine	Switched with the density select key.	FAX mode 46-15		
Ultra fine	Switched with the density select key.	FAX mode 46-16		

2. Communication section

Note: These items are factory adjusted when shipping according to FCC standards. Therefore, do not change the setting in the market.

A. Dial test (<FAX mode> SIM 66-13)

(1) Dial pulse transmission test

1) Execute SIM 66-13 in FAX mode.
2) Execute the dial pulse mode according to the instructions on the LCD display.

```
SELECT SIGNAL
1:PULSE 2:DTMF
```

3) Select the dial pulse.

```
SELECT PULSE
1:10PPS 2:20PPS
```

4) Set the make time.

```
INPUT MAKE TIME
(0-15)          _
```

5) Select the dial to be transmitted.

Default: 0123456789∗#

(After deleting with the clear key, it can be set to any desired value.)

6) Transmission is started from the line.

```
SEND yyPPS xxm s
1:YES 2:NO
```

```
SENDING yyPPS xxm s
```

		SIM	Soft SW	Initial value	Set value	
Dial pulse make time	10 PPS	FAX mode 66-13	SW 67-1 – 4	40ms (14)	SW set value: 0 – 15 Make time: 26 – 41ms	1ms step (Binary input)
	20 PPS		SW 67-5 – 8	0ms	0 fixed	

(2) DTMF signal transmission level adjustment

1) Execute SIM 66-13 in the FAX mode.
2) Execute the DTMF mode according to the instructions on the LCD display.

```
SELECT SIGNAL
1:PULSE 2:DTMF
```

3) Select the signal transmission level.

The signal transmission level is classified into two groups: the high group, and the low group.

Transmission can be made with either of default and the soft SW set value.

```
SELECT HIGH LEVEL
1:DEFAULT 2:SOFT SW.
```

```
SELECT LOW LEVEL
1:DEFAULT 2:SOFT SW.
```

4) The transmission level can be set when the following menu is displayed on the LCD. (et value 1 = 0.5dB change)

```
INPUT VALUE
(0-15)              _
```

(This value is returned to the original value when the simulation mode is canceled.)

5) Select the dial signal to be transmitted.

Default: 0123456789∗#

(After deleting with the clear key, it can be set to any desired value.)

6) Start transmission from the line.

```
H:xx   L:yy
1:YES 2:NO
```

xx: High group soft SW set value
yy: Low group soft SW set value

```
SENDING DTMF
```

		SIM	Soft SW	Initial value	Set value	
DTMF transmission level	High group	(FAX mode) 66-13 (Test only)	SW 53-1 – 4	3.5dB (7)	SW set value: 0 – 15	0.5ms step (Binary input)
	Low group		SW 53-5 – 8	3.5dB (7)	Transmission level: 0 – 7.5dB	

[5] SIMULATION

1. Entering the simulation mode/cancel of simulation mode

	Procedure	Key operation
1	Simulation mode selection	#→INTERRUPT→C→INTERRUPT
2	Main code selection	10-key (Input main code) →START
3	Sub code selection	10-key (Input sub code) →START
4	Selection of the mode and item	10-key and ↑ ↓
5	Start simulation operation	OK or START
6	Returns to the sub code selection.	INTERRUPT
	Simulation mode clear	CA

- Selection of the main code and the sub code is set with the [START] key.
- There are two or more screens, the adjustment "Current page/Max. page" is displayed. Press [↑] key (previous page) or [↓] key to select a screen.

2. Simulation code list

Code		Function
Main	Sub	
8	13	Used to check and adjust the operation of the developing bias voltage in FAX mode and the control circuit.
	14	Used to check and adjust the operation of the main charger grid voltage (high mode) in FAX mode and the control circuit.
	15	Used to check and adjust the operation of the main charger grid voltage (low mode) in FAX mode and the control circuit.
22	11	FAX related counter display
24	10	FAX related counter clear
26	1	Used to set options. (This simulation is used to make option setting when an option is installed.)
	60	Used to set enable/disable of the FAX mode key when FAX is not installed. (When FAX is installed, the FAX mode is enabled regardless of this setup.)
46	12	FAX exposure level adjustment (batch)
	13 to 16	FAX exposure level adjustment (individual)
48	8	FAX magnification ratio adjustment (read)
	9	FAX magnification ratio adjustment (print)
	10	FAX auto reduction magnification ratio (print).
50	8	FAX lead edge adjustment (read)
	9	FAX lead edge adjustment (print)
66	1	FAX related soft SW setting
	2	Initial set for the value of the FAX soft SW
	3	FAX PWB memory check
	4	Signal send mode
	6	Printing the confidential password
	7	Image data print
	10	Image data memory clear
	11	300bps signals send
	13	Send test and adjustment of the dial pulse and DTMF signal.
	17	DTMF signal send
	21	FAX information print
	30	TEL/LIU state change recognition
	32	Receive data check
	34	Communication time measurement display

Code		Function
Main	Sub	
66	37	Speaker sound volume adjustment
	38	Time setting/check
	50	The FAST area of SRAM is cleared.

3. Details

8

8-13

Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the developing bias voltage in FAX mode and the control circuit.
Section	Image process (Photoconductor/Developping/ Transfer/Cleaning)
	Developer/Toner hopper

Operation/procedure

Enter the adjustment value and press the [OK] key, and output operation is performed for 30sec.

(Initial screen)   (Executing screen)

```
Sim8-13 DV BIAS·FAX
FAX          426


EXEC [200-550] 426
```
```
Sim8-13 DV BIAS·FAX
FAX          426


EXEC [200-550] 426
```

Setting range	200-550
Default	426

The minimum increment is 2V.

The result of (Set value – 199) / 2 is stored in the EEPROM.

When reading a value from the EEPROM, the value of (EEP value *2) + 200 is used as the set value.

Therefore, the set value entered must be an even number. If an odd number is entered the entered odd number + 1 is displayed after pressing [OK] key.

8-14

Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage (high mode) in FAX mode and the control circuit.
Section	Image process (Photoconductor/Developping/ Transfer/Cleaning)
	Photo conductor

Operation/procedure

Enter the adjustment value and press the [OK] key, and output operation is performed for 30sec.

The input value is in the increment of –25V.

(Initial screen)   (Executing screen)

```
Sim8-14 MHV(H)·FAX
FAX            5


EXEC [ 1- 8]   5
```
```
Sim8-14 MHV(H)·FAX
FAX            5


EXEC [ 1- 8]   5
```

Setting range	1-8
Default	5

NO.	Set value	Grid High	Grid Low
1	480	–480V	–350V
2	505	–505V	–375V
3	530	–530V	–400V
4	555	–555V	–425V
5	580	–580V	–450V
6	605	–605V	–475V
7	630	–630V	–500V
8	655	–655V	–525V

*1. The negative value of the set value corresponds to the grid high output voltage.

*2. The set values can be selected from the above 8 patterns only.

*3. The selected pattern determines the grid high voltage and the grid low voltage.
If, for example, the grid high voltage is set to –480V (pattern 1), the grid low voltage is –350V.

8-15

Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage (low mode) in FAX mode and the control circuit.
Section	Image process (Photoconductor/Developping/ Transfer/Cleaning)
	Photo conductor

Operation/procedure

Enter the adjustment value and press the [OK] key, and output operation is performed for 30sec.

(Initial screen)

```
Sim8-15 MHV(L)·FAX
FAX            5


EXEC [ 1- 8]   5
```

(Executing screen)

```
Sim8-15 MHV(L)·FAX
FAX            5


EXEC [ 1- 8]   5
```

Setting range	1-8
Default	5

NO.	Set value	Grid High	Grid Low
1	480	–480V	–350V
2	505	–505V	–375V
3	530	–530V	–400V
4	555	–555V	–425V
5	580	–580V	–450V
6	605	–605V	–475V
7	630	–630V	–500V
8	655	–655V	–525V

*1. The negative value of the set value corresponds to the grid high output voltage.

*2. The set values can be selected from the above 8 patterns only.

*3. The selected pattern determines the grid high voltage and the grid low voltage.
If, for example, the grid high voltage is set to –480V (pattern 1), the grid low voltage is –350V.

22

22-11

Purpose	Adjustment/Setting/Check
Function (Purpose)	FAX related counter display

Operation/procedure

The current counter value (number of send/receive pages) of the FAX send/receive counter and the accumulated reception time and the print counter are displayed.

Note: Executable only when the FAX is installed.

24

24-10

Purpose	Adjustment/Setting/Check
Function (Purpose)	FAX related counter clear

Operation/procedure

The current counter value (number of send/receive pages) of the FAX send/receive counter and the accumulated reception time and the print counter are cleared to 0.

Note: Executable only when the FAX is installed.

26

26-1

Purpose	Setting
Function (Purpose)	Used to set options. (This simulation is used to make option setting when an option is installed.)
Item	Specifications	Option

Operation/procedure

Set the job separator.

```
Sim26-1 OPTION SET.
JOB SEPARATOR   0
 (0:NONE
  1:JOB SEPARATOR)
   [ 0- 1]   0
```
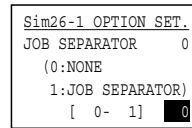
Set value	Connection option
0	None (default)
1	Job separator provided.

26-60

Purpose	Setting
Function (Purpose)	Used to set enable/disable of the FAX mode key when FAX is not installed. (When FAX is installed, the FAX mode is enabled regardless of this setup.)
Item	Operation

Operation/procedure

Input the set value with the 10-key and press the [OK] key.

This setup varies in connection with SIM 26-6 (Destination setup).

```
Sim26-60  FAX KEY
FAX KEY SETTING   0
 (0:ON 1:OFF)


   [ 0- 1]   0
```
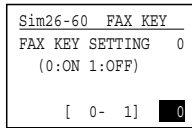
Display items	Content	Setting range	Default JAPAN, SEC, SECL, SUK, SCA	Others
0:ON	Effective (The message with FAX uninstalled is displayed.)	0-1	0	1
1:OFF	Disable (Error Beep)			

46

46-12

Purpose	Adjustment
Function (Purpose)	FAX exposure level adjustment (batch)

Operation/procedure

Shading is performed to turn on the copy LED.

The current exposure value of "Normal character, Auto exposure" mode is displayed.

Enter an adjustment value of 2 digits with the 10-key and press the START key, and the entered value will be set to all the modes and the self print will be made in the normal size.

Exposure adjustment value table

Mode	AE		Photo	Exposure adjustment
STD (Standard character)	Auto		ON	–
	Manual			
	Auto		OFF	Individual adjustment enable (46-13 to 16)
	Manual			
Fine (Small character)	Auto		ON	
	Manual			
	Auto		OFF	
	Manual			
S-fine (Fine)	Auto		ON	
	Manual			
	Auto		OFF	
	Manual			
U-fine (Super fine)	Auto		ON	
	Manual			
	Auto		OFF	
	Manual			

When initializing each data: 50

Note: Executable only when the FAX is installed.

46-13 to 16

Purpose	Adjustment
Function (Purpose)	FAX exposure level adjustment (individual)

Operation/procedure

The FAX exposure level can be adjusted separately for each mode by specifying a sub code. Since selection of Auto/Manual and Photo ON/OFF is allowed separately for each mode, adjustments of 14 patterns in total can be made.

(Refer to 46-12, "Exposure adjustment table".)

Sub code	Mode
13	STD (normal character)
14	Fine (small character)
15	S-fine (super fine)
16	U-fine (super fine)

Shading is performed to turn on the copy LED.

The current exposure value of the selected mode is displayed.

Enter the 2-digit adjustment value with the 10-key pad and push START key. The entered value is set for the specified mode, and the self print is made with the same magnification ratio for the mode.

Note: Executable only when the FAX is installed.

48

48-8

Purpose	Adjustment
Function (Purpose)	FAX magnification ratio adjustment (read)
Related soft SW	SW76-1 to 8, SW77-1 to 8

Operation/procedure

Adjust and set FAX document read magnification ratio, read and print the document.

Adjustment magnification ratio	Adjustment range	Adjustment unit
OC read main scanning magnification ratio	1 – 128 – 255%	0.1% increment
OC read sub scanning magnification ratio		
SPF read main scanning magnification ratio		
SPF read sub scanning magnification ratio		

Note: Executable only when the FAX is installed.

48-9

Purpose	Adjustment
Function (Purpose)	FAX magnification ratio adjustment (print)
Related soft SW	SW78-1 to 8, SW79-1 to 8

Operation/procedure

After the adjustment/setting of FAX print magnification ratio, read and print the document.

Adjustment magnification ratio	Adjustment range	Adjustment unit
Main scanning magnification ratio	1 – 128 – 255%	0.1% increment
Sub scanning magnification ratio		

Note: Executable only when the FAX is installed.

48-10

Purpose	Adjustment
Function (Purpose)	FAX auto reduction magnification ratio (print).
Related soft SW	SW25-1 to 4

Operation/procedure

Set the FAX auto reduction magnification ratio (0 to 15%).

Note:Executable only when the FAX is installed.

50

50-8

The adjustments on the machine side must have been normally completed.

Purpose	Adjustment
Function (Purpose)	FAX lead edge adjustment (read)
Related soft SW	SW44-1 to 4, SW44-5 to 8 SW45-1 to 4, SW45-5 to 8

Operation/procedure

Adjust and set FAX document read lead edge position, read and print the document.

OC read   SPF read
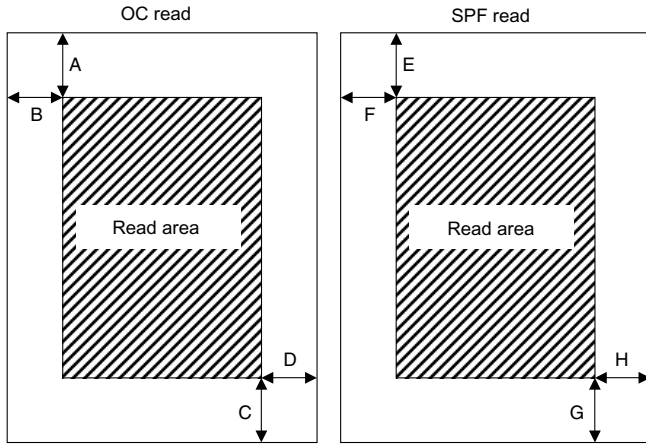
	Adjustment position	Adjustment range	Adjustment unit
A	OC read lead edge position	43 – 50 – 57 lines	8 lines
B	OC read left edge position	43 – 50 – 57 dots	8 dots
C	OC read rear edge position	43 – 50 – 57 lines	8 lines
D	OC read right edge position	43 – 50 – 57 dots	8 dots
E	SPF read lead edge position	43 – 50 – 57 lines	8 lines
F	SPF read left edge position	43 – 50 – 57 dots	8 dots
G	SPF read rear edge position	43 – 50 – 57 lines	8 lines
H	SPF read right edge position	43 – 50 – 57 dots	8 dots

Note: Executable only when the FAX is installed.

50-9

Purpose	Adjustment
Function (Purpose)	FAX lead edge adjustment (print)
Related soft SW	SW74-1 to 4, SW75-5 to 8

Operation/procedure

After the adjustment/setting of FAX print lead edge position, read and print the document.

	Adjustment position	Adjustment range	Adjustment unit
A	Lead edge position	43 – 50 – 57 lines	16 lines
B	Left edge position	43 – 50 – 57 dots	16 dots

Note: Executable only when the FAX is installed.

66

66-1

Purpose	Adjustment/Setting/Check
Function (Purpose)	FAX related soft SW setting

Operation/procedure

Display FAX software SW on LCD, and set/change those with 10-key.

Note: Executable only when the FAX is installed.

66-2

Purpose	Adjustment/Setting/Check
Function (Purpose)	Initial set for the value of the FAX soft SW

Operation/procedure

Used to clear the FAX-related soft switches except for the line signal adjustment value and the machine adjustment value and to set default values (which differ depending on the country code separately entered.)

Note: Executable only when the FAX is installed.

66-3

Purpose	Adjustment/Setting/Check
Function (Purpose)	FAX PWB memory check

Operation/procedure

Read/write can be checked for FAX PWB memory.

The check result is displayed separately for each memory.

1. Memory to be checked

DRAM		
SRAM		
Flash ROM	Program area	SUM check only
	Memory area	
Option memory		The memory size follows the automatically detected value.
PAGE		

2. Detailed procedure

1	"55H" is written to all the addresses of each memory, and the address data are read in sequence to check that they were properly written.
2	"AAH" is written to all the addresses of each memory, and the address data are read in sequence to check that they were properly written.
3	"00H" is written to all the addresses of each memory, and the address data are read in sequence to check that they were properly written.
4	Perform checks 1 - 3 sequentially. If there is no abnormality, it is "OK." If there is any abnormality, "NG" is notified to the error address.
5	After completion of check, the memory is returned to the initial state. (CPU is not reset)

Interruption cannot be made during operation.

Note: Executable only when the FAX is installed.

66-4

Purpose	Adjustment/Setting/Check
Function (Purpose)	Signal send mode
Related soft SW	SW5-5 to 8 (signals send level) SW23-1 to 4 (RBT ON time) SW23-5 to 8 (RBT OFF time) SW43-1 to 5 (DTMF signal send time)

Operation/procedure

By setting the message No., the signal is sent to the line and the speaker of the body. (The signal is continuously sent until the interruption command is provided by pressing the [BACK] key.)

The signal send level can be selected from 0dB or the soft SW set value. However, the level setup is not required for 01, 31 - 35, the selection may does not appear. After completion of the mode, the signal send level is returned to the soft SW set value before execution of the mode.

Signal number	Send signal	Send level Selection menu
01	Signal not send	None
26	7EH Flag signal	Yes
27, 28, 30	Tone signal	Yes
31	Pseudo-ringer sound ([ON HOOK] key ON)	None
32	Voice message (no sound)	None
	Under the state where the ring back tone can be sent to the line, keep the sound composition IC volume to 0.	

Signal number	Send signal	Send level Selection menu
33	Ring back tone (no sound)	None
	Under the state where the ring back tone can be sent to the line, keep the G/A volume to 0.	
34	Dial pulse (make)	1: 0dB 2: Soft SW
	Maintain the make state with keeping the condition to be able to send to the dial pulse line.	
35	Dial pulse (break)	1: 0dB 2: Soft SW
	Maintain the break state with keeping the condition to be able to send to the dial pulse line.	
Other than the above	FFH	Yes

Note: Executable only when the FAX is installed.

66-6

Purpose	Adjustment/Setting/Check
Function (Purpose)	Printing the confidential password

Operation/procedure

The confidential ID table (confidential BOX numbers, confidential BOX names, and confidential password) is printed.

The confidential data of My company mode is printed separately.

Note: Executable only when the FAX is installed.

66-7

Purpose	Adjustment/Setting/Check
Function (Purpose)	Print the screen memory contents

Operation/procedure

Used to input all image data (including confidential reception data, remote send image, not-sent image) stored in image memory of the FAX section.

The output image is remained even after outputting.

Note: Executable only when the FAX is installed.

66-10

Purpose	Adjustment/Setting/Check
Function (Purpose)	Image data memory clear

Operation/procedure

Used to clear all image data (including confidential reception data) stored in image memory of the FAX section.

The management table is also cleared (initialized) at the same time.

Note: Executable only when the FAX is installed.

66-11

Purpose	Adjustment/Setting/Check
Function (Purpose)	300bps signals send

Operation/procedure

By setting the signal number, the specified signal is delivered to the line at the speed of 300bps. (The signal is continuously sent until the interruption command is provided by pressing the [BACK] key.)

The signal send level can be selected from 0dB or the soft SW set value.

The signal send level is returned to the soft SW set value before execution of the mode after completion of the mode.

Number	Signal	Number	Signal
1	No signal (CML ON)	4	00000
2	11111	5	010101
3	11110	6	00001

Note: Executable only when the FAX is installed.

66-13

Purpose	Adjustment/Setting/Check
Function (Purpose)	Send test and adjustment of the dial pulse and DTMF signal.
Related soft SW	SW53-1 to 4 (DTMF high group end level) SW53-5 to 8 (DTMF low group send level) SW67-1 to 4 (DP 10PPS make time) SW67-5 to 8 (DP 10PPS make time)

Operation/procedure

The send test of dial pulse and DTMF signal is performed and the make time adjustment of dial pulse and the DTMF signal send level adjustment are performed if necessary.

1. Dial pulse (10pps) send test

2. Dial pulse (20pps) send test

- Used to set the make time. By performing the test, the registered dial pulse of max. 100 digits can be sent from the line.
- When "*" and "#" are included in the registered dial number, they are disregarded and the number is not processed as a dial.
- The make time set in the dial test is written into the corresponding soft SW.
- Default: 1 2 3 4 5 6 7 8 9 0
  Operate the [←] [→] key in DP dial selection menu to switch. (Time before pulse delivery can be changed as 2sec → 4sec → 8sec.)

3. DTMF signal send test

- Set the signal send level to 0dB or the soft SW set value.
  Used to set the high level group and the low level group of DTMF signal send level. By executing the test, DTMF signal is sent from the line to a recorded dial number of max. 100 digits.
- The high group/low group value of the DTMF signal send level set in the dial test is written into the corresponding soft SW.
- Default: 1 2 3 4 5 6 7 8 9 * 0 #
  In the PB dial select menu, press [←][→] keys to select.
  Pressing the [CLEAR] key during the operation clears the input value and returns to the value input menu.
- Max. 100 digits can be assigned to each dial (0 - 9, *, #). While the default value is displayed at first, a desired value can be entered and the entered value is stored on the FAX side until the menu is canceled.
- After completion of the mode, the signal send level is returned to the soft SW set value before execution of the mode.

Make time	1ms for input value of 1. Adjust so that the dial pulse make rate is within 33±3%. (For North America, 40±3%.) Dial pulse make rate = Make time / (Make time + Break time)
Break time	It is obtained from the formula below and automatically set. PPS = 1000 / (make time + break time)
DTMF signal adjustment	The signal send levels are classified into the high group and the low group. The send level is 0.5dB for each 1 of input value.

Note: Executable only when the FAX is installed.

66-17

Purpose	Adjustment/Setting/Check
Function (Purpose)	DTMF signal send
Related soft SW	SW53-1 to 4 (DTMF high group end level) SW53-5 to 8 (DTMF low group send level)

Operation/procedure

Set the signal send level to 0dB or the soft SW set value, and specify one dial to be delivered to.

The DTMF signal of the specified dial number is delivered until the interruption command is provided by pressing the [BACK] key.) When another dial number is specified during delivery of the signal, the new dial number is delivered.

The signal send level is returned to the soft SW set value before execution of the mode after completion of the mode.

Note: Executable only when the FAX is installed.

66-21

Purpose	Adjustment/Setting/Check
Function (Purpose)	FAX information print

Operation/procedure

The following FAX information is printed.

	Print information	Details
1	User switch list	
2	Soft SW list	
3	Dump list	
4	System error	Used to print the system error log (error number and time). For this operation, the system error log is always stored as the ring buffer in the SRAM 256byte area.
5	Protocol monitor	Regardless of soft SW19-1 status, the protocol monitor of the preceding communication is printed. (Printing is allowed at any time before starting the next communication.) For this operation, the protocol monitor of one communication is always buffered.

Note: Executable only when the FAX is installed.

66-30

Purpose	Adjustment/Setting/Check
Function (Purpose)	Recognize TEL/LIU state change.

Operation/procedure

When the relay state of the polarity reverse relay, the external telephone hook switch is changed, the content of change is displayed regardless of the soft SW setup. The display of change is kept until an interruption command is supplied by pressing the [BACK] key.

Check signal	Notification contents	
	Signal low	Signal high
HS2	—	—
HS1	—	—
RHS	ON	OFF
EXHS	ON	OFF

Note: Executable only when the FAX is installed.

66-32

Purpose	Adjustment/Setting/Check
Function (Purpose)	Receive data check

Operation/procedure

The data received from the line are checked to insure that the following reception data are identical to the judgment data. If identical, "OK" is notified. If not, "NG."

A judgment is made according to the reception start data. Continuous coincidence is required.

Receive speed	300bps
Receive data	00
Number of judgment data	100

Note: Executable only when the FAX is installed.

66-34

Purpose	Adjustment/Setting/Check
Function (Purpose)	Communication time measurement display
Related soft SW	SW10-1

Operation/procedure

The send/receive test is performed, and the time required for send/receive of the image data in the test is measured and displayed.

Setup on the user side when executing communication		Communication means : Memory send Picture quality : Normal Character Density : Lighter ECM : ON Sender information : OFF
Measuring range	Send	From flag reception before sending of image data until sending of RCP frame
	Receive	From flag reception before reception of image data until reception of RCP frame
Mode when measuring		Used to make communication not in a simulation process but in the normal screen and measure the time.
How to check the time		Enter the simulation for communication time check and check the time.
Measuring unit		msec

When there are two or more send/receive operations of image data in one communication, only the time of the last send/receive data near the end is measured.

Note: Executable only when the FAX is installed.

66-37

Purpose	Adjustment/Setting/Check
Function (Purpose)	Speaker sound volume adjustment
Related soft SW	SW 86-1, 2 (call sound) SW 85-1, 2 (line monitor sound) SW 84-1, 2 (on hook) SW 88-1, 2 (read end sound) SW 89-1, 2 (communication end sound) SW 87-1, 2 (DTMF send sound) SW75-1, 2 (send end sound length) SW75-3, 4 (receive end sound length)

Operation/procedure

The following test sound is delivered to the line and the speaker to adjust the sound kind and volume.

The send level to the line is the set value of soft SW.

The set values of the selected sound kind and volume are written to each soft SW.

1. Sound kinds pattern

	Sound kinds (Test sound)	Sound volume set value				Sound volume Pattern
		0	1	2	3	
1	Call sound	NS	S	M	L	01 to 35
2	Lline monitor sound (Test sound : Communication signal sound)	NS	S	M	L	01 to 35
3	On hook (Test sound : Communication signal sound)	Setting Disable	S	M	L	01 to 35
4	Read complete sound	NS	S	M	L	01 to 35
5	Communication end sound	NS	S	M	L	01 to 35
6	DTMF signal send sound	NS	S	M	L	01 to 35

NS=No Sound S=Small M=Medium L=Large

2. Sound volume pattern

Sound volume	VR set value							Sound volume	VR set value						
	1	2	3	4	5	6	7		1	2	3	4	5	6	7
01	S	M	L					20		S		M	L		
02	S	M		L				21		S		M		L	
03	S	M			L			22		S		M			L
04	S	M				L		23		S			M	L	
05	S	M					L	24		S			M		L
06	S		M	L				25		S				M	L
07	S		M		L			26			S	M	L		
08	S		M			L		27			S	M		L	
09	S		M				L	28			S	M			L
10	S			M	L			29			S		M	L	
11	S			M		L		30			S		M		L
12	S			M			L	31			S			M	L
13	S				M	L		32				S	M	L	
14	S				M		L	33				S	M		L
15	S					M	L	34				S		M	L
16		S	M	L				35					S	M	L
17		S	M		L										
18		S	M			L									
19		S	M				L								

S=Small M=Medium L=Large

Note: Executable only when the FAX is installed.

Purpose	Adjustment/Setting/Check
Function (Purpose)	Time setting/check

Operation/procedure

Read/write the time (year, month, day, min., sec.) on RTC of FAX PWB.

Note: Executable only when the FAX is installed.

Purpose	Adjustment/Setting/Check
Function (Purpose)	The FAST area of SRAM is cleared.

Operation/procedure

Only the SRAM area where data related to FAST are stored is cleared.

Note: Executable only when the FAX is installed.

[6] SOFT SWITCH DESCRIPTIONS

1. Quick reference of FAX soft SW setup change

Large item	Medium item	Switch content	Key operator	Soft SW No.	Purpose of use
Dial (calling)	Remote party calling inhibited	Pause time	Initial setup	SW 38-1 – 4	When dial inhibited/erroneous dial
		Dial calling signal	Initial setup	SW 41-1, 2	When dial inhibited
		DTMF related items	NO	SW 53-1 – 4	When dial inhibited in PB (PBX/FAX service, etc.)
			NO	SW 53-5 – 8	When dial inhibited in PB (PBX/FAX service, etc.)
			NO	SW 43-1 – 5	When dial inhibited in PB (PBX/FAX service, etc.)
		Pulse (10PPS)	NO	SW 67-1 – 4	When dial inhibited with pulse
	Signal detection	Busy tone detection	NO	SW 7-3	When busy tone detection inhibited
		Busy tone detection	NO	SW 15-1 – 3	When busy tone detection error
		Dial tone detection	NO	SW 7-4	
Redialing	When error	Recall interval	Send function setup	SW 4-1 – 4	When transmission errors occur frequently
	When error	Number of times of recall	Send function setup	SW 40-1 – 4	
	When busy	Recall interval	Send function setup	SW 4-5 – 8	When line is busy frequently
	When busy	Number of times of recall	Send function setup	SW 40-5 – 8	
Reception (receiving call)	When CI detection inhibited	CI detection	NO	SW 12-6, 7	No reception
		CI signal OFF detection time	NO	SW 55-1 – 7	No reception
External telephone	Setup of external telephone	YES/NO	Initial setup	SW 16-2	When connecting external telephone
	Remote switch number	Input of 2-digit number	Initial setup	SW 2-5 – 8	When remote switch is erroneously detected
	Remote switch setup	YES/NO	NO	SW 8-5	When remote switch is erroneously detected
Communication	General	Transmission level	NO	SW 5-5 – 8	When remote machine cannot receive signals at a proper level.
		JBIG mode	NO	SW 10-8	When an error occurs in JBIG mode
	SG3	V34 mode function setup	NO	SW 52-7	When SG3 communication errors occur frequently
		V34 symbol rate	NO	SW 58-1 – 6	When SG3 communication errors occur frequently
Transmission	G3/SG3	DIS reception confirmation	Rapid key/speed dial, etc.	SW 6-8	When an error occurs in phase B
		Line equalizer	NO	SW 5-1, 2	It is set depending on the distance with the station when a communication error occurs.
	SG3	V34 transmission speed	Rapid key/speed dial, etc.		When an error occurs in SG3 communication.
		Manual transmission V34	NO	SW 52-6	When SG3 communication error occurs in FAX service, etc.
	G3	V29 no-modulation carrier	NO	SW 6-5	When V29 communication error occurs.
		Modem transmission speed	Rapid/speed dial, etc.	SW 15-5 – 8	For certain/uncertain destinations
		RTN reception error	NO	SW 52-5	When the result is OK though RTN is received.
Reception	G3/SG3	CSI transmission	NO		
		Max. reception length	NO		When receiving a document of 1m or more length
		Proxy reception	NO		
		Prevention against EQM dissipation	NO		When line is in bad condition and errors occur frequently.
	SG3	V34 reception speed	NO		When fall-down frequently occurs in SG3 communication.
	G3	Countermeasure for echo in reception	NO		When an error occurs in phase B of reception.
		Reception modem speed	NO	SW 7-7, 8	When line is in bad condition and fall-back or errors occur frequently.
		EYE-Q check only	NO	SW 72-1	Change in detection method of training error

Large item	Medium item	Switch content	Key operator	Soft SW No.	Purpose of use
Reception print	Paper selection	Sub scan length judgment	NO		When print is not made on selected paper.
		Output condition setup	Reception function setup		To make divided print instead of reduction print
		Automatic reduction print	Reception function setup		When reduction print is not made.
		Magnification ratio in automatic reduction	NO		When reduction print is not made on a fixed size paper.
		Rotation reception print	NO		When rotation print is not made.
		Reception size setup	Reception function setup		Reception capacity is indicated on the transmission machine.
	Index	Index print setup	Reception function setup		When an index is added to received data.

2. Soft switch list

∗ When outside the set range, the default value is automatically set.

∗ Never change the soft switch setup which are inhibited to use.

SW NO.	Data No.	Item	Switch selection and contents of functions			Initial value		Remark
SW 1	1	Size specification	Bit No.	1 2		Conforms to the machine information.	0	When set to conformity to the machine information, if machine information is uncertain, set to centimeter size.
			Centimeter size	0 0				
			Inch size	1 0				
	2		Conforms to the machine information.	0 1			1	
			Conforms to the machine information.	1 1				
	3	Inhibited to use					0	
	4	Auto/Manual default setup	1: Manual reception	0: Automatic reception		Automatic reception	0	Manual reception can be set only when external telephone is connected.
	5	Send request protection	1: Not protected	0: Protected		Protected	0	
	6	Reduction send mode	1: Normal	0: Reduction		Reduction	0	
	7	Contents of send document are printed in memory send error	1: Not print	0: Print		Print	0	
	8	Inhibited to use					0	
SW 2	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5	Remote selection number setup	Binary input			5	0	When a value outside the set range is set, the initial value is set.
	6		Bit No.	5 6 7 8			1	
	7		Set range	0 to 9			0	
	8						1	
SW 3	1	Density default setup	Bit No.	1 2 3 4 5		Auto	0	
			Auto	0 0 0 0 0				
	2		Light	1 0 0 0 0			0	
			Slightly light	0 1 0 0 0				
	3		Medium	0 0 1 0 0			0	
			Slightly dark	0 0 0 1 0				
	4		Dark	0 0 0 0 1			0	
	5						0	
	6	Image quality priority selection	Bit No.	6 7 8		Normal	0	
			Normal	0 0 0				
			Fine	0 0 1				
	7		Super fine	0 1 0			0	
			Ultra fine	0 1 1				
			Not used	1 0 0				
	8		Fine + half-tone	1 0 1			0	
			Super fine + half-tone	1 1 0				
			Ultra fine + half-tone	1 1 1				

SW NO.	Data No.	Item	Switch selection and contents of functions			Initial value		Remark
SW 4	1	Recall interval in communication error	Binary input				0	
	2		Bit No. 1 2 3 4				0	
	3		Set range 0 to 15min			1min	0	
	4			0: Immediate recall after disconnection of line			1	
	5	Recall interval in busy	Binary input				0	When a value outside the set range is set, the initial value is set.
	6		Bit No. 5 6 7 8				0	
	7		Set range 1 to 15min			3min	1	
	8						1	
SW 5	1	Line equivalent unit [km]	Bit No.	1 2			0	When a value outside the set range is set, the initial value is set.
			No Filter	0 0				
			1.8km	0 1		No Filter		
	2		3.6km	1 0			0	
			7.2km	1 1				
	3	Inhibited to use					0	
	4						1	
	5	Signal send level	Binary input				0	
	6		Bit No. 5 6 7 8				1	
	7		Set range −5 to −20dBm			−12dBm	1	
	8						1	
SW 6	1	ECM	1: YES	0: NO		YES	1	
	2	CED signal send	1: YES	0: NO		YES	1	
	3	CSI transmission	1: YES	0: NO		YES	1	
	4	DIS reception confirmation in G3 send	1: 2 times	0: Once in NFS reception 2 times in DIS reception		Once in NFS reception, 2 times in DIS reception	0	
	5	Non-modulation carrier in V.29 send	1: YES	0: NO		NO	0	
	6	EOL detection timer	1: 25sec	0: 13sec		13sec	0	
	7	Countermeasure for echo in reception (CED tone send interval)	1: 500ms	0: 75ms		75ms	0	
	8	Countermeasure for echo in transmission (After reception of DIS, hold time up to signal send is set.)	1: 500ms	0: 200ms		200ms	0	
SW 7	1	MH fixed	1: YES	0: NO (depending on the other party's machine)		NO	0	
	2	Dial tone detection	1: YES	0: NO		NO	0	
	3	Busy tone detection	1: YES	0: NO		YES	1	
	4	Dial tone monitoring time	1: 10sec	0: 5sec		5sec	0	
	5	Inhibited to use					0	
	6	Max. length of reception	1: No limit	0: 1.5m		1.5m	0	
	7	Modem speed in reception fixed	Bit No.	7 8			0	
			No fixing	0 0				
			V.29-9600BPS	0 1		No fixing		
	8		V.27ter-4800BPS	1 0			0	
			V.17-14400BPS	1 1				

SW NO.	Data No.	Item	Switch selection and contents of functions		Initial value		Remark
SW 8	1	Memory transmission/ direct transmission default setup	1: Direct transmission	0: Memory transmission	Memory transmission	0	
	2	Proxy reception	1: YES	0: NO	YES	1	
	3	Printing the content of transmitted document in normal memory transmission	1: Not print	0: Print	Not print	1	
	4	Judgment of system No. in bulletin transmission	1: Allow	0: Inhibit	Inhibit	0	
	5	Remote reception indication	1: YES	0: NO	YES	1	
	6	Inhibited to use				0	
	7					1	
	8					0	
SW 9	1	Print of total communication time and total pages	1: YES	0: NO	YES	1	
	2	Inhibited to use				1	
	3	Quick memory transmission	1: Allow	0: Inhibit	Allow	1	
	4	Yes/No of SUB capacity in reception	1: NO	0: YES	YES	0	
	5	F-code relay broadcast function	1: Inhibit	0: Allow	Allow	0	
	6	F-code confidential reception function	1: Inhibit	0: Allow	Allow	0	
	7	Yes/No of SEP capacity in reception	1: NO	0: YES	YES	0	
	8	Yes/No of reception PWD capacity	1: Send without password	0: Disconnection of line with DCN	Disconnection of line with DCN	0	
SW 10	1	Measurement of communication time (image)	1: YES	0: NO	YES	1	
	2	Sender's telephone number registration	1: Inhibit	0: Allow	Allow	0	
	3	Yes/No of reception SID capacity	1: Send without password	0: Disconnection of line with DCN	Disconnection of line with DCN	0	
	4	SDT signal detection	1: YES	0: NO	NO	0	
	5	Inhibited to use				0	
	6					0	
	7	ECM MMR mode	1: YES	0: NO	YES	1	
	8	ECM JBIG mode	1: YES	0: NO	YES	1	
SW 11	1	Inhibited to use				0	
	2					0	
	3					0	
	4					0	
	5					0	
	6					0	
	7					0	
	8					0	
SW 12	1	Inhibited to use				0	
	2					0	
	3					0	
	4					0	
	5					0	
	6	CI detection	Bit No. 6 7 4 sine wave 0 0 3 sine wave 1 0 2 sine wave 0 1 1 1		4 sine wave	0	When a value outside the set range is set, the initial value is set.
	7					0	
	8	Inhibited to use				0	

SW NO.	Data No.	Item	Switch selection and contents of functions			Initial value		Remark
S W 13	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6						0	
	7	Relay data output	1: YES	0: NO		YES	1	
	8	Relay broadcast function	1: Allow	0: Inhibit		Allow	1	
S W 14	1	V.34 mode sending speed	Binary input Bit No. Sending speed = 2400(bps) x N	1 2 3 4 When N=0, 2400bps. When N=15, 33600bps.		33600bps	1	
	2						1	
	3						1	
	4						0	
	5	V.34 mode reception speed	Binary input Bit No. Reception speed = 2400(bps) x N	5 6 7 8 When N=0, 2400bps. When N=15, 33600bps.		33600bps	1	
	6						1	
	7						1	
	8						0	
S W 15	1	Lower limit of speaker sound detection time	1: 350ms	0: 250ms		250ms	0	
	2	Upper limit of speaker sound detection time	1: 650ms	0: 750ms		750ms	0	
	3	Lower limit 2 of speaker sound detection time	1: 150ms	0: Follows SW15-1.		Follows SW15-1.	0	
	4	Inhibited to use					0	
	5	Modem speed (V.33 mode or below)	Bit No.	5 6 7 8		V.17 14.4kbps	1	
			V.27 2400bps	0 0 0 0				
			V.29 9600bps	0 0 0 1				
	6		V.27 4800bps	0 0 1 0			0	
			V.29 7200bps	0 0 1 1				
	7		V.33 14.4kbps	0 1 0 0			0	
			V.33 12.0kbps	0 1 1 0				
	8		V.17 9600bps	1 0 0 1			0	
			V.17 12.0kbps	1 0 1 0				
			V.17 7200bps	1 0 1 1				
			V.17 14.4kbps	Others				
S W 16	1	Inhibited to use					0	
	2	External telephone connection	1: YES	0: NO		YES	1	
	3	Inhibited to use					0	
	4						0	
	5	Rotation transmission selection (11 x 8.5 → 8.5 x 11)	1: YES	0: NO		YES	1	
	6	Rotation transmission selection (A4 → A4R)	1: YES	0: NO		YES	1	
	7	Rotation transmission selection (B5R → B5)	1: YES	0: NO		YES	1	
	8	Rotation transmission selection (A5 → A5R)	1: YES	0: NO		YES	1	
S W 17	1	Paper selection priority sequence	1: Width priority	0: Area priority		Area priority	0	
	2	Output condition setup	Bit No.	2 3		Reduction allowed	0	When a value outside the set range is set, the initial value is set.
			Reduction allowed	0 0				
	3		Division allowed	1 0			0	
	4	Inhibited to use					0	
	5						1	
	6						1	
	7						1	
	8						1	

SW NO.	Data No.	Item	Switch selection and contents of functions				Initial value	Remark
S W 18	1	Inhibited to use						1	
	2							0	
	3	Reception size specification (Indicates reception capacity.)	Bit No.	3 4			By the attached cassette	0	
			By the attached cassette	0 0					
			B4 (A4/B4)	0 1					
	4		A4	1 0				0	
			A3 (A4/B4/A3)	1 1					
	5	11 inch reception capacity setup	1: 255mm or 215mm	0: 303mm or 255mm or 215mm			303mm or 255mm or 215mm	0	
	6	Output method in A3 width reception (Inch series)	1: 297mm width	0: 11 inch width			11 inch width	0	
	7	Output method in A4 width reception (Inch series)	1: Data of 8.5 inch width is printed	0: Data of 210mm width is printed			8.5 inch width print	1	
	8	Override print setup	1: Override print allowed	0: Override print inhibited			Override print allowed	1	
S W 19	1	Protocol monitor	1: YES	0: NO			NO	0	
	2	Inhibited to use						0	
	3	Output only in protocol monitor error	1: YES	0: NO			NO	0	
	4	Protocol monitor save	1: Save	0: Disable			Save	1	
	5	Inhibited to use						0	
	6	Recording table automatic print	1: YES	0: NO			YES	1	
	7	Time specification 1 of communication record table	1: Allow	0: Inhibit			Inhibit	0	
	8	Time specification 2 of communication record table	1: Allow	0: Inhibit			Inhibit	0	
S W 20	1	Line sound monitor range	Bit No.	1 2			Up to NSF signal send/ receive	0	When a value outside the set range is set, the initial value is set.
			OFF	0 0					
			Up to NSF signal send/ receive	0 1					
	2		All	1 0				1	
				1 1					
	3	Line monitor display	1: YES	0: NO			NO	0	
	4	Data output specification in communication error during reception	1: Not output	0: Output			Output	0	
	5	Receivable memory capacity	1: 64Kbyte	0: 128Kbyte			128Kbyte	0	
	6	Memory over during reception	1: Output	0: Not output			Output	1	
	7	Flag-adrs timer setup (V.21-FSK)	Bit No.	7 8			6sec	0	
			6sec	0 0					
			15sec	0 1					
	8		30sec	1 0				0	
			120sec	1 1					
S W 21	1	Interval between completion of communication and the next call	Binary input				1sec	0	
	2		Bit No.	1 2 3 4 5 6 7 8				0	
	3		Set range	0 to 255sec				0	
	4							0	
	5							0	
	6							0	
	7							0	
	8							1	

SW NO.	Data No.	Item	Switch selection and contents of functions			Initial value		Remark
S W 22	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6						0	
	7						0	
	8						0	
S W 23	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6						0	
	7						0	
	8						0	
S W 24	1	Image capacity at send request	Bit No. 1 2 / Ultra fine 0 0 / Super fine 0 1			Ultra fine	0	
	2		Fine 1 0 / Normal 1 1				0	
	3	Specified number reception	1: Refuge specified number reception	0: Ignore specified number reception		Ignore specified number reception	0	
	4	Specified number reception when manual reception	1: Refuge specified number reception	0: Ignore specified number reception		Ignore specified number reception	0	
	5	Inhibited to use					0	
	6	Document output setup in reception	1: Collective output after completion of reception.	0: Output after reception of every page		Output after reception of every page	0	
	7	Inhibited to use					0	
	8	Automatic reduction print	1: Allow	0: Inhibit		Allow	1	
S W 25	1	Automatic reduction rate setup	Binary input			6%	0	
	2		Bit No. 1 2 3 4				1	
	3		Set range 0 to 15%				1	
	4						0	
	5	Inhibited to use					0	
	6						0	
	7						0	
	8						0	
S W 26	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						1	
	6						0	
	7						1	
	8						0	
S W 27	1	Inhibited to use					0	
	2	Recording paper tray selection (Tray 1)	1: ON	0: OFF		ON	1	
	3	Recording paper tray selection (Tray 2)	1: ON	0: OFF		ON	1	
	4	Recording paper tray selection (Tray 3)	1: ON	0: OFF		ON	1	
	5	Recording paper tray selection (Tray 4)	1: ON	0: OFF		ON	1	
	6	Inhibited to use					0	
	7						0	
	8						0	

SW NO.	Data No.	Item	Switch selection and contents of functions				Initial value		Remark
S W 28	1	Inhibited to use						1	
	2							0	
	3							0	
	4							0	
	5							0	
	6							0	
	7							0	
	8							0	
S W 29	1	Inhibited to use						0	
	2							0	
	3							0	
	4							0	
	5	Setup of number of times of call rings	Binary input				2 times	0	
	6		Bit No. 5 6 7 8					0	
	7		Set range 0 to 9 times					1	
	8							0	
S W 30	1	Report output when canceling	1: Output		0: Not output		Not output	0	
	2	Inhibited to use						1	
	3	Rotation print	1: Allow		0: Inhibit		Allow	1	
	4	Department management	1: Allow		0: Inhibit		Inhibit	0	
	5	Default data, sender print	1: ON		0: OFF		ON	1	
	6	Department name notification	1: ON		0: OFF		OFF	0	
	7	Date/sender print position setup	1: Inside of document		0: Outside of document		Outside of document	0	
	8	Report output (in confidential reception)	1: Print		0: Not print		Print	1	
S W 31	1	Report output (in transmission)	Bit No.	1 2		Only when transmission is failed.		1	
			Print inhibited	0 0					
			All print	0 1					
	2		Only when transmission is failed.	1 0				0	
				1 1					
	3	Report output (In broadcast, sequential send request, and relay broadcast)	Bit No.	3 4		All print		0	
			Print inhibited	0 0					
			All print	0 1					
	4		Only the address to which transmission is failed	1 0				1	
				1 1					
	5	Report output (in reception)	Bit No.	5 6		Print inhibited		0	
			Print inhibited	0 0					
			All print	0 1					
	6		Only in error	1 0				0	
				1 1					
	7	Inhibited to use						1	
	8							0	
S W 32	1	Distinctive ring	Bit No.	1 2 3 4		OFF		0	Other than U.S.A., Canda,: OFF (fixed) Australia: ON/ OFF only
			OFF	0 0 0 0					
	2		Standard/ON	0 0 0 1				0	
			Pattern 1	1 0 0 0					
	3		Pattern 2	0 1 0 0				0	
			Pattern 3	1 1 0 0					
	4		Pattern 4	0 0 1 0				0	
			Pattern 5	1 0 1 0					
	5	Inhibited to use						0	
	6	Index print setup	1: Print		0: Not print		Not print	0	
	7	Inhibited to use						0	
	8							0	

SW NO.	Data No.	Item	Switch selection and contents of functions			Initial value		Remark
S W 33	1	Page number print setup	1: YES	0: NO		YES	1	
	2	Inhibited to use					0	
	3						0	
	4						0	
	5						0	
	6						0	
	7						0	
	8						0	
S W 34	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6						0	
	7						0	
	8						0	
S W 35	1	Cover function default setup	1: YES	0: NO		NO	0	
	2	Inhibited to use					0	
	3	CI delete max. OFF time	Bit No.	3 4		10sec	0	
			5sec	0 0				
			10sec	0 1				
	4		15sec	1 0			1	
			20sec	1 1				
	5	Inhibited to use					1	
	6						0	
	7						1	
	8						0	
S W 36	1	Inhibited to use					0	
	2						1	
	3						0	
	4						1	
	5						0	
	6						0	
	7						0	
	8						0	
S W 37	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6						1	
	7						0	
	8						1	
S W 38	1	Pause time setup	Binary input			2sec	0	When a value outside the set range is set, the initial value is set.
	2		Bit No.	1 2 3 4			0	
	3		Set range	1 to 15sec			1	
	4						0	
	5	Inhibited to use					0	
	6						0	
	7	Transfer function	1: Allow	0: Inhibit		Inhibit	0	
	8	Inhibited to use					0	
S W 39	1	Call time setup in automatic transmission (T0 timer setup)	Binary input			45sec	0	When a value outside the set range is set, the initial value is set.
	2		Bit No.	1 2 3			1	
	3		Set range	30 to 60sec 5sec unit			1	
	4	Inhibited to use					1	
	5						0	
	6						0	
	7						0	
	8						0	

SW NO.	Data No.	Item	Switch selection and contents of functions				Initial value		Remark
SW 40	1	Number of times of recall in error	Binary input 　Bit No.　　　　　　1　2　3　4 　Set range　　　　0 to 1 times				1 times	0	When a value outside the set range is set, the initial value is set.
	2							0	
	3							0	
	4							1	
	5	Number of times of recall in busy	Binary input 　Bit No.　　　　　　5　6　7　8 　Set range　　　　0 to 14 times				2 times	0	When a value outside the set range is set, the initial value is set.
	6							0	
	7							1	
	8							0	
SW 41	1	Tone/Pulse default setup	Bit No.	1　2			TONE	1	When a value outside the set range is set, the initial value is set.
			10PPS	0　0					
			20PPS	0　1					
	2		TONE	1　0				0	
				1　1					
	3	Telephone line menu	1: Inhibit		0: Allow		Allow	0	Japan, U.S.A., Canada: Fixed to "Allow"
	4	Maintenance system						0	
	5	F.A.S.T mode	1: YES		0: NO		NO	0	Fixed to NO for other than U.S.A. and Canada.
	6	Sequence of year/ month/day in LCD, report, and sender record	Bit No.	6　7			Month/Day/Year	0	When a value outside the set range is set, the initial value is set.
			Year/Month/Day	0　0					
			Month/Day/Year	0　1					
	7		Day/Month/Year	1　0				1	
				1　1					
	8	Time display format	1: am/pm		0: 24H		am/pm	1	
SW 42	1	Direct send recall Allow/ Inhibit	1: Allow		0: Inhibit		Allow	1	
	2	Inhibited to use						0	
	3							0	
	4	Manual/Auto reception auto swiching	1: Allow		0: Inhibit		Inhibit	0	
	5	Number of auto switch calls of manual reception → auto reception	Binary input 　Bit No.　　　　　　5　6　7　8 　Set range　　　　1 to 9				9 times	1	When a value outside the set range is set, the initial value is set.
	6							0	
	7							0	
	8							1	
SW 43	1	DTMF signal send time	Binary input 　Bit No.　　　　　1　2　3　4　5 　Set range　　　　60 to 310ms 　　　　　　　　　10ms unit				110ms	0	When a value outside the set range is set, the initial value is set.
	2							1	
	3							0	
	4							1	
	5							1	
	6	Maintenance cycle	Bit No.	6　7　8			50K	0	
			50K	0　0　1					
	7		25K	0　1　0				0	
			12.5K	0　1　1					
	8		5K	1　0　0				1	
			Others	FREE					
SW 44	1	Scan effective image area (OC) Main scan Left edge image loss	1: −		0: +		+	0	
	2		Binary input 　Bit No.　　　　　　2　3　4 　Set range　　　　0 to ±56 dots 　　　　　　　　　8 dot interval				+0 dot	0	
	3							0	
	4							0	
	5	Scan effective image area (SPF) Main scan Left edge image loss	1: −		0: +		+	0	
	6		Binary input 　Bit No.　　　　　　6　7　8 　Set range　　　　0 to ±56 dots 　　　　　　　　　8 dot interval				+0 dot	0	
	7							0	
	8							0	

SW NO.	Data No.	Item	Switch selection and contents of functions			Initial value		Remark
S W 45	1	Scan effective image area (OC) Main scan Right edge image loss	1: −	0: +		+	0	
	2		Binary input				0	
	3		Bit No.	2 3 4		+0 dot	0	
	4		Set range	0 to ±56 dots 8 dot interval			0	
	5	Scan effective image area (SPF) Main scan Right edge image loss	1: −	0: +		+	0	
	6		Binary input				0	
	7		Bit No.	6 7 8		+0 dot	0	
	8		Set range	0 to ±56 dots 8 dot interval			0	
S W 46	1	Inhibited to use					1	
	2						1	
	3	Priority in the day of week	1: YES	0: NO		NO	0	
	4	Inhibited to use					0	
	5	Daylight saving tive	1: Allow	0: Inhibit		Inhibit	0	
	6	Inhibited to use					0	
	7						0	
	8						0	
S W 47	1	Time specification print 1 (O'clock) in the communication report table	Binary input			0 o'clock	0	When a value outside the set range is set, the initial value is set.
	2		Bit No.	1 2 3 4 5			0	
	3		Set range	00 to 23 o'clock			0	
	4						0	
	5						0	
	6	Inhibited to use					0	
	7						0	
	8						0	
S W 48	1	Time specification print 1 (min) in the communication report table	Binary input			0 min	0	When a value outside the set range is set, the initial value is set.
	2		Bit No.	1 2 3 4 5 6			0	
	3		Set range	00 to 59min			0	
	4						0	
	5						0	
	6						0	
	7	Inhibited to use					0	
	8						0	
S W 49	1	Time specification print 2 (O'clock) in the communication report table	Binary input			0 o'clock	0	When a value outside the set range is set, the initial value is set.
	2		Bit No.	1 2 3 4 5			0	
	3		Set range	00 to 23 o'clock			0	
	4						0	
	5						0	
	6	Inhibited to use					0	
	7						0	
	8						0	
S W 50	1	Time specification print 2 (min) in the communication report table	Binary input			0 min	0	When a value outside the set range is set, the initial value is set.
	2		Bit No.	1 2 3 4 5 6			0	
	3		Set range	00 to 59min			0	
	4						0	
	5						0	
	6						0	
	7	Inhibited to use					0	
	8						0	
S W 51	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6	CED detection time	1: 500ms	0: 1000ms		1000ms	0	
	7	Busy tone detection cycle	Bit No.	7 8		2puls	0	
			2puls	0 0				
			4puls	0 1				
	8		6puls	1 0			0	
			10puls	1 1				

SW NO.	Data No.	Item	Switch selection and contents of functions			Initial value		Remark
SW 52	1	Busy tone detection level	Bit No.	1 2		−43dB	0	
			−43dB	0 0				
			−35dB	0 1				
	2		−33dB	1 0			0	
			−30dB	1 1				
	3	ERR frame reception operation	1: Continues process.	0: Not continue process. (Error)		Not continue process. (Error)	0	
	4	Inhibited to use					0	
	5	Error process in RTN reception	1: Not error	0: Error		Error	0	
	6	V.34 mode function in manual communication	1: ON	0: OFF		ON	1	
	7	V.34 mode function	1: ON	0: OFF		ON	1	
	8	V.34 control channel communication speed	1: 2400bps	0: 1200bps		1200bps	0	
SW 53	1	DTMF send level (High group) setup	Binary input			3.5db	0	
	2		Bit No.	1 2 3 4			1	
	3		Set range	0 to 7.5db			1	
	4			0.5dB interval			1	
	5	DTMF send level (Low group) setup	Binary input			3.5db	0	
	6		Bit No.	5 6 7 8			1	
	7		Set range	0 to 7.5db			1	
	8			0.5dB interval			1	
SW 54	1	Scan effective image area (OC)	1: −	0: +		+	0	
	2	Sub scan lead edge image loss	Binary input			+0 line	0	
	3		Bit No.	2 3 4			0	
	4		Set range	0 to ±56 line 8 line interval			0	
	5	Scan effective image area (SPF)	1: −	0: +		+	0	
	6	Sub scan lead edge image loss	Binary input			+0 line	0	
	7		Bit No.	6 7 8			0	
	8		Set range	0 to ±56 line 8 line interval			0	
SW 55	1	CI signal OFF detection enable time	Binary input			1200ms	1	
	2		Bit No.	1 2 3 4 5 6 7			1	
	3		Set range	0 to 1270ms			1	
	4			10ms unit			1	
	5						0	
	6						0	
	7						0	
	8	EQM judgment threshold value	1: Loose	0: Tight		Tight	0	Disable when EQM Judge Value is SRAM
SW 56	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6						0	
	7						0	
	8						0	
SW 57	1	Inhibited to use					0	
	2						1	
	3						0	
	4						0	
	5						0	
	6						0	
	7						0	
	8						0	

SW NO.	Data No.	Item	Switch selection and contents of functions		Initial value		Remark
SW 58	1	V.34 3429 (baud) Rate Mask	1: supported	0: not supported	supported	1	
	2	V.34 3200 (baud) Rate Mask	1: supported	0: not supported	supported	1	
	3	V.34 3000 (baud) Rate Mask	1: supported	0: not supported	supported	1	
	4	V.34 2800 (baud) Rate Mask	1: supported	0: not supported	supported	1	
	5	Inhibited to use				0	
	6	V.34 2400 (baud) Rate Mask	1: supported	0: not supported	supported	1	
	7	Inhibited to use				0	
	8					0	
SW 59	1	Inhibited to use				0	
	2					0	
	3					0	
	4					0	
	5					0	
	6					0	
	7					0	
	8					0	
SW 60	1	Inhibited to use				1	
	2					1	
	3					1	
	4					1	
	5	Countermeasures against V.34 communication error (reception) (Phase 2 error retry setup)	1: YES	0: NO	NO	0	
	6	Countermeasures against V.34 communication error (transmission) (Phase 2 error retry setup)	1: YES	0: NO	NO	0	
	7	Inhibited to use				0	
	8					0	
SW 61	1	Inhibited to use				0	
	2					0	
	3					1	
	4					1	
	5					0	
	6					0	
	7					0	
	8					0	
SW 62	1	Inhibited to use				0	
	2					0	
	3					0	
	4					0	
	5					1	
	6					0	
	7					1	
	8					1	
SW 63	1	Inhibited to use				1	
	2					0	
	3					0	
	4					1	
	5					0	
	6					1	
	7					0	
	8					1	

SW NO.	Data No.	Item	Switch selection and contents of functions	Initial value	Remark
SW 64	1	Inhibited to use			0	
	2				1	
	3				0	
	4				0	
	5				0	
	6				1	
	7				1	
	8				0	
SW 65	1	Inhibited to use			0	
	2				0	
	3				1	
	4				0	
	5				0	
	6				0	
	7				0	
	8				1	
SW 66	1	Inhibited to use			0	
	2				0	
	3				1	
	4				0	
	5				0	
	6				0	
	7				0	
	8				1	

SW 67	1	Setup of make rate (10PPS)	Binary input
			    Bit No. 1 2 3 4
			    Set range 26 to 41ms
			                            1ms interval
				40ms	1	

	2				1	
	3				1	
	4				0	
	5	Inhibited to use			0	
	6				0	
	7				0	
	8				0	
SW 68	1	Inhibited to use			0	
	2				0	
	3				1	
	4				0	

	5	T1 timer setup	Binary input
			    Bit No. 5 6 7 8
			    Set range 15 to 90sec
			                            5sec interval
				40sec	0	

	6				1	
	7				0	
	8				1	
SW 69	1	Inhibited to use			0	
	2				0	
	3				0	
	4				0	
	5				0	
	6				0	
	7				0	
	8				0	
SW 70	1	Inhibited to use			0	
	2				0	
	3				0	
	4				0	
	5				0	
	6				1	
	7				0	
	8				0	

SW NO.	Data No.	Item	Switch selection and contents of functions				Initial value		Remark
S W 71	1	Dial ringing wait time	Bit No.	1 2			3.5sec	0	
			3.5sec	0 0					
			4sec	0 1					
	2		5sec	1 0				0	
			6sec	1 1					
	3	Inhibited to use						1	
	4							0	
	5							1	
	6							1	
	7	Silent detection level	Bit No.	7 8			−43dBm	0	When outside the set range, the initial value is set.
			−43dBm	0 0					
			−40dBm	0 1					
	8		−39dBm	1 0				0	
S W 72	1	EYE-Q check	1: EYE-Q check only		0: 0 reception & EYE-Q check		0 reception & EYE-Q check	0	
	2	Inhibited to use						0	
	3							0	
	4							0	
	5							1	
	6							0	
	7							0	
	8							0	
S W 73	1	Inhibited to use						0	
	2							0	
	3							0	
	4							0	
	5							0	
	6							0	
	7	DIS reception process selection in reception	Bit No.		7 8		Command resend by judging that echo has been received		
			Command resend by judging that echo has been received		0 0			0	
			Line disconnection by judging as improper DIS		0 1				
	8		Polled send when there is polled document with DIS reception. In other cases, command resend by judging that echo has been received.		1 0			0	
			Polled send when there is polled document with DIS reception, command resend when judgement that transmitter has received echo, in other cases, shut down the line as ellegal DIS.		1 1				
S W 74	1	Print lead edge adjustment (Lead edge adjustment)	1: −		0: +		+	0	
	2		Binary input				48 line	0	
	3		Bit No. 2 3 4					1	
	4		Set range 0 to ±112 line 16 line interval					1	
	5	Print lead edge adjustment (Rear edge adjustment)	1: −		0: +		+	0	
	6		Binary input				48 line	0	
	7		Bit No. 6 7 8					1	
	8		Set range 0 to ±112 line 16 line interval					1	
S W 75	1	Transmission end sound (Buzzer sound length) setup	Bit No.	1 2			3sec	0	Communi-cation error sound is generated even in silent setup
			3sec	0 0					
			1sec	0 1					
	2		Silent	1 0				0	
				1 1					
	3	Reception end sound (Buzzer sound length) setup	Bit No.	3 4			3sec	0	Communi-cation error sound is generated even in silent setup
			3sec	0 0					
			1sec	0 1					
	4		Silent	1 0				0	
				1 1					
	5	Print lead edge adjustment (Left edge)	1: −		0: +		+	0	
	6		Binary input				48 line	0	
	7		Bit No. 6 7 8					1	
	8		Set range 0 to ±112 line 16 line interval					1	

SW NO.	Data No.	Item	Switch selection and contents of functions		Initial value		Remark
SW 76	1	Scan magnification ratio adjustment OC (main scan)	1: −	0: +	+	0	
	2		Binary input			0	
	3		Bit No.	2 3 4 5 6 7 8		0	
	4		Set range	0 to ±12.7%		0	
	5			0.1% interval	0%	0	
	6					0	
	7					0	
	8					0	
SW 77	1	Scan magnification ratio adjustment OC (sub scan)	1: −	0: +	+	0	
	2		Binary input			0	
	3		Bit No.	2 3 4 5 6 7 8		0	
	4		Set range	0 to ±12.7%		0	
	5			0.1% interval	0%	0	
	6					0	
	7					0	
	8					0	
SW 78	1	Print magnification ration adjustment (main scan)	1: −	0: +	+	0	
	2		Binary input			0	
	3		Bit No.	2 3 4 5 6 7 8		0	
	4		Set range	0 to ±12.7%		0	
	5			0.1% interval	0%	0	
	6					0	
	7					0	
	8					0	
SW 79	1	Print magnification ration adjustment (sub scan)	1: −	0: +	+	0	
	2		Binary input			0	
	3		Bit No.	2 3 4 5 6 7 8		0	
	4		Set range	0 to ±12.7%		0	
	5			0.1% interval	0%	0	
	6					0	
	7					0	
	8					0	
SW 80	1	Scan effective image area (OC) Sub scan Rear edge image loss	1: −	0: +	+	0	
	2		Binary input			0	
	3		Bit No.	2 3 4	+0 line	0	
	4		Set range	0 to ±56 line 8 line interval		0	
	5	Scan effective image area (SPF) Sub scan Rear edge image loss	1: −	0: +	+	0	
	6		Binary input			0	
	7		Bit No.	6 7 8	+14 line	0	
	8		Set range	0 to 28 line 2 line interval 0 = 14 line		0	
SW 81	1	Destination information	Binary input		U.S.A.: 0 0 0 1 Canada: 0 0 1 0	0	
	2		Bit No.	1 2 3 4		0	
	3			1: U.S.A.		0	
	4			2: Canada		1	
	5	Language information	Binary input			0	For English, the proper character is determined by destination information.
	6		Bit No.	5 6 7 8		0	
	7			1: English	English: 0 0 0 1	0	
	8					1	
SW 82	1	Scan magnification ratio adjustment SPF (main scan)	1: −	0: +	+	0	
	2		Binary input			0	
	3		Bit No.	2 3 4 5 6 7 8		0	
	4		Set range	0 to ±12.7%		0	
	5			0.1% interval	0%	0	
	6					0	
	7					0	
	8					0	

SW NO.	Data No.	Item	Switch selection and contents of functions			Initial value		Remark
SW 83	1	Scan magnification ratio adjustment SPF (sub scan)	1: −	0: +		+	0	
	2		Binary input				0	
	3		Bit No.	2 3 4 5 6 7 8			0	
	4		Set range	0 to ±12.7%			0	
	5			0.1% interval		0%	0	
	6						0	
	7						0	
	8						0	
SW 84	1	On-hook speaker volume	Bit No.	1 2			1	
			Not used	0 0				
			Small	0 1		Medium		
	2		Medium	1 0			0	
			Large	1 1				
	3	On-hook pattern number	Binary input				0	
	4		Bit No.	3 4 5 6 7 8			1	
	5		Set range	Pattern number 1 to 35			0	
	6					21	1	
	7						0	
	8						1	
SW 85	1	Line monitor speaker volume	Bit No.	1 2			1	
			Silent	0 0				
			Small	0 1		Medium		
	2		Medium	1 0			0	
			Large	1 1				
	3	Line monitor pattern number	Binary input				0	
	4		Bit No.	3 4 5 6 7 8			1	
	5		Set range	Pattern number 1 to 35			0	
	6					21	1	
	7						0	
	8						1	
SW 86	1	Ringing volume	Bit No.	1 2			1	
			Silent	0 0				
			Small	0 1		Medium		
	2		Medium	1 0			0	
			Large	1 1				
	3	Ringing pattern number	Binary input				0	
	4		Bit No.	3 4 5 6 7 8			1	
	5		Set range	Pattern number 1 to 35			0	
	6					21	1	
	7						0	
	8						1	
SW 87	1	Speaker volume in DTMF send	Bit No.	1 2			1	
			Silent	0 0				
			Small	0 1		Medium		
	2		Medium	1 0			0	
			Large	1 1				
	3	Pattern number in DTMF send	Binary input				0	
	4		Bit No.	3 4 5 6 7 8			1	
	5		Set range	Pattern number 1 to 35			0	
	6					21	1	
	7						0	
	8						1	
SW 88	1	Speaker volume at scanner scan end	Bit No.	1 2			1	
			Silent	0 0				
			Small	0 1		Medium		
	2		Medium	1 0			0	
			Large	1 1				
	3	Pattern number in scanner scanning	Binary input				0	
	4		Bit No.	3 4 5 6 7 8			1	
	5		Set range	Pattern number 1 to 35			0	
	6					21	1	
	7						0	
	8						1	

SW NO.	Data No.	Item	Switch selection and contents of functions			Initial value		Remark
SW 89	1	Speaker volume of communication end sound	Bit No.	1 2		Medium	1	
			Silent	0 0				
			Small	0 1				
	2		Medium	1 0			0	
			Large	1 1				
	3	Pattern number of communication end sound	Binary input			21	0	
	4		Bit No. 3 4 5 6 7 8				1	
	5		Set range Pattern number 1 to 35				0	
	6						1	
	7						0	
	8						1	
SW 90	1	Inhibited to use					0	
	2						0	
	3						0	
	4						1	
	5						1	
	6						0	
	7						0	
	8						0	
SW 91	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6						0	
	7						0	
	8						0	
SW 92	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6						0	
	7						0	
	8						0	
SW 93	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6						0	
	7						0	
	8						0	
SW 94	1	Inhibited to use					0	
	2						0	
	3						0	
	4						0	
	5						0	
	6						0	
	7						0	
	8						0	
SW 95	1	Inhibited to use					1	
	2						1	
	3						0	
	4						0	
	5						0	
	6						1	
	7						0	
	8						0	

SW NO.	Data No.	Item	Switch selection and contents of functions	Initial value	Remark
SW 96	1	Inhibited to use		0	
	2			1	
	3			0	
	4			0	
	5			1	
	6			0	
	7			0	
	8			0	
SW 97	1	Inhibited to use		0	
	2			1	
	3			1	
	4			0	
	5			1	
	6			0	
	7			0	
	8			0	

3. Soft switch descriptions

SW1 No.1, No.2 Size specification

Used to set inch series or AB series for recording paper when printing received documents.

There is normally no need to change from "Depends on the machine information."

SW1 No.3 Inhibited to use

SW1 No.4 Auto/Manual default setup

Used to select Auto/Manual reception mode when turning on the power. (When no external telephone is connected, do not select Manual. However, setup is possible and reception can be made by on-hook.)

When set to 1, manual reception.

When set to 0, auto reception.

Default: 0 (auto reception)

SW1 No.5 Send request protection

Used to set YES/NO of the confidential protection function (inhibition of transmission to an erroneous party). Confidential protection is performed by collating the number registered in this machine and that in the other party's machine. (Sender's telephone number $\leftarrow\rightarrow$ Send request allow number, System number $\leftarrow\rightarrow$ ID number)

When set to 1, protection is not made.

When set to 0, protection is made.

Default: 0 (protection enable)

SW1 No.6 Reduction send mode

Used to set whether the transmitted document is received in reduction size or both ends of recording paper are cut when the transmitted document width is greater than the recording paper width.

When set to 1, both ends are cut without reduction and transmitted.

When set to 0, it is reduced and transmitted.

Default: 0 (Reduction transmission)

SW1 No.7 Contents of send document are printed in memory send error

Used to set Print/Not print part of the sent document in the transmission result table in case of a memory transmission error.

When set to 1, the transmitted document is not printed on the transmission result table.

When set to 0, the transmitted document is printed on the transmission result table.

Default: 0 (Print transmitted documents)

SW1 No.8 Inhibited to use

SW2 No.1 –No.4 Inhibited to use

SW2 No.5 –No.8 Remote selection number setup

Used to set the number by binary input for remote switch reception from an external telephone. "**" in a remote switch number (X**) is fixed.

When 10 or greater value is entered, the operations will be the same as setup of 5.

Default: Setup of 5 as 0101

SW3 No.1 –No.5 Density default setup

Used to set the default setup of density of the operation panel.

SW3 No.6 –No.8 Image quality priority selection

Used to set the initial value of image selection when scanning a document.

When set to 100, the operations are the same as the normal mode.

Default: 000 (Normal mode)

SW4 No.1 –No.4 Recall interval in communication error

Used to set recall interval after disconnection of communication due to a communication error in memory transmission.

The set range is 0 to 15 min in the increment of 1 min by binary input.

When set to 0, recall is made immediately after disconnection.

However, the time interval set by SW21 (Interval between the end of a communication and the next call) is taken.

Default: 0001 (1 min)

SW4 No.5 –No.8 Recall interval in busy

Used to set recall interval after disconnection of communication due to the busy state of the other party or no response.

Can be set in the range of 1 – 15min by increment of 1min by binary input.

When set to 0 min, it is the same as setup of 3 min.

Default: 0 0 1 1 (3 min)

SW5 No.1, No.2 Line equivalent unit [km]

Used to set the modem filter coefficient.

SW5 No.3, No.4 Inhibited to use

SW5 No.5 –No.8 Signal send level

Used to set the attenuation quantity of signal send level from the modem. The actual output level to the line pin is further attenuated by 8dBm. (When set to 2, the actual level on the line is about –10dBm.)

Default: 0 1 1 1 (–12dBm)

SW6 No.1 ECM

Used to set whether ECM (Error Correction Mode) is performed or not. When, however, SW52-7 (V.34 mode function) is set to OFF, or when SW52-7 (V.34 mode function is set to ON and the transmission is not the super G3 transmission, ECM Disable setup is effective. This is because the ECM function is indispensable in a transmission other than super G3 transmission in V.34 mode and the other party machine may perform checking. With SW52-7 (V.34 mode function) is ON and this reception function is disabled.

When set to 1, ECM is enabled.

When set to 0, ECM is disabled.

Default: 1 (ECM enabled)

SW6 No.2 CED signal send

Used to set whether CED signal is sent or not. This setup is effective only when SW52-7 (V.34 mode function) is off. This is because V.34 mode requires sending of ANSam signal.

When set to 1, CED (ANSam) signal is sent.

When set to 0, CED (ANSam) signal is not sent.

Default: 1, CED (ANSam) signal is sent.

SW6 No.3 CSI transmission

CSI signal includes the telephone number registered as sender's number. Used to set whether this signal is sent or not.

When set to 1, CSI signal is sent.

When set to 0, CSI signal is not sent.

Default: 1 (CSI signal is sent.)

SW6 No.4 DIS reception confirmation in G3 send

Used to set whether DIS reception is checked or not in G3 mode.

When set to 1, DIS reception is always checked twice.

When set to 0, NSF/DIS reception is checked once, or DIS reception without NSF is checked twice.

Default: 0 (NSF reception is checked once, DIS without NSF is checked twice.)

SW6 No.5 Non-modulation carrier in V.29 send

Used to set whether non-modulation carriers are sent or not in V.29 transmission.

When set to 1, non-modulated carrier is sent.

When set to 0, non-modulated carrier is not sent.

Default: 0 (Non-modulated carrier is not sent.)

SW6 No.6 EOL detection timer

Used to set the detection timer of EOL (End Of Life) when Phase-C reception.

When set to 1, the timer is set to 25sec.

When set to 0, the timer is set to 13sec.

Default: 0 (13sec)

SW6 No.7 Countermeasures for echo in reception (CED tone send interval)

Used to select ON/OFF of countermeasures against echo.

An interval of 500ms is inserted before DIS transmission.

Default: 0 (75ms)

SW6 No.8 Countermeasure for echo in transmission (After reception of DIS, hold time up to signal send is set.)

An interval of 500ms is inserted before DCS transmission.

Default: 0 (200ms)

SW7 No.1 MH fixed

Used to fix the image data compression method in communication. Normal setting

When set to 0, automatic selection of MH/MR/MMR is performed according to the other party machine's capacity.

When set to 1, MH fixed. This is effective when communication is made only with MH machine or when images are disturbed due to poor conditions of the line.

When SW52-7 (V.34 mode function) is OFF or when SW52-7 (V.34 mode function) is ON in transmission, MH fixing is enabled. This is because the MMR function is indispensable in V.34 mode and the other party machine checks that. When SW52-7 (V.34 mode function) is ON in reception, this function is disabled.

SW7 No.2 Dial tone detection

Used to set whether dial tone detection is performed or not in auto dial ringing.

"1": YES

"0": NO

When set to YES and dial tone is not detected, dial is not performed.

Default: 0 (NO)

SW7 No.3 Busy tone detection

Used to set whether busy tone signal is detected or not in ringing.

When set to 1, busy tone is detected.
When set to 0, busy tone is not detected.

Default: 1 (Busy tone is detected.)

SW7 No.4 Dial tone monitoring time

Used to set dial tone monitoring time when detecting dial tone.

"1": 10sec

"0": 5sec

Default: 0 (5 sec)

SW7 No.5 Inhibited to use

SW7 No.6 Max. length of reception

Used to set the length of reception when long document is sent from the other party.

When set to 1, reception is made without limitations.

When set to 0, reception is terminated after 1.5m reception.

Default: 0 (Reception is terminated after receiving 1.5m.)

SW7 No.7, No.8 Modem speed in reception fixed

Used to set the start speed of reception procedure when receiving from an other party other than V.34.

bit	7	8	
	0	0	: No fixing
	0	1	: V.29-9600BPS
	1	0	: V.27ter-4800BPS
	1	1	: V.17-14400BPS

When set to "no fixing," the operations are the same as V.17-14400BPS.
The above four setups are possible. The reception procedure is started at the set communication speed.

Default: 0 0 (no fixing) Reception is made at the proper communication speed.

SW8 No.1 Memory transmission/direct transmission default setup

Used to select memory transmission or direct transmission when the power is turned on and when time out is cleared.

When set to 1, direct transmission is selected when the power is turned on and the time out is cleared.

When set to 0, memory transmission is selected when the power is turned on and the time out is cleared.

Default: 0 (Memory transmission)

SW8 No.2 Proxy reception

When set to 1, auto reception is accepted under the following conditions to perform proxy reception.

(1) No recording paper or jam

(2) Remaining image memory capacity is 128KB or 64KB or above.

(3) The number of memory reception (max. 50 items) and the number of pages do not exceed the limit.

When set to 0, automatic reception is not allowed without recording paper or in case of a jam.

Default: 1 (YES)

SW8 No.3 Printing the content of transmitted document in normal memory transmission

Used to set whether transmitted images are printed on the communication result table or not when the communication result table is printed after normal completion of memory transmission.

"1": The transmitted document is not printed.

"0": The transmitted document is printed.

Default: 1 (Not printed.)

SW8 No.4 Judgment of system No. in bulletin transmission

Used to set whether the condition of coincidence between the system number of this machine and that of the other party machine is employed as a criterion to judge whether to allow bulletin transmission by receiving polling transmission from the other party machine made by our company.

"1": When the system number of the other party machine made by our company coincide with the system number of this machine, polling is allowed.

"0": Though the system number of the other party machine made by our company coincide with the system number of this machine, polling is not allowed.

Default: 0 (Inhibited)

SW8 No.5 Remote reception indication

Used to set whether remote select function is used or not.

When set to 1, the function is allowed.

When set to 0, inhibited.

Default: 1 (Allowed)

SW8 No.6 –No.8 Inhibited to use

SW9 No.1 Print of total communication time and total pages

Used to set whether total communication time and total number of sheets are recorded or not on the communication record table.

When set to 1, the total communication time and the total number of pages are printed on the communication record table.

When set to 0, they are not printed on the communication record table.

Default: 1 (YES)

SW9 No.2 Inhibited to use

SW9 No.3 Quick memory transmission

Used to set whether quick memory transmission (transmission of ringing before completion of scanning) is performed or not. Linked with the key operator program menu.

Default: 1 (Allow)

SW9 No.4 Yes/No of SUB capacity in reception

Used to set notification of YES/NO of DIS signal Bit 49 SUB capacity.

"0": YES

"1": NO

Default: 0 (YES)

When notified 0 and NO, the F code transmission from the other party can be inhibited.

SW9 No.5 F-code relay broadcast function

Used to set whether F code relay broadcast instruction from the other party is received and relay broadcast transmission is performed or F code relay broadcast instruction is not received (though the relay box number by SUB coincides with) from the other party. Though this function is set to disable, F code instruction can be transmitted.

Default: 0 (Allow)

SW9 No.6 F-code confidential reception function

Used to set whether F code confidential reception from the other party is made or not (though the confidential box number by SUM coincides with).

Though this function is set to disable, F code transmission can be made.

Default: 0 (Allow)

SW9 No.7 Yes/No of SEP capacity in reception

Used to set notification of YES/NO of DIS signal Bit 47 SEP capacity.

"0": YES

"1": NO

Default: 0 (YES)

When set to 1 (NO), F code polling is inhibited.

SW9 No.8 Yes/No of reception PWD capacity

Used to set whether password function is judged or not for F code bulletin board polling.

"0": Password is judged. If password is not acceptable, communication is cut off.

"1": Password is not judged. Password is disregarded and communication is allowed.

Default: 0 (Password is judged.)

SW10 No.1 Measurement of communication time (image)

Used to set YES/NO of measurement.

Used to measure the communication time in phase C. However, it is the communication time in the latest phase C. (Unit: msec)

Default: 1 (YES)

SW10 No.2 Sender's telephone number registration

Used to set Enable/Disable of registered transmitter telephone number change.

When set to 1, sender's TEL No. cannot be registered and changed. To prevent sender's TEL No. from being changed erroneously, this is set to 1.

Default: 0 (Allow)

SW10 No.3 Yes/No of reception SID capacity

Used to set whether password is judged or nor in F code reception.

"0": Password is judged. If password is not acceptable, communication is cut off.

"1": Password is not judged. Password is disregarded and communication is allowed.

Default: 0 (Password is judged.)

SW10 No.4 SDT signal detection

Used to set whether SDT signal which is the second dial tone when transmitting to F net is detected or not.

When SDT signal is not detected, dialing is performed normally even after "16X."

When set to 1, the signal is detected.

When set to 0, the signal is not detected.

Default: 0 (Not detected)

SW10 No.5, No.6 Inhibited to use

SW10 No.7 ECM MMR mode

Used to set whether MMR coding system is used or not.

"1": MMR is used.

"0": MMR is not used.

Default: 1 (MMR communication is made.)

SW10 No.8 ECM JBIG mode

Used to set whether JBIG communication is used or not.

"1": JBIG communication is used.

"0": JBIG communication is not used.

Default: 1 (JBIG communication is used.)

SW11 No.1 –No.8 Inhibited to use

SW12 No.1 –No.5 Inhibited to use

SW12 No.6, No.7 CI detection

Used to set the frequency to detect CI signal which is the calling signal as follows:

```
bit    6  7
       0  0    : 4 sine wave (280ms)
       1  0    : 3 sine wave (190ms)
       0  1    : 2 sine wave (130ms)
       1  1    : Similar to 4 sine wave (280mm).
```

Default: 0 0 (4 sine wave)

SW12 No.8 Inhibited to use

SW13 No.1 –No.6 Inhibited to use

SW13 No.7 Relay data output

Used to set whether the received document is outputted from the relay direction station when relay broadcasting direction is received.

When set to 1, the document received from the relay instruction station is printed.

When set to 0, the document received from the relay instruction station is not printed.

Default: 1 (Printed)

SW13 No.8 Relay broadcast function

Used to set whether relay broadcasting transmission is performed when receiving the relay broadcasting direction from the other party or the relay broadcasting direction is not received from the other party.

When set to 1, the relay broadcast instruction from the allowed party is received.

When set to 0, the relay broadcast instruction is not received even from the allowed party.

Default: 1 (The relay broadcast instruction is received.)

When this function is set to disable, relay broadcast instruction can be transmitted.

SW14 No.1 –No.4 V.34 mode sending speed

Used to set the transmission speed when starting communication in V.34 mode.

Setting can be made by binary input of N in "2400 (bps) x N" in the range of 2400bps – 33600bps.

N can be set in the range of 0 – 15. When it is set to 0, 2400bps; when set to 15, 33600bps.

Default: N = 14 (Transmission is started from 33600bps.)

SW14 No.5 –No.8 V.34 mode reception speed

Used to set the reception speed when starting reception in V.34 mode.

Setting can be made by binary input of N in "2400 (bps) x N" in the range of 2400bps – 33600bps.

N can be set in the range of 0 – 15. When it is set to 0, 2400bps; when set to 15, 33600bps.

Default: N = 14 (Reception is started from 33600bps.)

SW15 No.1 Lower limit of speaker sound detection time

Lower limit of speaker sound detection time
1: 350ms   0: 250ms

Default: 0 (250ms)

SW15 No.2 Upper limit of speaker sound detection time

Upper limit of speaker sound detection time
1: 650ms   0: 750ms

Default: 0 (750ms)

SW15 No.3 Lower limit 2 of speaker sound detection time

Lower limit 2 of speaker sound detection time
1: 150ms   0: Follows SW15-1.

Default: 0 (Follows SW15-1.)

SW15 No.4 Inhibited to use

SW15 No.5 –No.8 Modem speed (V.33 mode or less)

Used to set the speed to start communication. When communication troubles occur frequently, the speed may be reduced to solve the troubles.

Default: 1 0 0 0 (V.17 14.4kbps)

SW16 No.1 Inhibited to use

SW16 No.2 External telephone connection

When this switch is not set to YES, an external telephone cannot be used.

Default: 1 (YES)

SW16 No.3, No.4 Inhibited to use

SW16 No.5 Rotation transmission selection (11 x 8.5 → 8.5 x 11)

Used to set whether letter R document is transmitted as A3 width or the scanned image is rotated and transmitted as A4R width.

Default: 1 (YES)

SW16 No.6 Rotation transmission selection (A4 → A4R)

Used to set whether A4 document is transmitted as A4 or the scanned image is rotated and transmitted as A4R.

When set to 1, the document is transmitted as A4 width.

When set to 0, the document is transmitted as A3 width.

Default: 1 (Transmitted as A4 width.)

SW16 No.7 Rotation transmission selection (B5R → B5)

Used to set whether B5R document is transmitted as B5R or the scanned image is rotated and transmitted as B5.

When set to 1, the document is transmitted as B4 width.

When set to 0, the document is transmitted as A4 width.

Default: 1 (Transmitted as B4 width.)

SW16 No.8 Rotation transmission selection (A5 → A5R)

Used to set whether A5R document is transmitted as A5R or the scanned image is rotated and transmitted as A5.

When set to 1, the document is transmitted as A4 width.

When set to 0, the document is transmitted as A5R.

(However, the transmission width is A4.)

Default: 1 (Transmitted as A4 width.)

SW17 No.1 Paper selection priority sequence

Used to set whether the FAX reception paper is selected by data width priority or data area priority.

"0": Area priority

"1": Width priority

Default: 0 (Area priority)

SW17 No.2, No.3 Output condition setup

Used to set whether the received data are reduced or divided to print when a document is received and there is no suitable size paper.

```
bit    2  3
       0  0    : Reduction allowed
       1  0    : Division allowed
```

Default: 0 0 (Reduction print)

SW17 No.4 –No.8 Inhibited to use

SW18 No.1, No.2 Inhibited to use

SW18 No.3, No.4 Reception size specification (Indicates reception capacity.)

Used to set the receivable document width which is informed the other party when receiving a communication.

The setup items are as follows:

```
bit   3   4
      0   0    : By the attached cassette
      0   1    : B4 (A4/B4) width
      1   0    : A4 width
      1   1    : A3 (A4/B4/A3) width
```

Default: 0 0 (Varies depending on the installed cassette.)

Max. allowed reception width selection

Max. allowed reception width is determined by Table 1 and Table 2. This determines the transmitted size from the other party.

When set to A3 with SW18-No. 3/No. 4 only with B5 cassette, proxy reception is always performed. Do not use this combination. (Because division process in the main scanning direction is not performed.)

When set to A4 with SW18-No. 3/No. 4, A3 document from the other party is not divided into A4 paper but reduction to A4width is requested to the other party.

• Max. allowed reception width setup

SW18		Size specification	Reception allowable width
No.3	No.4		
0	0	Depends on the installed cassette.	Varies according to the table below.
0	1	B4	A4 & B4 width
1	0	A4	A4 width
1	1	A3	A4 & B4 & A3 width

• Max. allowable reception width by installed cassette

[Max. paper size of installed cassette with FAX function]	→	[Sampled paper size (Data width)]
A5	→	A4
B5	→	B4
A4	→	A3
B4	→	B4
A3	→	A3
No cassette with FAX function	→	A3

SW18 No.5 11 inch reception capacity setup

When SW18-3 – 4 is set to "Depends on installed cassette," the max. allowable reception width by 8.5 x 11" cassette is set.

When set to 0, the reception allowable width is A3.

When set to 1, the reception allowable width is B4.

Default: 0 (Reception allowable width is A3)

SW18 No.6 Output method when A3 width reception (Inch series)

Used to set whether an image of 297mm width is reduced and printed or an image of 11" width is printed without reduction on paper of 11" width when an image of A3 width is received.

When set to 0, printing is made on paper of 11" width.

When set to 1, printing is made on paper of 297mm width.

Default: 0 (Printed on paper of 11" width.)

SW18 No.7 Output method when A4 width reception (Inch series)

Used to set whether printing is made on paper of 8.5" width or of 210mm width when an image of A4 width is received.

When set to 0, printing is made on paper of 210mm width.

When set to 1, printing is made on paper of 8.5" width.

Default: 1 (Printing is made on paper of 8.5" width.)

SW18 No.8 Override print setup

Used to set whether the latter print job is performed or not when the former print job is suspended at the first page due to printable paper empty.

When set to 0, override print is not allowed.

When set to 1, override print is allowed.

Default: 1 (Override print allowed)

SW19 No.1 Protocol monitor

Used to set whether communication protocol result is printed after completion of communication or not.

Used for communication test.

Default: 0 (NO)

SW19 No.2 Inhibited to use

SW19 No.3 Output only in protocol monitor error

Used to set whether protocol monitor is outputted only when a communication error occurs or every time when communication is completed. Effective when SW19 No. 1 (Protocol monitor) is set to YES. However, only when SW19 No. 1 is set to 1 (YES), protocol monitor is outputted in case of a communication error.

Default: 0 (NO)

SW19 No.4 Protocol monitor save

Used to set whether the protocol monitor of the final communication is saved or not.

When set to "Saved," the preceding protocol monitor can be printed with SIM 66-21.

Default: The protocol monitor is saved.

SW19 No.5 Inhibited to use

SW19 No.6 Recording table automatic print

Used to set whether the communication record table is printed automatically when each of transmission/reception data of communication record table reaches 50 items.

When set to 1, the table is automatically printed.

When set to 0, the table is not printed though the data reaches 50 items.

Default: 1 (Printed)

SW19 No.7 Time specification 1 of communication record table

Used to set whether time No. 1 is enabled or not in the output function of communication result table at the specified time.

Linked with the key operator program.

Default: 0 (Inhibit)

SW19 No.8 Time specification 2 of communication record table

Used to set whether time No. 2 is enabled or not in the output function of communication result table at the specified time.

Linked with the key operator program.

Default: 0 (Inhibit)

SW20 No.1, No.2 Line sound monitor range

Used to set the line sound monitor range when the line monitor function is used.

Used to set to monitor NSF signal send/receive until NSF signal is sent/received.

When set to ALL, all procedures up to line disconnection are monitored.

The setup items are as follows:

```
bit   1   2
      0   0    : Not used. (Same as 0.1)
      0   1    : Up to NSF signal send/receive
      1   0    : All
      1   1    : Not used. (Same as 0.1)
```

Default: 0 1 (Up to NSF signal send/receive)

SW20 No.3 Line monitor display

Used to set whether the communication speed and the reception level are displayed on the LCD or not.

Displayed on the communication status screen by pressing the job status key.

When set to 1, displayed on LCD.

When set to 0, not displayed on LCD.

Default: 0 (Not displayed)

SW20 No.4 Data output specification in communication error during reception

Used to set whether the image on the page where a communication error occurred during image reception is printed or not.

"0": Setup to print

"1": Setup not to print

Default: 0 (Output)

However, "Output setting" is effective only when SW24-6 is set to "Output for every page reception."

SW20 No.5 Receivable memory capacity

Used to set the remaining memory capacity for acceptance of call.

When set to 1, ringing is made until the remaining memory capacity is 64KB or less.

When set to 0, ringing is made until the remaining memory capacity is 128KB or less.

Default: 0 (Ringing is made until the remaining is 128KB or less.)

SW20 No.6 Memory over during reception

Used to set whether the received data are output or destroyed when memory is over during reception.

When set to 1, received data are output.

When set to 0, received data are disposed without output.

Default: 1 (Received data are output)

SW20 No.7, No.8 Flag-adrs timer setup (V.21-FSK)

Used to set the time between Flag-adrs during FSk signal reception in a communication other than V.34 mode.

FSK signal reception in V.34 does not conform to this soft switch.

Default: 0 0 (6sec)

SW21 No.1 –No.8 Inhibited to use

Used to set the time interval between the end of a communication and a call for the next communication.

The actual interval is the setup value + 3.5sec.

Setup is made by binary input in the interval of 0 – 255sec.

The initial setup is to ring in the interval of 1sec.

SW22 No.1 –No.8 Inhibited to use

SW23 No.1 –No.8 Inhibited to use

SW24 No.1, No.2 Image capacity at send request

Used to set the image capacity of the machine when send request (polling).

Reflected on DTC.

Default: 0 0 (Ultra fine)

SW24 No.3 Specified number reception

Used to set ON/OFF of the function to reject FAX reception from a registered number.

Default: 0 (Ignore specified number reception)

SW24 No.4 Specified number reception when manual reception

Used to set whether reception from manual reception is rejected or not when reception function by specifying the number is ON.

Default: 0 (Ignore specified number reception)

SW24 No.5 Inhibited to use

SW24 No.6 Document output setup in reception

Used to set whether all received documents are outputted at a time after completion of reception or each document is outputted every time when it is received.

When set to 1, all are outputted collectively after completion of reception.

When set to 0, output is made after reception of every page.

Default: 0 (Output after reception of every page)

SW24 No.7 Inhibited to use

SW24 No.8 Automatic reduction print

Used to set whether the received document is automatically reduced and printed so that the print-out is fit in a fixed size when the document size is longer than the fixed sizes but smaller than the max. length of automatic reduction ratio.

When set to 1, the document is automatically reduced and printed.

When set to 0, the document is printed without reduction.

Default: 1 (Automatic reduction print enable)

SW25 No.1 –No.4 Automatic reduction rate setup

Used to set the auto reduction ratio when "Auto reduction print" is set to Enable.

Setup is made in the range of 0 – 15% by binary input of N in "100% – N x 1%."

Default: 94% (Reduce 6%)

SW25 No.5 –No.8 Inhibited to use

SW26 No.1 –No.8 Inhibited to use

SW27 No.1 Inhibited to use

SW27 No.2 –No.5 Recording paper tray selection (Tray 1 –4)

Used to select the tray for output of the received documents.

Tray 1 to Tray 4 can be set to ON/OFF individually. When set to OFF, the tray does not output received documents.

Setup is made by selecting bit 2 – bit 5. Each bit is selected in the sequence of tray 1 – tray 4.

When bit 1 is selected, output is made by using that tray.

When bit 0 is selected, output is made by using that tray.

Default: Tray 1 – tray 4 are used.

bit	2	: Tray 1
bit	3	: Tray 2
bit	4	: Tray 3
bit	5	: Tray 4

SW27 No.6 –No.8 Inhibited to use

SW28 No.1 –No.8 Inhibited to use

SW29 No.1 –No.4 Inhibited to use

SW29 No.5 –No.8 Setup of number of times of call rings

Used to set the number of call rings until reception is started in auto reception mode.

The set range is 0 to 9 times by binary input.

When set to 0, no ring is made.

Default: 2 times

SW30 No.1 Report output when canceling

Used to set whether the communication report table is outputted or not when canceling transmission during document transmission.

When set to 1, the communication report table is printed.

When set to 0, the communication report table is not printed.

Default: 0 (Not printed)

SW30 No.2 Inhibited to use

SW30 No.3 Rotation print

Used to set Enable/Disable of rotation print when the received document can be printed by rotation.

When set to 1, the received document is rotated and printed.

When set to 0, the received document is not rotated.

Default: 1 (The received document is rotated and printed.)

SW30 No.4 Department management

Used to set Enable/Disable of FAX using dept. management by the use of the dept. management function.

When set to 1, the department management function is used.

When set to 0, the department management function is not used.

Default: 0 (The department management function is not used.)

SW30 No.5 Default data, sender print

Used to set whether the registered sender information and date and time of transmission are printed at the top of the transmission document when a document is transmitted through the second line.

When set to 1, date and sender are printed.

When set to 0, date and sender are not printed.

Default: 1 (Date and sender are printed.)

SW30 No.6 Department name notification

Used to set whether the department name is transmitted as sender information when the department management function is enabled.

Default: 0 (OFF)

SW30 No.7 Date/sender print position setup

Used to set the print position of date and transmitter information on the transmitted documents.

When set to 1, printed at the top of the document.

When set to 0, added outside the document.

Default: 0 (Added outside the document.)

SW30 No.8 Report output (in confidential reception)

Used to set whether the communication report table is outputted or not when a confidential reception is made.

When set to 1, the communication report table is printed.

When set to 0, the communication report table is not printed.

Default: 1 (Printed)

SW31 No.1, No.2 Report output (in transmission)

Used to set whether the communication report is outputted or not after completion of transmission (excluding sequential broadcasting, sequential send request, and relay broadcasting).

Setup is selected from "print inhibition," "all output," and "only when transmission is failed" as follows:

bit	1	2	
	0	0	: Print inhibited
	0	1	: All are printed.
	1	0	: Only when transmission is failed.
	1	1	: Not used (Same as "Only when transmission is failed.")

Default: 1 0 (Outputted only when transmission is failed.)

SW31 No.3, No.4 Report output (In broadcast, sequential send request, and relay broadcast)

Used to set whether the communication report table is outputted or not after completion of transmission (sequential broadcasting, sequential send request, and relay broadcasting).

Setup is selected from "print inhibition," "all output," and "only the address to which transmission is failed" as follows:

bit	3	4	
	0	0	: Print inhibited
	0	1	: All are printed.
	1	0	: Only the address to which transmission is failed.
	1	1	: Not used (Same as "Only the address to which transmission is failed")

Default: 0 1 (All are printed.)

SW31 No. 5, No.6 Report output (in reception)

Used to set whether the communication report table is outputted or not when a reception (excluding confidential reception) is made.

Setup is selected from "print inhibition," "all output," and "only in error" as follows:

bit	5	6	
	0	0	: Print inhibited
	0	1	: All are printed.
	1	0	: Only in error
	1	1	: Same as "print inhibited."

Default: 0 0 (Print inhibited)

SW31 No.7, No.8 Inhibited to use

SW32 No.1 –No.4 Distinctive ring

The function judges TEL or FAX by CI ringing.

Default: 0 0 0 0 (OFF)

SW32 No.5 Inhibited to use

SW32 No.6 Index print setup

Used to set whether the index is printed or not when outputting received documents.

When set to 1, the index is printed on the received document.

When set to 0, the index is not printed.

Default: 0 (The index is not printed.)

SW32 No.7, No.8 Inhibited to use

SW33 No.1 Page number print setup

Used to set whether the page number is added to the position where date and transmitter information are printed. (In memory transmission, paper number/total number of pages)

When set to 1, the page number is printed.

When set to 0, the page number is not printed.

Default: 1 (The page number is printed.)

SW33 No.2 –No.8 Inhibited to use

SW34 No.1 –No.8 Inhibited to use

SW35 No.1 Cover function default setup

Used to set whether the cover is added or not when transmitting.

When set to 1, the cover is added.

When set to 0, the cover is not added.

Default: 0 (The cover is not added.)

SW35 No.2 Inhibited to use

SW35 No.3, No.4 CI delete max. OFF time

Used to set the max. wait time from detection of CI signal pulse (number of times) to the next CI signal pulse detection. If next Ci signal pulse is not detected within this time, the number of calls up to now is cleared.

The setup items are as follows:

bit	3	4	
	0	0	: 5sec
	0	1	: 10sec
	1	0	: 15sec
	1	1	: 20sec

Default: 0 1 (10sec)

SW35 No.5 –No.8 Inhibited to use

SW36 No.1 –No.8 Inhibited to use

SW37 No.1 –No.8 Inhibited to use

SW38 No.1 –No.4 Pause time setup

Used to set the pause time.

The set range is 1 sec to 15 sec by binary input.

When set to 0, it is the same as 2 sec.

Default: 2sec

SW38 No.5, No.6 Inhibited to use

SW38 No.7 Transfer function

Used to set Enable/Disable the transfer function.

Default: 0 (Inhibit)

SW38 No.8 Inhibited to use

SW39 No.1 –No.3 Call time setup in automatic transmission (T0 timer setup)

Used to set the call time when call does not reach the other party in auto send mode.

The set range is 30 to 60 sec in the increment of 5 sec by binary input of "(5 sec x N) + 30 sec)".

"N" can be set in the range of 0 to 7. When set to 7 (65 sec), it is the same as setup of 45 sec.

Default: 45sec (N=3)

SW39 No.4 –No.8 Inhibited to use

SW40 No.1 –No.4 Number of times of recall in error

Used to set the number of recall times in case of a communication error.

Setup is made in the range of 0 – 1 times by binary input.

When set to 0, recall is not made.

Default: 1 time of recall

SW40 No.5 –No.8 Number of times of recall in busy

Used to set the number of recall times in case of busy state of the other party or when call does not reach the other party.

Setup is made in the range of 0 – 14 times by binary input.

When set to 0, recall is not made.

Default: 2 times of recall

SW41 No.1, No.2 Tone/Pulse default setup

Employed line setup (Dial setup)

Selection of 10PPS, 20PPS, and TONE is allowed.

The setup items are as follows:

```
bit    1  2
       0  0   : 10PPS
       0  1   : 20PPS
       1  0   : TONE
       1  1   : Similar to TONE.
```

Default: 1 0 (TONE)

SW41 No.3 Telephone line menu

Used to set whether Tone/Pulse setup is displayed on the menu or not.

Default: 0 (Fixed to "Allow")

SW41 No.4 Maintenance system

Setup of the model for judgment of consumable parts system when using the F.A.S.T. function.

SW41 No.5 F.A.S.T mode

Used to set Enable/Disable of FAST operation.

To enable FAST operation, the serviceman must change this SW setup.

Default: 0 (NO)

SW41 No.6, No.7 Sequence of year/month/day in LCD, report, and sender record

Used to set the sequence of year, month, and day in the display, report, and sender record.

SW41 No.8 Time display format

Used to set the sequence of year, month, and day in the LCD display, report, and sender record.

When set to 0, time is indicated in 24H format.

When set to 1, time is indicated in AM/PM format.

Default: 1 (AM/PM)

SW42 No.1 Direct send recall Allow/Inhibit

Used to set allow/inhibit of wait for recall in direct send.

Default: 1 (Allow)

SW42 No.2, No.3 Inhibited to use

SW42 No.4 Manual/Auto reception auto swiching

Used to set whether automatic reception is made or not when ringing is made the number of auto switch call times in manual reception.

Default: 0 (Inhibit)

SW42 No.5 –No.8 Number of auto switch calls of manual reception → auto reception

When the above setup is allowed, automatic reception is made at the set number of times.

The set range is 1 to 9 times.

Default: 9 times

SW43 No.1 –No.5 DTMF signal send time

Used to set the send time when sending DTMF signal.

Setup is made in the range of 60 – 310ms by binary input of N in "10(ms) x N" in the increment of 10ms.

N is set in the range of 0 – 31.

When N is set to 0, it is the same as 110ms (N=11).

Default: 110ms

SW43 No.6 –No.8 Maintenance cycle

Setup for judgment of consumable parts notification when using the F.A.S.T. function. This setup should be the same as SIM21-2 setup.

Default: 0 0 1 (50K)

SW44 No.1 –No.4 Scan effective image area (OC) Main scan Left edge image loss

Used to set the left edge image loss of main scan in OC scan of FAX.
The set value of SIM 50-8 is reflected.

SW44 No.5 –No.8 Scan effective image area (SPF) Main scan Left edge image loss

Used to set the left edge image loss of main scan in SPF scan of FAX.
The set value of SIM 50-8 is reflected.

SW45 No.1 –No.4 Scan effective image area (OC) Main scan Right edge image loss

Used to set the right edge image loss of main scan in OC scan of FAX.
The set value of SIM 50-8 is reflected.

SW45 No.5 –No.8 Scan effective image area (SPF) Main scan Right edge image loss

Used to set the right edge image loss of main scan in SPF scan of FAX.
The set value of SIM 50-8 is reflected.

SW46 No.1, No.2 Inhibited to use

SW46 No.3 Priority in the day of week

Used to set the recording sequence of the day of month and the day of week if the date is in the sequence of day, month, and year.

Default: 0 (NO)

SW46 No.4 Inhibited to use

SW46 No.5 Daylight saving tive

Used to set Enable/Disable of Daylight saving time.

Default: 0 (Inhibit)

SW46 No.6 –No.8 Inhibited to use

SW47 No.1 –No.5 Time specification print 1 (O'clock) in the communication report table

Used to set "o'clock" of the time (o'clock, min) when specifying the time in the communication report table.

Setup is in the range of 0 – 23 (o'clock) by binary input.

When set to 24 – 31, the time is set to 0 o'clock.

Default: 0 o'clock

SW47 No.6 –No.8 Inhibited to use

SW48 No.1 –No.6 Time specification print 1 (min) in the communication report table

Used to set "min" of the time (o'clock, min) when specifying the time in the communication report table.

Setup is in the range of 0 – 59 (min) by binary input.

When set to 60 – 63, the time is set to 0 min.

Default: 0 min

SW48 No.7, No.8 Inhibited to use

SW49 No.1 –No.5 Time specification print 2 (O'clock) in the communication report table

Used to set "o'clock" of the time (o'clock, min) when specifying the time in the communication report table.

Setup is in the range of 0 – 23 (o'clock) by binary input.

When set to 24 – 31, the time is set to 0 o'clock.

Default: 0 o'clock

SW49 No.6 –No.8 Inhibited to use

SW50 No.1 –No.6 Time specification print 2 (min) in the communication report table

Used to set "min" of the time (o'clock, min) when specifying the time in the communication report table.

Setup is in the range of 0 – 59 (min) by binary input.

When set to 60 – 63, the time is set to 0 min.

Default: 0 min

SW50 No.7, No.8 Inhibited to use

SW51 No.1 –No.5 Inhibited to use

SW51 No.6 CED detection time

Used to set CED/ANSam signal detection time. When the CED/ANSam signal is detected for duration of the set time, it is recognized.

When set to 1, if a signal is detected for 500ms or more, it is recognized.

When set to 0, if a signal is detected for 1000ms or more, it is recognized.

Default: 0 (1000ms or more)

SW51 No.7, No.8 Busy tone detection cycle

Used to set the number of pulses of busy tone detected to recognize as busy tone.

When set to 0 0, 2 pulses are detected.

When set to 0 1, 4 pulses are detected.

When set to 1 0, 6 pulses are detected.

When set to 1 1, 10 pulses are detected.

Default: 0 0 (2 pulses are detected for recognition of busy tone.)

SW52 No.1, No.2 Busy tone detection level

Used to set the lowest detection level when detecting busy tone.

When set to 0 0, busy tone of –43dB is detected.

When set to 0 1, busy tone of –35dB is detected.

When set to 1 0, busy tone of –33dB is detected.

When set to 1 1, busy tone of –30dB is detected.

Used to set for erroneous detection of busy tone.

Default is 0 0 (–43dB).

SW52 No.3 ERR frame reception operation

Used to set the operation when image data with error frame is received.

"0": Not continue process. (Error)

"1": Continues process.

Default: 0 (Not continue process. (Error))

SW52 No.4 Inhibited to use

SW52 No.5 Error process in RTN reception

Used to set whether RTN reception is treated as a communication error or not.

When set to 1, it is not judged as an error when RTN is received.

When set to 0, it is judged as an error when RTN is received.

Default: 0 (Judged as an error.)

SW52 No.6 V.34 mode function in manual communication

Used to set whether V.34 mode function is enabled or not in manual transmission.

When set to 1, V.34 mode function is enabled.

When set to 0, V.34 mode function is disabled.

Default: 1 (V.34 mode function is enabled.)

SW52 No.7 V.34 mode function

Used to set whether V.34 mode is used for send/receive with the other party machine is provided with V.34 mode.

When set to 1, send/receive is made by using V.34 mode.

When set to 0, send/receive is made without using V.34 mode.

Default: 1 (V.34 mode function is enabled.)

SW52 No.8 V.34 control channel communication speed

Used to set V.34 mode communication speed of the control channel.

When set to 1, the communication speed of control channel is 2400bps.

When set to 0, the communication speed of control channel is 1200bps.

Default: 0 (1200bps)

SW53 No.1 –No.4 DTMF send level (High group) setup

Used to set the DTMF signal send level (high group).

The set range is 0 to 7.5 with binary input in the increment of 0.5dB.

Default: 3.5

Send level = – (set value + 12)/2 [dB]

SW53 No.5 –No.8 DTMF send level (Low group) setup

Used to set the DTMF signal send level (low group).

The set range is 0 to 7.5 with binary input in the increment of 0.5dB.

Default: 3.5

Send level = – (set value + 12)/2 [dB]

SW54 No.1 –No.4 Scan effective image area (OC) Sub scan lead edge image loss

Setup of image loss in OC scan image area

The quantity of image loss at the lead edge in sub scan direction can be adjusted. When the set value is increased, the lead edge image loss quantity is increased.

The set value of SIM 50-8 is reflected.

SW54 No.5 –No.8 Scan effective image area (SPF) Sub scan lead edge image loss

Used to set image loss in SPF scan image area.

The quantity of image loss at the lead edge in sub scan direction can be adjusted. When the set value is increased, the lead edge image loss quantity is increased.

The set value of SIM 50-8 is reflected.

SW55 No.1 –No.7 CI signal OFF detection enable time

Used to set the min. OFF time for judgment of CI pulse (16Hz call signal). When OFF time continues for more than the set time, it is judged as 1 pulse of CI.

Setup is made in the range of 0 – 1270 by binary input. Set value x 10ms.

Default is 1200ms.

SW55 No.8 EQM judgment threshold value

Used to set whether the threshold value, FTT, for EQM judgment is severely adjusted or loosely adjusted when confirming TCF reception.

When it is loosely adjusted, TCF is easy to return CFR, however, it is apt to cause an error in PIX (Phase-C).

SW56 No.1 –No.8 Inhibited to use

SW57 No.1 –No.8 Inhibited to use

SW58 No.1 V.34 3429 (baud) Rate Mask

Used to set whether 3429 is supported as the symbol rate in V.34 communication or not.

SW58 No.2 V.34 3200 (baud) Rate Mask

Used to set whether 3200 is supported as the symbol rate in V.34 communication or not.

SW58 No.3 V.34 3000 (baud) Rate Mask

Used to set whether 3000 is supported as the symbol rate in V.34 communication or not.

SW58 No.4 V.34 2800 (baud) Rate Mask

Used to set whether 2800 is supported as the symbol rate in V.34 communication or not.

SW58 No.5 Inhibited to use

SW58 No.6 V.34 2400 (baud) Rate Mask

Used to set whether 2400 is supported as the symbol rate in V.34 communication or not.

SW58 No.7, No.8 Inhibited to use

SW59 No.1 –No.8 Inhibited to use

SW60 No.1 –No.4 Inhibited to use

SW60 No.5 Countermeasures against V.34 communication error (reception) (Phase 2 error retry setup)

Improves and controls error retry in phase 2 of V.34 reception.
Default: 0 (NO)

SW60 No.6 Countermeasures against V.34 communication error (transmission) (Phase 2 error retry setup)

Improves and controls error retry in phase 2 of V.34 transmission.
Default: 0 (NO)

SW60 No.7, No.8 Inhibited to use

SW61 No.1 –No.8 Inhibited to use

SW62 No.1 –No.8 Inhibited to use

SW63 No.1 –No.8 Inhibited to use

SW64 No.1 –No.8 Inhibited to use

SW65 No.1 –No.8 Inhibited to use

SW66 No.1 –No.8 Inhibited to use

SW67 No.1 –No.4 Setup of make rate (10PPS)

Used to set the make rate when dialing at 10PPS.

The set range of N is 0 to 15 in binary input for the make rate of (N +26 ms), which ranges from 26 to 41 ms.
Default: 40 ms

SW67 No.5 –No.8 Inhibited to use

SW68 No.1 –No.4 Inhibited to use

SW68 No.5 –No.8 T1 timer setup

Used to set time-out time from phase B to detection of signal.

T1 time-out time is set in the range of 30 – 105sec (in the increment of 5sec).
Default is 40sec.

SW69 No.1 –No.8 Inhibited to use

SW70 No.1 –No.8 Inhibited to use

SW71 No.1, No.2 Dial ringing wait time

Used to set wait time from connection of the line to start of dial ringing.

When ringing is made without detecting dial tone, ringing is made after setting this time.

When set to 0 0, ringing is made after 3.5sec.

When set to 0 1, ringing is made after 4sec.

When set to 1 0, ringing is made after 5sec.

When set to 1 1, ringing is made after 6sec.

Default: 0 0 (Ringing after 3.5sec)

SW71 No.3 –No.6 Inhibited to use

SW71 No.7, No.8 Silent detection level

Used to set the judgment level of silence.

When set to 0 0, –43dBm or less is judged as silence.

When set to 0 1, –40dBm or less is judged as silence.

When set to 1 0, –39dBm or less is judged as silence.

Default: 0 0 (–43dBm or less is judged as silence.)

SW72 No.1 EYE-Q check

Used to set whether TCF is checked or not in TCF reception.

When set to 1, check is made only with EQM value. Therefore, TCF check becomes loose.

When set to 0, check is made both with received data and EQM value.

Default: 0 (check is made both with received data and EQM value.)

SW72 No.2 –No.8 Inhibited to use

SW73 No.1 –No.6 Inhibited to use

SW73 No.7, No.8 DIS reception process selection in reception

Used to set the process when DIS is received.

When set to 0 0, it is judged as reception of echo and the command is sent again.

When set to 0 1, the line is disconnected as improper DIS.

When set to 1 0, if DIS is the receiver machine and there are some accumulated documents, bulletin transmission is made. In other cases, it is judged as reception of echo and the command is sent again.

When set to 1 1, if DIS is the receiver machine and there are some accumulated documents, bulletin board is transmitted. If DIS is the transmitter machine, it is judged as reception of echo and the command is sent again. In the other cases, it is judged as improper DIS and the line is disconnected.

Default: 0 0 (Judged as reception of echo, and the command is sent again.)

SW74 No.1 –No.4 Print lead edge adjustment (Lead edge adjustment)

Setup of print image area void

The quantity of lead edge void in sub scan direction can be adjusted. When the set value is increased, the lead edge void is increased.

Setup of SIM 50-9 is reflected.

SW74 No.5 –No.8 Print lead edge adjustment (Rear edge adjustment)

Setup of print image area void

The quantity of lead edge void in sub scan direction can be adjusted. When the set value is increased, the lead edge void is increased.

Setup of SIM 50-9 is reflected.

SW75 No.1, No.2 Transmission end sound (Buzzer sound length) setup

Setup of the length of buzzer sound indicating the completion of transmission.

Setup is selected from 3sec, 1sec, and silent as follows:

    bit   1   2
           0   0   : 3sec
           0   1   : 1sec
           1   0   : Silent
           1   1   : Similar to the setup of 3sec.

Default: 0 0 (3sec)

SW75 No.3, No.4 Reception end sound (Buzzer sound length) setup

Setup of the length of buzzer sound indicating the completion of transmission.

Setup is selected from 3sec, 1sec, and silent as follows:

    bit   3   4
           0   0   : 3sec
           0   1   : 1sec
           1   0   : Silent
           1   1   : Similar to the setup of 3sec.

Default: 0 0 (3sec)

SW75 No.5 –No.8 Print lead edge adjustment (Left edge)

Setup of print image area void

The quantity of left edge void in main scan direction can be adjusted. When the set value is increased, the image void becomes greater.

Setup of SIM 50-9 is reflected.

SW76 No.1 –No.8 Scan magnification ratio adjustment OC (main scan)

The magnification ratio in main scan direction of OC scan is adjusted.

Setup of SIM 48-8 is reflected.

SW77 No.1 –No.8 Scan magnification ratio adjustment OC (sub scan)

The magnification ratio in sub scan direction of OC scan is adjusted.

Setup of SIM 48-8 is reflected.

SW78 No.1 –No.8 Print magnification ration adjustment (main scan)

The magnification ratio in main scan direction when printing is adjusted.

Setup of SIM 48-9 is reflected.

SW79 No.1 –No.8 Print magnification ration adjustment (sub scan)

The magnification ratio in sub scan direction when printing is adjusted.

Setup of SIM 48-9 is reflected.

SW80 No.1 –No.4 Scan effective image area (OC) Sub scan Rear edge image loss

Setup of image loss in OC scan image area

The quantity of image loss at the rear edge in sub scan direction can be adjusted. When the set value is increased, the image loss quantity at the rear edge is increased.

The set value of SIM 50-8 is reflected.

SW80 No.5 –No.8 Scan effective image area (SPF) Sub scan Rear edge image loss

Used to set image loss in SPF scan image area.

The quantity of image loss at the rear edge in sub scan direction can be adjusted. When the set value is increased, the image loss quantity at the rear edge is increased.

The set value of SIM 50-8 is reflected.

SW81 No.1 –No.4 Destination information

Destination setup

SW81 No.5 –No.8 Language information

Language setup

SW82 No.1 –No.8 Scan magnification ratio adjustment SPF (main scan)

SPF scan main scan magnification ratio setup

Setup of SIM 48-8 is reflected.

SW83 No.1 –No.8 Scan magnification ratio adjustment SPF (sub scan)

SPF scan sub scan magnification ratio setup

Setup of SIM 48-8 is reflected.

SW84 No.1, No.2 On-hook speaker volume

The speaker volume is set when on-hook.

SW84 No.3 –No.8 On-hook pattern number

Pattern of sound volume (Large/Medium/Small) when on-hook.

Refer to SIM 66-37.

SW85 No.1, No.2 Line monitor speaker volume

Used to set the line sound volume from the speaker in FAX transmission.

SW85 No.3 –No.8 Line monitor pattern number

Pattern of line monitor sound volume (Large/Medium/Small)

SW86 No.1, No.2 Ringing volume

Used to set the ringing sound volume.

SW86 No.3 –No.8 Ringing pattern number

Pattern of ringing sound volume (Large/Medium/Small)

SW87 No.1, No.2 Speaker volume in DTFM send

Used to set the volume of transmission sound and DTMF sound from speaker when pressing on-hook button.

SW87 No.3 –No.8 Pattern number in DTFM send

Pattern of sound volume (Large/Medium/Small) when sending DTMF

SW88 No.1, No.2 Speaker volume at scanner scan end

Used to set the volume of scan end sound from the speaker when scan is completed.

SW88 No.3 –No.8 Pattern number in scanner scanning

Pattern of sound volume (Large/Medium/Small) when scan is completed.

SW89 No.1, No.2 Speaker volume of communication end sound

Used to set the volume of communication end sound from the speaker when communication is completed.

SW89 No.3 –No.8 Pattern number of communication end sound

Pattern of sound volume (Large/Medium/Small) of communication end

SW90 No.1 –No.8 Inhibited to use

SW91 No.1 –No.8 Inhibited to use

SW92 No.1 –No.8 Inhibited to use

SW93 No.1 –No.8 Inhibited to use

SW94 No.1 –No.8 Inhibited to use

SW95 No.1 –No.8 Inhibited to use

SW96 No.1 –No.8 Inhibited to use

SW97 No.1 –No.8 Inhibited to use

[7] KEY OPERATOR PROGRAM

1. List

Function setup	Program name	Soft SW setup	Program function (Outline)
List output, setup	List output	No	Key operator list, confidential ID list, reception rejection number list, F code setup check list, department code table, and department management record table are printed.
	Communication result table print	SW30-8 SW31-1 – 8	This setup is made to print the communication result (normal completion or communication error) after completion of communication (normal transmission, broadcasting, reception, confidential reception).
	The content of document is printed in case of a communication error.	SW1-7	This setup is made to print data (which were tried to be sent) under the result table in case of a communication error.
	Recording table print	SW47-1 – 5 SW48-1 – 6 SW49-1 – 5 SW50-1 – 6 SW19-7, 8	This setup is made to print all the previous communication data at the specified time.
Initial setup	Dial ring signal setup	SW41-1, 2	Used to set the kind of telephone line connected to this machine.
	Pause time	SW38-1 – 4	Used to set the pause time between destination numbers.
	Sender registration	SW10-2	Used to register the telephone number and the sender's name to use this machine.
	Sound volume	SW84-1, 2 SW85-1, 2 SW86-1, 2	Used to set when on-hook volume, ringing volume, and line monitor volume are adjusted.
	External telephone connection	SW16-2	Used to set connection of external telephone.
	Remote switch number	SW2-1 – 8 SW8-5	Used to set when remote switch number is changed in order to enter FAX reception mode from external telephone mode.
	Department management	SW30-4	Used to set department management.
	Department number	No	Used to register department codes and department names in department management.
	Date, time	No	Used to set date and time of the clock built in the machine.
	Distinctive ring	SW32-1 – 4	The function judges TEL or FAX by CI ringing.
	Daylight saving tive	SW46-5	Used to set Enable/Disable of Daylight saving time.
Send function setup	Send image quality, density	SW3-1 – 5	Used to set image quality and density under the standard state of FAX mode.
	Automatic reduction transmission	SW1-6	Used to set to reduce document images according to the recording paper size of the other party.
	Rotation transmission	SW16-5, 6	Used to set whether document placed longitudinally is transmitted laterally or transmitted by rotating reversely. (Rotation transmission setup is available for letter size, not available for B5R/A5R.)
	Page number print	SW33-1	Used to set to print page number on the top of paper in the other party.
	Default transmission setup	SW8-1	Used to set the transmission mode under the standard state to memory send or direct send.
	Quick online	SW9-3	Used to set memory send or quick online send when transmission mode is memory send.
	Date/sender print position	SW30-7	Used to set print position of date and sender at the top of recording paper of the other party.
	Department name notification	SW30-6	Used to set whether document placed longitudinally is transmitted laterally or transmitted by rotating reversely.
	Recall when the other party is busy.	SW4-5 – 8 SW40-5 – 8	Used to set the recall interval and the number of times of recalls when the line is busy.
	Recall in case of a transmission error	SW4-1 – 4 SW40-1 – 4	Used to set resend interval and the number of times of resending when a communication error occurs during transmission.
	Call time in automatic send	SW39-1 – 3	Used to set the time up to disconnection of line when the other party does not respond to calling made by automatic dialing of registered number in this machine.
	Cover function default setup	SW35-1	Used to set whether the cover is added or not when transmitting.

Function setup	Program name	Soft SW setup	Program function (Outline)
Reception function setup	Number of times of automatic reception call	SW29-5 – 8	Used to set the number of times of calls until reception is started in automatic reception state.
	Reception data print tray	SW27-2 – 5	Used to set recording paper tray for printing reception data]
	Reception data print condition	SW17-2 – 3	Used to set whether reduction print is made or divided print is made when there is no paper of the same size as the received image.
	Automatic reduction print in a fixed size	SW24-8	Used to set whether reduction print is made or not according to the size of paper set in the tray when data of greater size than the size of paper set in the tray.
	Reception data transfer	SW38-7	Used to set data transfer to the telephone number registered in this program when image data received in the memory of this machine cannot be outputted.
	Registration of telephone number to transfer reception data	No	The FAX number to be transferred is registered.
	Index print	SW32-6	Used to set whether a black mark (index) is printed at the top of recording paper.
	Reception data override	SW18-8	Used to set to print the latter data prior to the former data when printing of the former data is in standby state due to recording paper empty, etc. and the latter data are ready to print.
	Output method when A3 width reception (Inch series)	SW18-6	Used to set whether an image of 297mm width is reduced and printed or an image of 11" width is printed without reduction on paper of 11" width when an image of A3 width is received.
	Specified number reception	SW24-3	Used to set ON/OFF of the function to reject FAX reception from a registered number.
Special function setup	Polling protection	SW1-5	Used to set the protection function when transmission is made by receiving polling.
	Registration of polling allow number	No	Used to register or delete the other party's number for transmission by polling.
	ID number registration	No	Used to set the system number of the other party's machine.
	System number registration	No	Used to set for registration of the system number of this machine.
	Relay ID code registration	SW13-8	Used to set for registration of the relay broadcast transmission allow number from the transmission station.
	Confidential box registration	No	Used to set for registration of the confidential box number and password of confidential reception.
	F code confidential box registration	No	Used to set for registration of memory box for F code confidential reception.
	Registration of F code relay group	No	Used to set for registration of memory box for F code relay reception.
	Registration of F code bulletin board	No	Used to set for registration of memory box for F code bulletin board transmission.

2. Operating procedure

The key operator program can be set from all the modes (copy, FAX, printer, scanner). When setup is completed, the mode returns to the original mode.

Note:

• When the key operator program is used, send/receive of FAX cannot be made.

• The key operator program cannot be used during send/receive of FAX or during communication.

A. Common procedures

1) Press [SPECIAL FUNCTION] key.
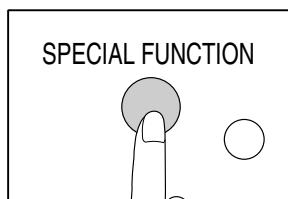
2) Select the key operator program with [UP] [DOWN] keys, and press [OK] key.
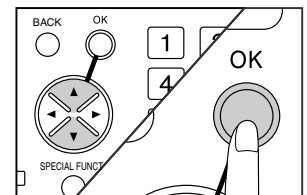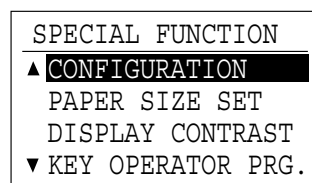
3) Enter the key operator code.

• Enter a code of 5 digits and go to step 4).

• When a code is entered, "-" is changed to "*."

• When an erroneous key is pressed, press [CLEAR] key and enter the correct entry again.

4) Select FAX with [UP] [DOWN] keys, and press [OK] key.
   - Select COPY, and the key operator program in the copy mode can be set.

SELECT MODE
▲   COPIER
    FAX
▼   TOTAL EMPLOYED
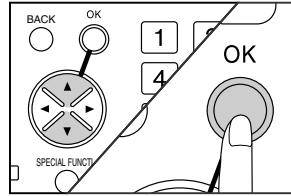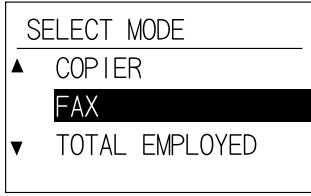
5) Perform setup of each program according to the description in the following pages.
   - Set and register the program for setup of the following functions. List output/setup, initial setup, transmission function setup, reception function setup, special function setup
6) When setup is completed, press [CA] (Clear All) key.
   - Terminate the key operator program.

Press [BACK] key to return to the previous screen.

To terminate each program, press [CA] (Clear All) key.

B. List output

1) Perform common operating procedures up to step 4).
2) Select "List output/Setup" with [UP] [DOWN] keys and press [OK] key.
3) Select "List output" with [UP] [DOWN] keys and press [OK] key.
4) Select a list name to output with [UP] [DOWN] keys and press [OK] key.
   - Select among Key operator table, Confidential ID table, F code setup check table, Department code table, and Department management record table *.
   - When the key operator program is terminated, print is started.
   * This item is displayed on the list only when department management is set to ON (Effective) in the initial setup of the key operator program.

Key operator list	Used to print the current setup conditions of key operator program.
Confidential ID table	Used to print the contents of confidential box registration (confidential box number, confidential box name, ID number).
F code setup check table	Used to print the contents of F code confidential box registration, F code relay group registration, and F code bulletin board registration.
Department code table	Used to print registered numbers, department names, and department numbers.
Department management record table	Used to print communication time and communication pages in each department.
Anti Junk list	The reception rejection telephone number list is printed.

(3) Print method of record table

1) Press [SPECIAL FUNCTION] key in the FAX mode.
2) Select "PRINT" with [UP] [DOWN] keys, and press [OK] key.
3) Select "Record table" with [UP] [DOWN] keys, and press [OK] key.
4) Select a record table name to be printed with [UP] [DOWN] keys, and press [OK] key.
   - Print reservation is made and print is made automatically.
   - Printable record table
     Communication record table, communication reservation table, document load check table, speed dial table, rapid dial table, group table, telephone number table, program table, relay group table, ID sender table, confidential reception check table

When [CA] key is pressed in the record table selection screen, the display returns to the initial screen. When [BACK] key is pressed, the display returns to the print selection screen of step 3).

The communication record table can be automatically printed by specifying time to print. Specification of print time can be set by the key operator program up to 2 times per day.

[8] FLASH ROM VERSION UP PROCEDURE

(Items necessary for upgrade)

A Personal computer

B RS232C Cross cable (D-sub 9pin to D-sub 9pin, or D-sub 25pin to D-sub 9pin)

C Software for upgrade

(Type of ROM)

Flash ROM is directly attached to each PWB

(Targeted PWBs)

1 MCU-PWB

2 FAX-PWB

Diagrammatic sketch for upgrade method

(Personal computer)

(AR-235/275)
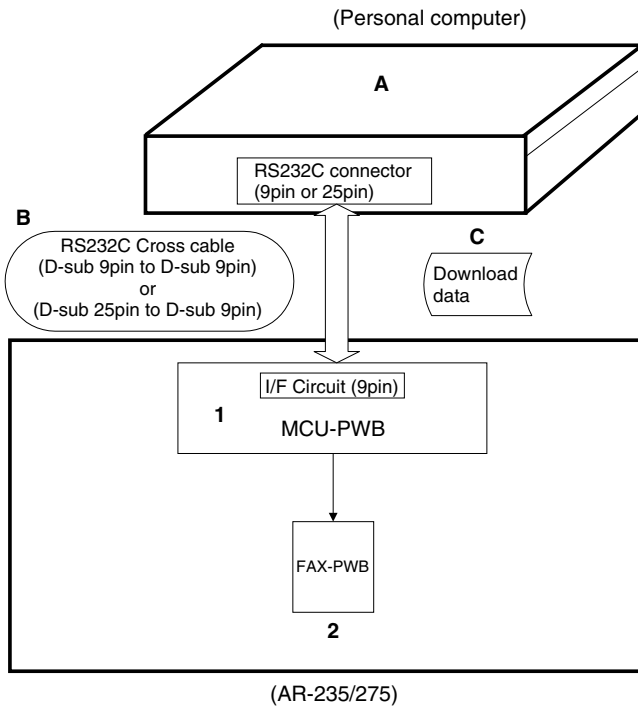
(Files necessary for download)

- Maintenance program: mainte.exe
- Loader files
  - IMC loader file: imcbios.cvt
  - FAX loader file: faxbios.cvt

The maintenance program performs downloading of the following program:

- FAX program download

Note: The downloaded files such as Printer Control Board file should be copied in the same folder as that of the maintenance program.

1. Program download procedure (Main body program, FAX program)

Follow the procedure below to download the main body program and the FAX program:

1) Preliminary procedure: Connect PC and the main body with the download cable (RS-232C cable).

2) PC side: Boot the maintenance program.

3) Main body side: Turn on the power of LEOPARD, and it enters the download mode.

4) PC side: Check that the tree structure is displayed on the maintenance program.

   ∗ Be sure to perform step 2) before turning on the power.
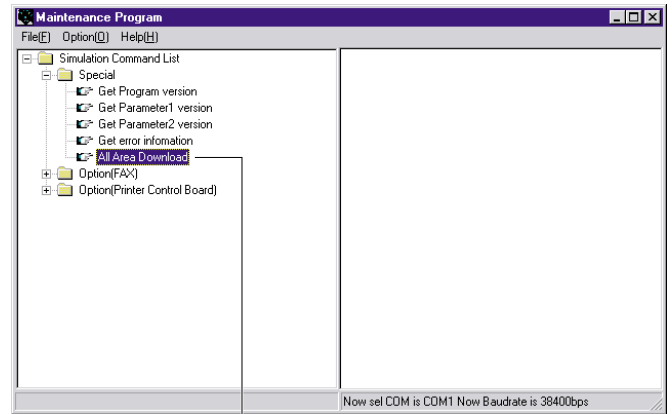
When the tree is displayed, downloading can be performed. (Double-click to perform.)

5) PC side: Double-click Special in the main tree items to extend the sub tree items, then double-click All Area Download.

6) PC side: The maintenance program asks the file name. Specify a download file (*.dat).

   Download file:

   - leopXXXX.dat: File for collective download (IMC, FAX)
     XXXX: Release version (Leop0114.dat, etc.)

7) PC side: When a download file is specified, the downloading procedure advances automatically.

   Time required for downloading is as follows:

   - Main body program download time: About 5 min
   - FAX program download time: About 5 min

8) PC side: When the message below is displayed, downloading is completed.

   End message: Download Complete

9) After-process: Terminate the maintenance program, and turn off and on the power of the main body.

With the above procedures, downloading is completed.

2. Others (Error list)

The list below describes errors occurring during download and countermeasures.

No	Error message	Descriptions
01	COM Port Open Error !	This error message is displayed when a COM port which is disabled is selected or when there is an abnormal COM port.
		[Countermeasures] Select another COM port which is enable. Check if there is any software which is using the COM port.
02	TimeOut Error !	This error message is displayed when no response is sent back from the remote party for 10 sec.
		[Countermeasures] Once reset the maintenance software and the machine, then download again.
03	Receive Error !	This error message is displayed when data received from the remote party are abnormal.
		[Countermeasures] Once reset the maintenance software and the machine, then download again.
04	Panel Size Error !	This error message is displayed when the download file size is specified to 8MB though the machine panel is of 4MB size.
		[Countermeasures] Specify a download size suitable for the machine panel size, and download again.
05	Destination Error !	This error message is displayed when the destination of the machine panel does not coincide with that of the download file.
		[Countermeasures] Specify the download file suitable for the destination of the machine panel, and download again.
06	Printer Control Board FirmWare Download Send Error !	This error message is displayed when an error occurs during downloading of the printer control board firmware.
		[Countermeasures] Execute SIM 67-14 on the machine panel to check that "Please Send Data" is displayed, and download again.

[9] TROUBLE CODE LIST

1. Machine trouble codes

Trouble code			Details of trouble
Main code	Sub code		
F6	00	Content	F6-**: MCU-FAX communication trouble
		Detail	Communication setup error/framing/parity/protocol error
		Cause	FAX control PWB connector disconnection Defective harness between FAX control PWB and MCU PWB Motherboard connector pin breakage FAX control PWB ROM error/Data error
		Check and remedy	Check connector/harness of FAX control PWB and MCU PWB. Check the grounding of the copier. Check FAX control PWB ROM.
	10	Content	FAX control PWB trouble
		Detail	Communication trouble between MCU and FAX control PWB
		Cause	FAX control PWB connector disconnection Defective harness between FAX control PWB and MCU PWB Motherboard connector pin breakage FAX control PWB ROM error/Data error
		Check and remedy	Check connector/harness of FAX control PWB and MCU PWB. Check the grounding of the copier. Check FAX control PWB ROM.
	80	Content	FAX control PWB communication trouble (Protocol)
		Detail	Communication trouble between MCU and FAX control PWB (Protocol error)
		Cause	FAX control PWB connector disconnection Defective harness between FAX control PWB and MCU PWB Motherboard connector pin breakage FAX control PWB ROM error/Data error
		Check and remedy	Check connector/harness of FAX control PWB and MCU PWB. Check the grounding of the copier. Check FAX control PWB ROM.
	81	Content	FAX control PWB communication trouble (Parity)
		Detail	Communication trouble between MCU and FAX control PWB (Parity error)
		Cause	FAX control PWB connector disconnection Defective harness between FAX control PWB and MCU PWB Motherboard connector pin breakage FAX control PWB ROM error/Data error
		Check and remedy	Check connector/harness of FAX control PWB and MCU PWB. Check the grounding of the copier. Check FAX control PWB ROM.

Trouble code			Details of trouble
Main code	Sub code		
F6	82	Content	FAX control PWB communication trouble (Over-run)
		Detail	Communication trouble between MCU and FAX control PWB (Overrun error)
		Cause	FAX control PWB connector disconnection Defective harness between FAX control PWB and MCU PWB Motherboard connector pin breakage FAX control PWB ROM error/Data error
		Check and remedy	Check connector/harness of FAX control PWB and MCU PWB. Check the grounding of the copier. Check FAX control PWB ROM.
	84	Content	FAX control PWB communication trouble (Framing)
		Detail	Communication trouble between MCU and FAX control PWB (Framing error)
		Cause	FAX control PWB connector disconnection Defective harness between FAX control PWB and MCU PWB Motherboard connector pin breakage FAX control PWB ROM error/Data error
		Check and remedy	Check connector/harness of FAX control PWB and MCU PWB. Check the grounding of the copier. Check FAX control PWB ROM.
	88	Content	FAX control PWB communication trouble (Timeout)
		Detail	Communication trouble between MCU and FAX control PWB (Timeout error)
		Cause	FAX control PWB connector disconnection Defective harness between FAX control PWB and MCU PWB Motherboard connector pin breakage FAX control PWB ROM error/Data error
		Check and remedy	Check connector/harness of FAX control PWB and MCU PWB. Check the grounding of the copier. Check FAX control PWB ROM.
	99	Content	Machine-FAX board language error
		Detail	The machine language setup does not coincide with the FAX board language setup.
		Cause	FAX board correction error SIM setup error
		Check and remedy	Check the firmware of the FAX board and the combination of the panel screen data, and download the correct version, if necessary. Check the machine language information. (Machine language setup:SIM 26-22)

2. Communication result code

Described on the communication report table, the communication management table, and the protocol communication report table when communication is completed.

A. Composition of communication report code

Communication result X X   (X X X X)

Upper 2 digits of a communication result code: Communication report code of 00 - 90 (Refer to the list of communication report codes.)

Lower 4 digits of a communication result code: Codes used by serviceman.

Top 2 digits	Communication report sub code 1 (Refer to the list of communication sub code 1.)
Bottom 2 digits	Communication report sub code 2 (Refer to the list of communication sub code 2.)

Note) Communication report sub code 1 and sub code 2 are in hexadecimal. (The others are in decimal.)

<Communication result code list>

Result code	Final reception signal (Transmitting side)	Final reception signal (Receiving side)
0	Abnormal signal	Abnormal signal
1	NSF, DIS	(SID), (SUB), NSS, DCS
2	CFR	(PWD), (SEP), NSC, DTC
3	FTT	EOP
4	MCF	EOM
5	PIP, PIN	MPS
6	RTN, RTP	PRI-Q
7	No signal, DCN	DCN
8	PPR	PPS-EOP
9		PPS-EOM
10		PPS-MPS, PPS-NULL
11	RNR	RR
12	CTR	CTC
13	ERR	EOR-Q
14		PPS-PRI-Q
15		
16	Abnormal signal	Abnormal signal
17	NSF, DIS	SID, SUB, NSS, DCS
18	CFR	PWD, SEP, NSC, DTC
19	FTT	PPS-EOP
20	MCF	PPS-EOM
21	PIP, PIN	PPS-MPS, PPS-NULL
22	RTN, RTP	PRI-Q
23	No signal, DCN	DCN
24	PPR	
25	RNR	RR
26	CTR	CTC
27	ERR	EOR-Q
28		PPS-PRI-Q
29	V.8 Phase-1	V.8 Phase-1
30	V.8 Phase-2	V.8 Phase-2
31	V.8 Phase-3	V.8 Phase-3

(Note) For result codes 16 - 31, V.34 mode communication.

For 32 or later, refer to the table below.

<Communication result code list>

Result code (Communication result)	Communication report result column	Communication interruption content
0 – 31	Refer to the previous table.	Depends on the communication disconnection position. For 16 or later, V.34 mode communication.
33	Busy	The calling side cannot connect the line with the other party.
34	Cancel	When a communication interruption command is delivered during transmission or reception, <Send/Receive/Poll/Bulletin> When the operation is interrupted by the stop key.
35	Power OFF	When the power is cur off during sending or receiving, <Send/Receive/Poll/Bulletin>
38	Reception memory over	When memory is over during reception, <Receive/Poll>. When printing cannot be performed during reception due to inhibition of proxy reception, <Receive/Poll>
42	Reception length over	When the received data length of one page exceeds the range during reception, <Receive/Poll>
44	Document error	When a document jam occurs during direct transmission, <Send>
46	No response from the other party	When the FAX signal from the other party is not detected within T1 time, <Send/Poll>
48	OK	Communication normal end
49	The other party has no polling function.	When the called side has no polling function in polling reception, <Poll> When the called side has no transmission data, <Bulletin>
50	Polling is not accepted.	When DCN is received for DTC in polling reception, <Poll> When there is no transmission data in polling transmission, <Bulletin>
51	Polling allow number discrepancy	When the allow number does not coincide in polling transmission, <Bulletin> When the system number does not coincide in polling transmission, <Bulletin>
56	Interface not accepted	1) When DCN is received for NSS in transmission of the relay instruction, <Send> 2) When a receiving station number that is not registered is instructed in reception of the relay instruction, <Receive> 3) When F code relay instruction is received during F code relay broadcasting, <Receive>

Result code (Communication result)	Communication report result column	Communication interruption content
59	The other party has no function of F code bulletin board.	When the other party machine does not have DIS bit 47 (Selective polling function) in F code polling (ringing), <Poll>
60	F code polling is not accepted.	When DCN is received for SEP in F code polling (ringing), <Poll> When there is no transmission data for SEP in bulletin board, <Bulletin>
61	F code bulletin board number discrepancy	When the sub address (bulletin board number (SEP)) does not coincide in bulletin board, <Bulletin>
62	F code bulletin board password discrepancy	When the pass code (PWD) does not coincide in bulletin board, <Bulletin>
63	The other party has no function of F code.	When the other party machine does not have DIS bit 49 (sub address capacity) in F code transmission, <Send>. Check that the other party machine conforms to F code.
64	F code is not accepted.	When F code is transmitted, <Send> 1) When DCN is received for SUB, check the BOX number. 2) When DCN is received for SID, check BOX number and the pass code. When F code is received, <Receive> When the F code relay broadcast function or the F code confidential reception function is inhibited with soft switches.
67	F code password discrepancy	When the pass code (SID) does not coincide in F code reception, <Receive>
68	BOX NO. NG	When a BOX number that is not registered is instructed (SUB discrepancy) in F code reception, <Receive>

- When communication result is OK, the communication result sub code 1 and sub code 2 are 0000.
- < > indicates the communication means. <Send>, send; <Receive>, receive; <Poll>, polling; <Bulletin>, bulletin board

The status code from the modem in V.34 mode is indicated with the communication result sub code 1 (top 2 digits). However, the communication sub code 1 is 00 in communication other than V.34 mode.

<Communication result sub code list 1>

Code (Hexadecimal)		Descriptions
21	Phase 2	Timeout standby for INFO0
22		Check sum error in INFO0
23		Timeout standby for tone A or B
24		Timeout standby for the first phase reversion
25		Timeout standby for cut off tone probing
26		Timeout standby for the second phase reversion
27		Timeout standby for probing end
28		Timeout standby for the third phase reversion
29		Timeout standby for INFO1
2A		Check sum error in INFO1
2B		Tone found before INFO1
2C		Unexpected INFO0 found
31		Timeout standby for turning off the reception control channel
91	Control channel	Error in the first CC train
92		Timeout standby for PPh
93		Tone A/B detected in CC retrain
94		Timeout standby for ALT
95		Ach found
97		Timeout standby for turning off CC
98		FED OFF with CC data
A1		A trouble which cannot be solved in phase 2. Retrain is forcibly made.
B0	Primary channel resync	Trouble in S sequence of HDX-resync
B1		FED OFF in S sequence of HDX-resync
B2		Unexpected completion of S sequence in HDX-resync
B3		Timeout standby for S-Sbar in HDX-resync
B4		Timeout standby for S-Sbar in HDX-resync
B5		Timeout standby for S in HDX-resync
B6		Timeout for sync with PP
C0	Phase 3	Trouble in S sequence of phase 3
C1		FED OFF in S sequence of phase 3
C2		Unexpected completion of S sequence
C3		Timeout standby for S-Sbar of phase 3
C4		Timeout standby for S-Sbar of phase 3
C5		Timeout standby for S of phase 3
C7		Training due to TRN failure
D0	Phase 4	Trouble in S sequence of phase 4
D1		FED OFF in S sequence of phase 4
D2		Unexpected completion of S sequence
D3		Timeout standby for S-Sbar of phase 4
D4		Timeout standby for S-Sbar of phase 4
D5		Timeout standby for S of phase 4
D6		Timeout standby for MP
D8		Timeout standby for E
DA		Timeout at renegotiation of the transmitter rate
DB		Timeout at MPh of the transmitter

Code (Hexadecimal)		Descriptions
E2	Retrain	Retrain detected in phase 2
E3		Retrain detected in phase 3
E4		Retrain detected in phase 4
FE		DTR OFF in retrain
FF		TX setup port flag
71		Writing is not made to the first mapping frame.
96	Clear down	PSTN clear down request is made.
61	HDLC	The transmitter sends HDLC abort in underflow state.

\<Communication result sub code 2\>

Result code 2	Communication interruption content	Transmission/ Reception
02	EOL time over	Reception
03	Carrier detection time over	Reception
05	Time-up in phase C (8min)	Transmission
06	Memory image decoding error	Reception
07	Memory image decoding error	Transmission
11	Polarity reversion detection	Reception
12	Invalid command reception	Reception
13	Time over (1min timer/6sec timer)	Reception
14	PUT error	Reception
20	Polarity reversion detection	Transmission
21	Invalid command reception	Transmission
22	Fall back retry number over	Transmission
23	Resend over of the number of times of command retry	Transmission
24	Time over (T5 timer)	Transmission
25	Time over (T5 timer) in V.34 mode	Transmission
26	Time over occurrence during shift from Primary to Control in V.34 mode	Transmission
28	Modem chip answering NG	Transmission/ Reception

3. List of buzzer sounds in case of FAX abnormality

– : Long sound   • : Single sound   3: ☐ Pause

Example: In case of TEL/LIU connection abnormality
{{– •   • • • •} repeats {Pee • pi • pause • pi • pi • pi • pi}.

Beep sound pattern	Information content	Detail	Trouble content
– • • •	Expanded memory connection abnormality	Expanded memory insertion abnormality	Expanded memory reinsertion
– • • • •	Internal DMA transfer abnormality	Internal DMA transfer operation abnormality	PWB solder trouble, PWB parts trouble
– • • • • •	TEL/LIU PWB connection abnormality	TEL/LIU PWB is not connected to the main PWB.	
– • • •	Program ROM (main section) writing not completed	Program ROM (main section) data abnormality	Download retry
– • • • •	Program ROM (font section) writing not completed	Program ROM (font section) data abnormality	Download retry
– • • • •	Work DRAM (IC13, 14) abnormality	Work DRAM abnormality	IC13, 14: PWB solder trouble, PWB parts trouble
– • • • • •	SRAM (IC41) abnormality 1		IC41: PWB solder trouble, PWB parts trouble
– • • • • • •	SRAM (IC41) abnormality 2		IC41: PWB solder trouble, PWB parts trouble
– • – –	MCU upload no responding	MCU PWB does not respond.	MCU PWB - main PWB connection
– • • –	System abnormality 1	Various internal operation abnormality	PWB solder trouble, PWB parts trouble
– • • • –	System abnormality 2	Various internal operation abnormality	PWB solder trouble, PWB parts trouble

[10] ELECTRICAL SECTION

1. Block diagram

A. Main block diagram
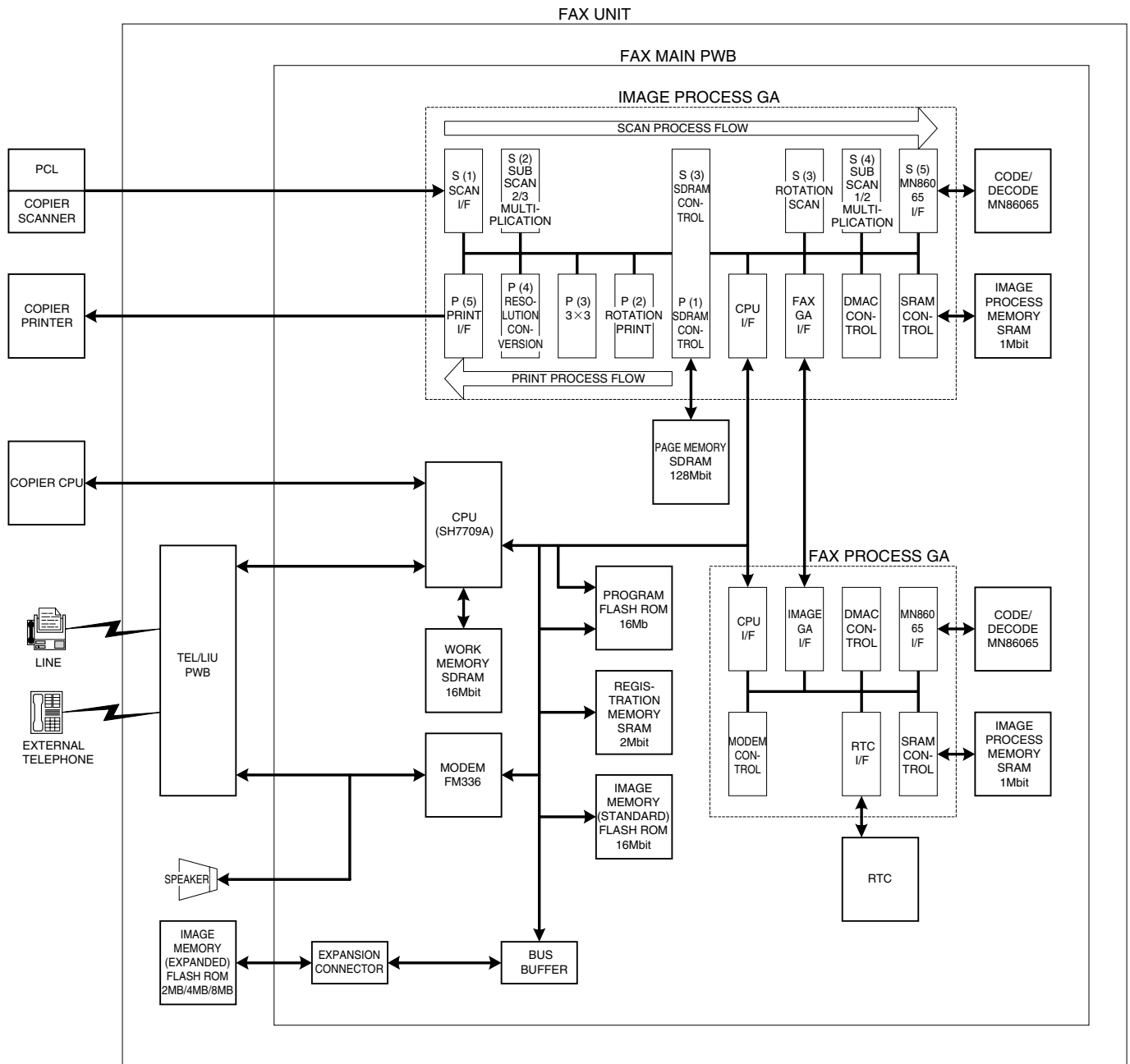
B. TEL/LIU PWB block diagram
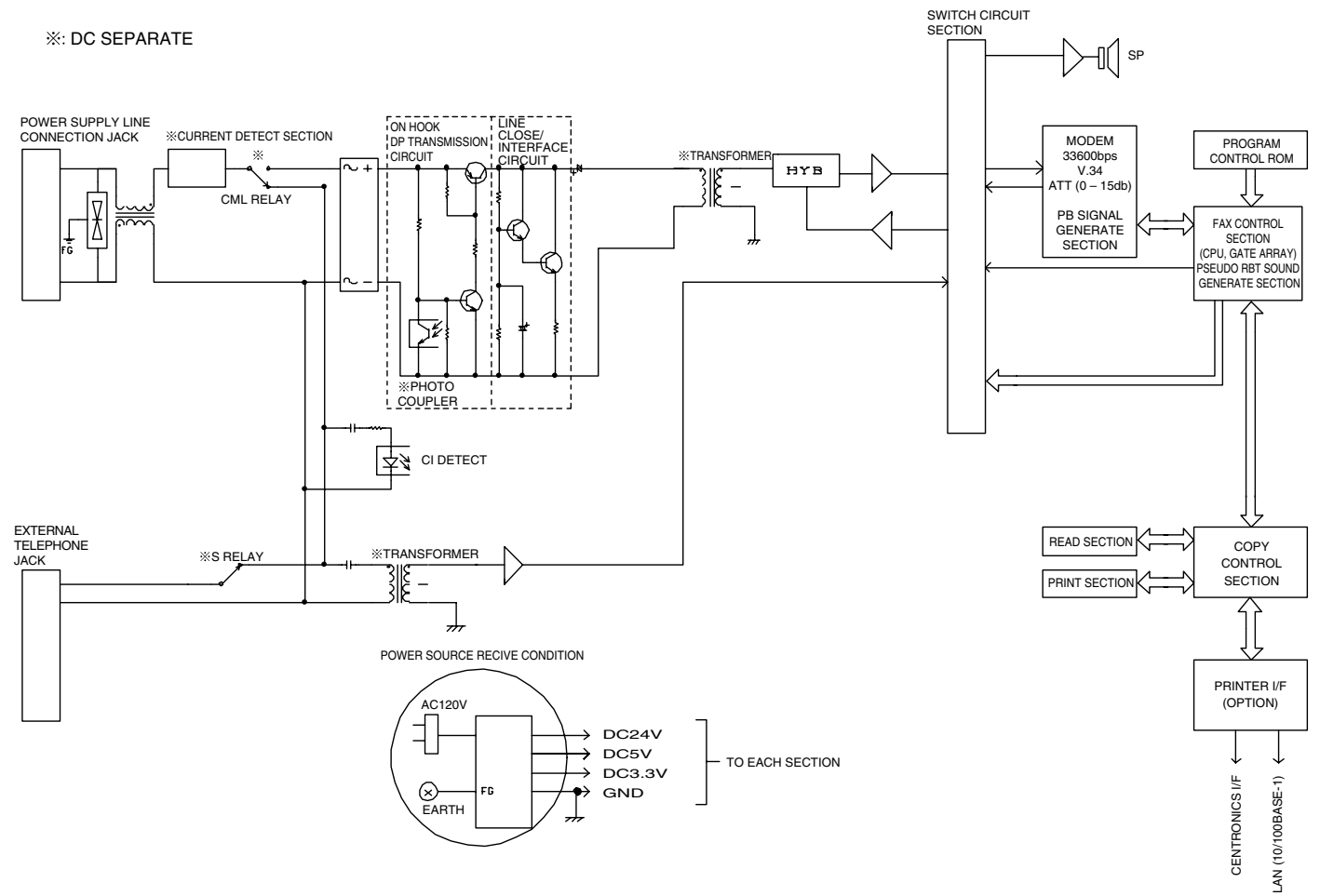
FAX MAIN PWB (CPU)

1/10

FAX MAIN PWB (FLASH)

FAX MAIN PWB (SRAM)

FAX MAIN PWB (MCU I/F)
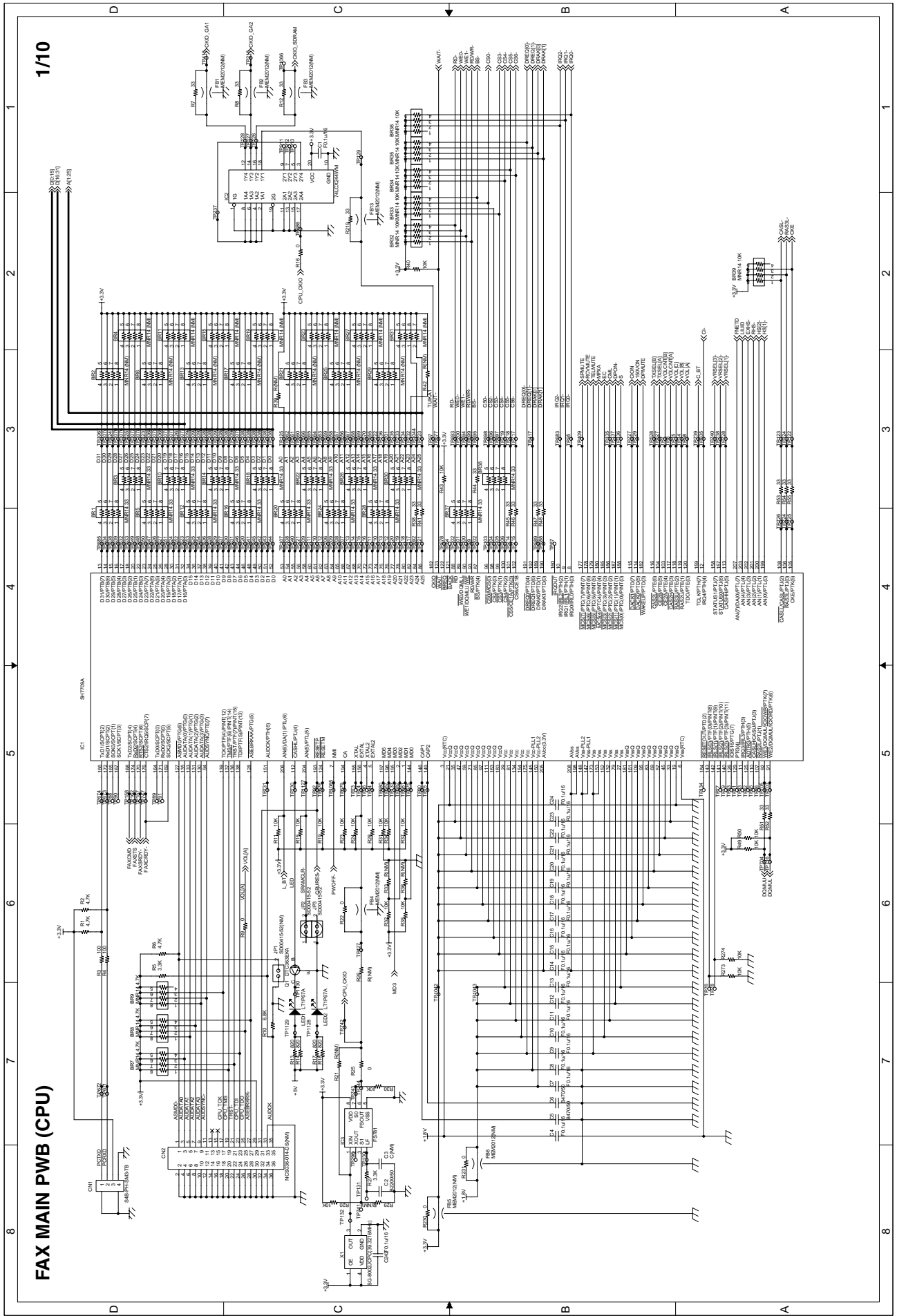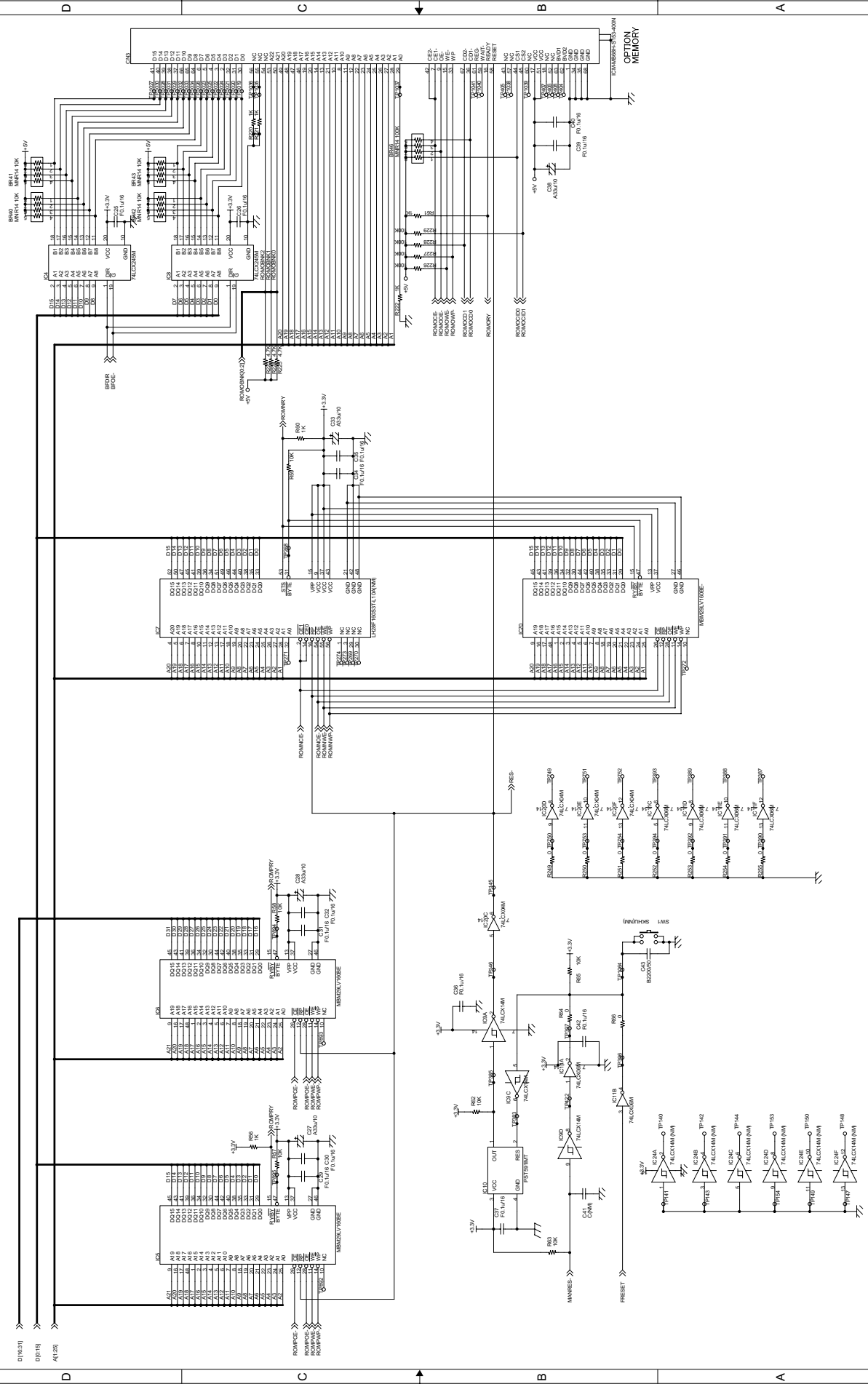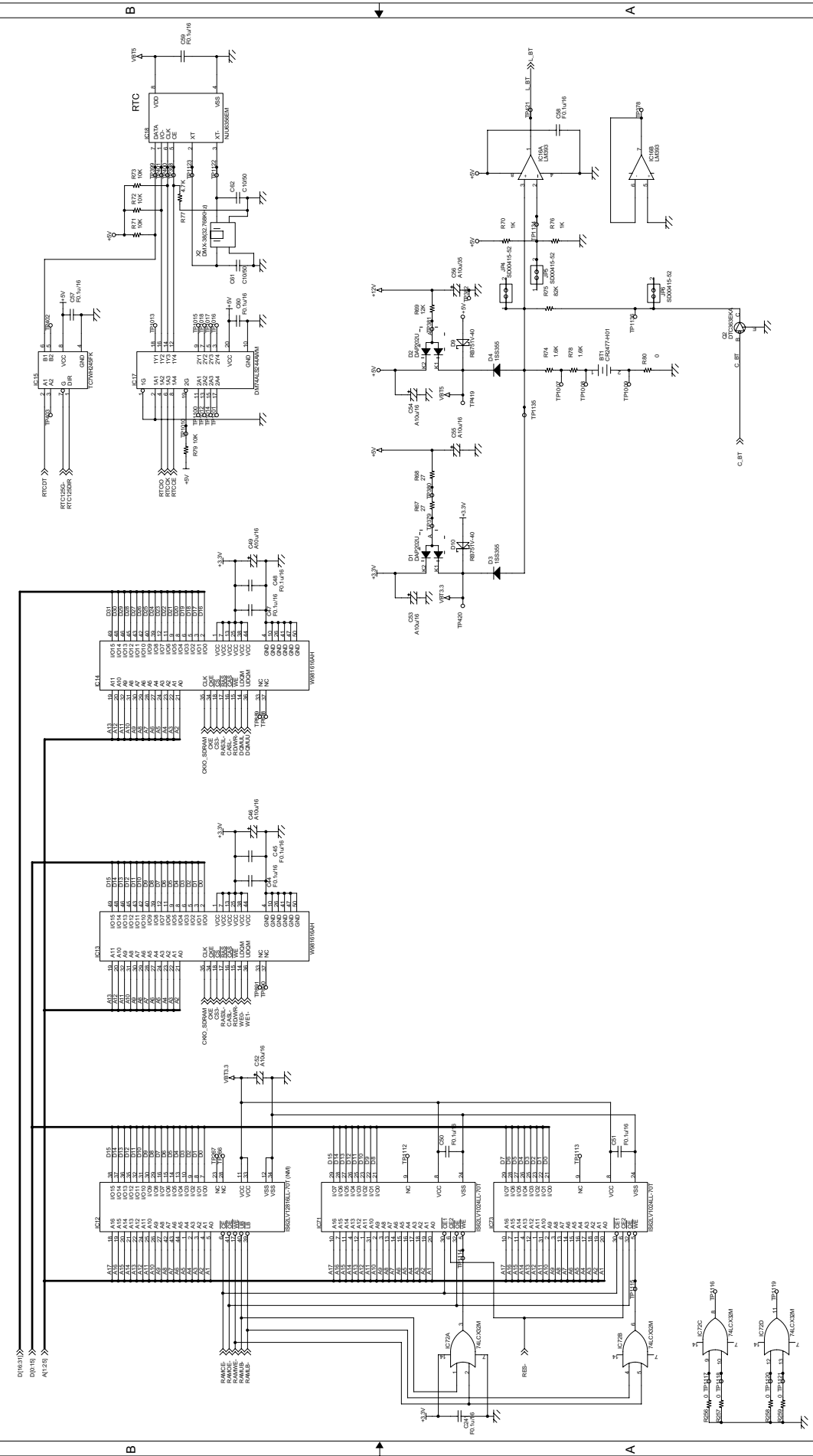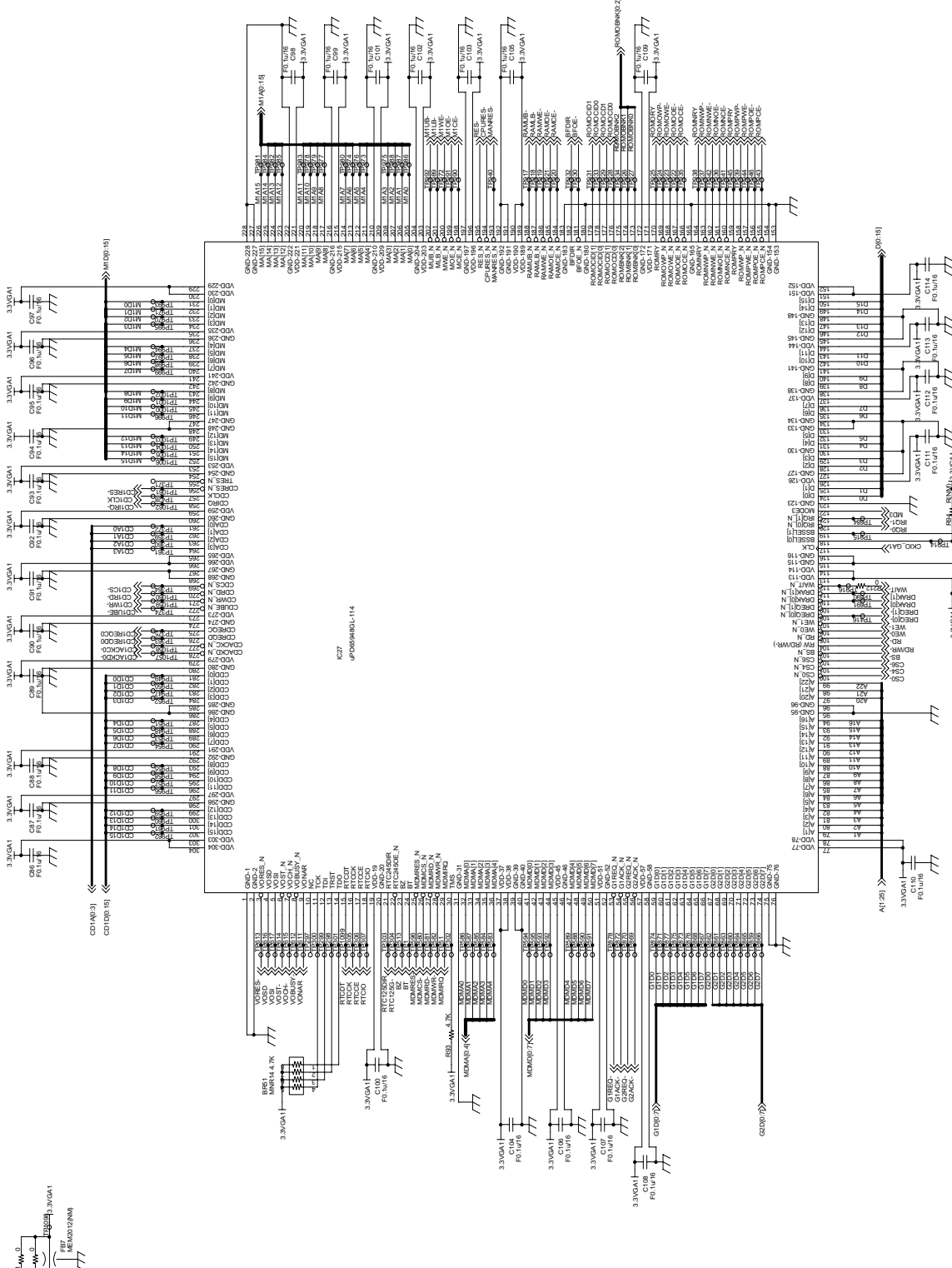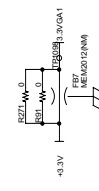
FAX MAIN PWB (GA1)

FAX MAIN PWB (GA1-CODEC)
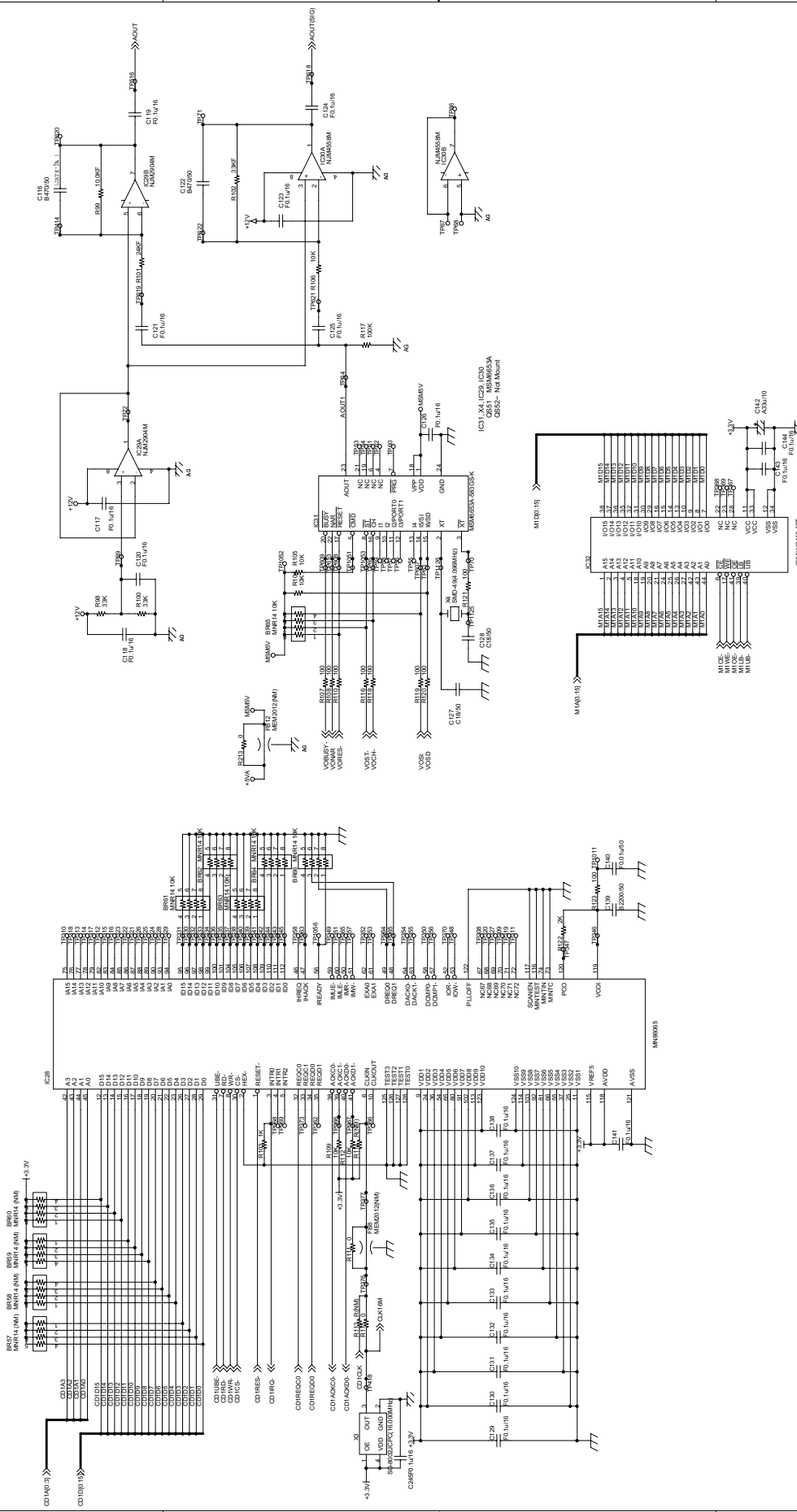
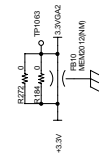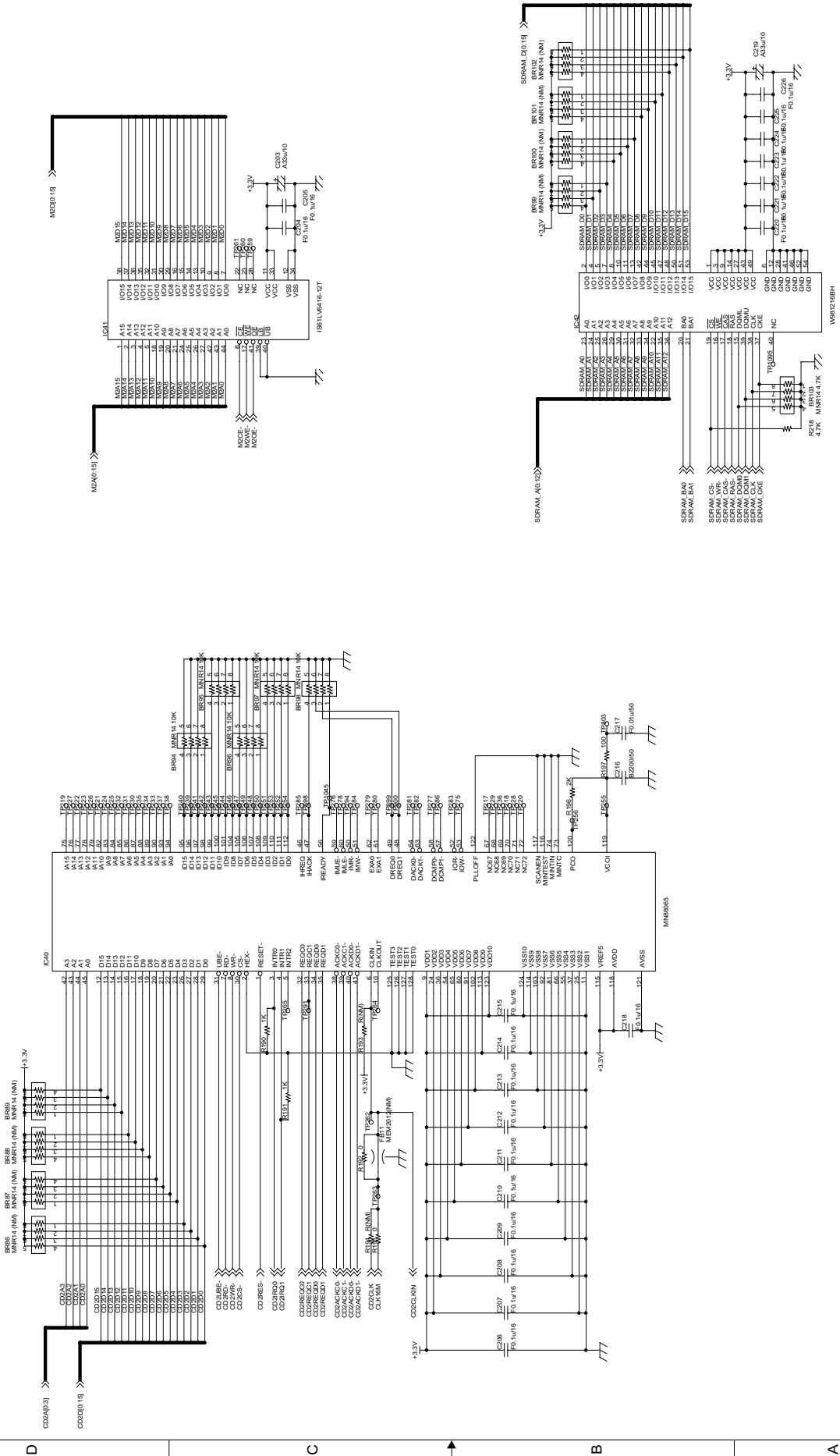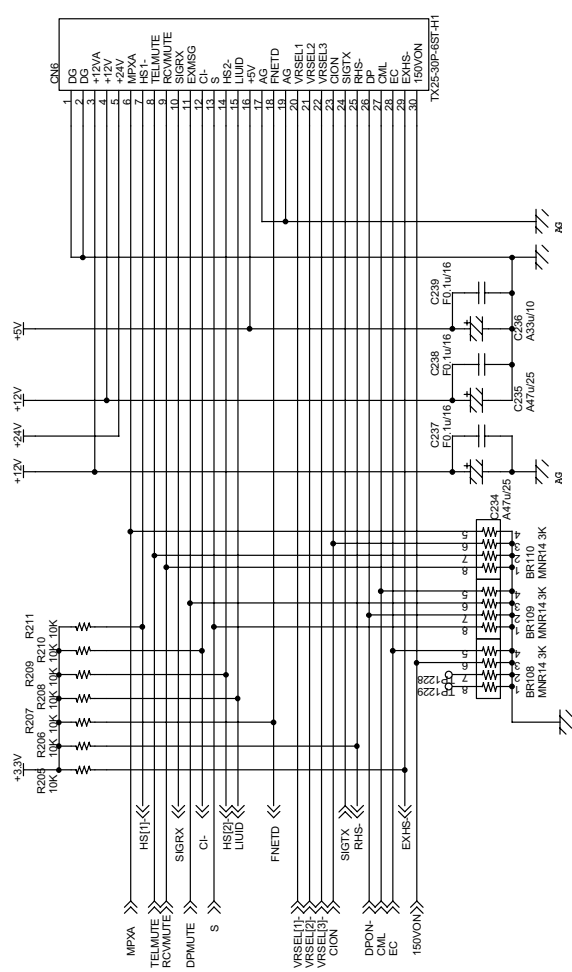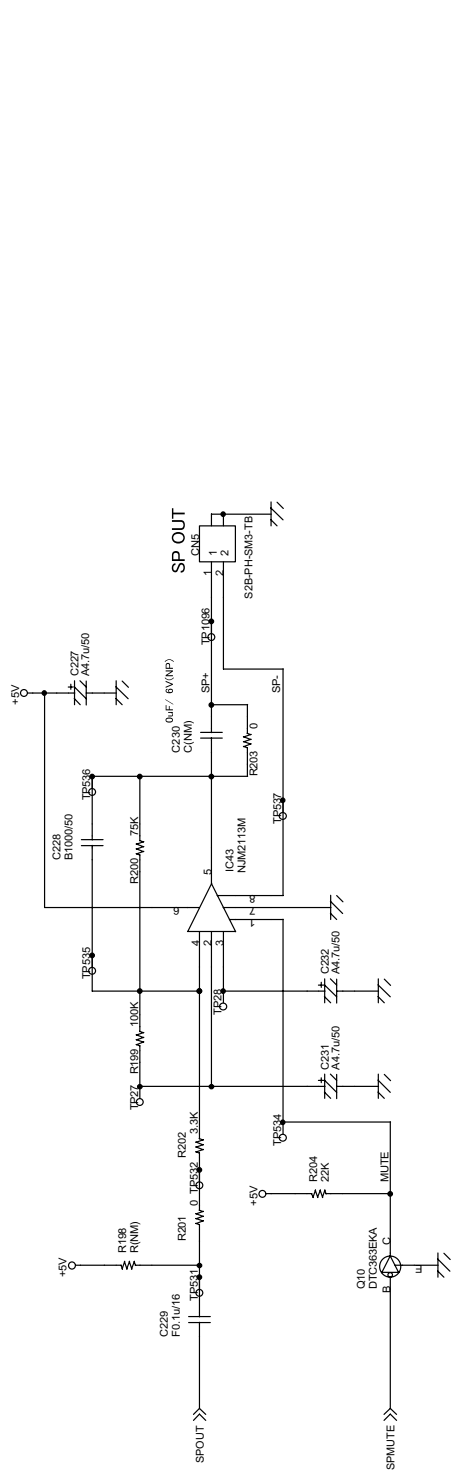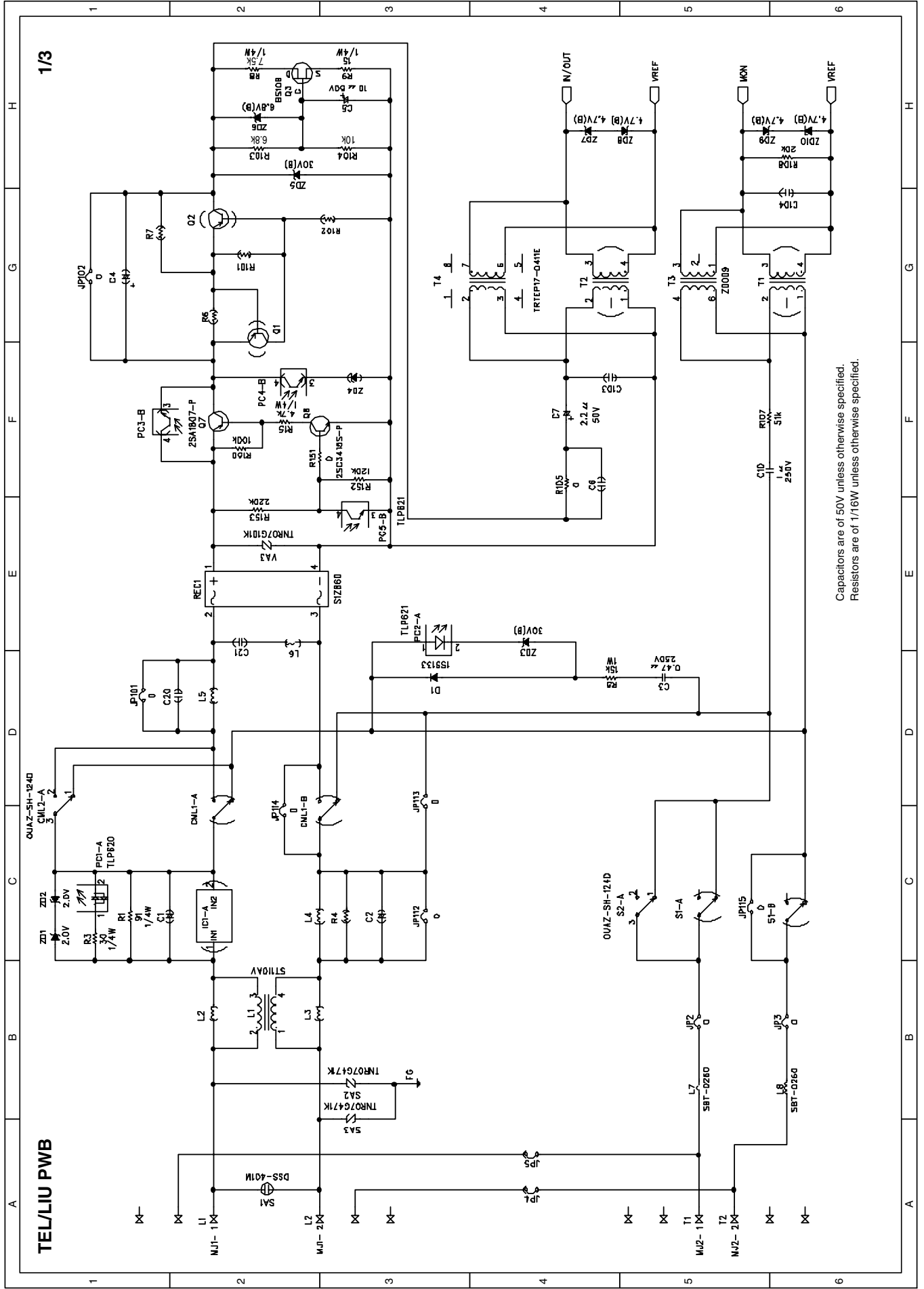# FAX MAIN PWB (FM336)
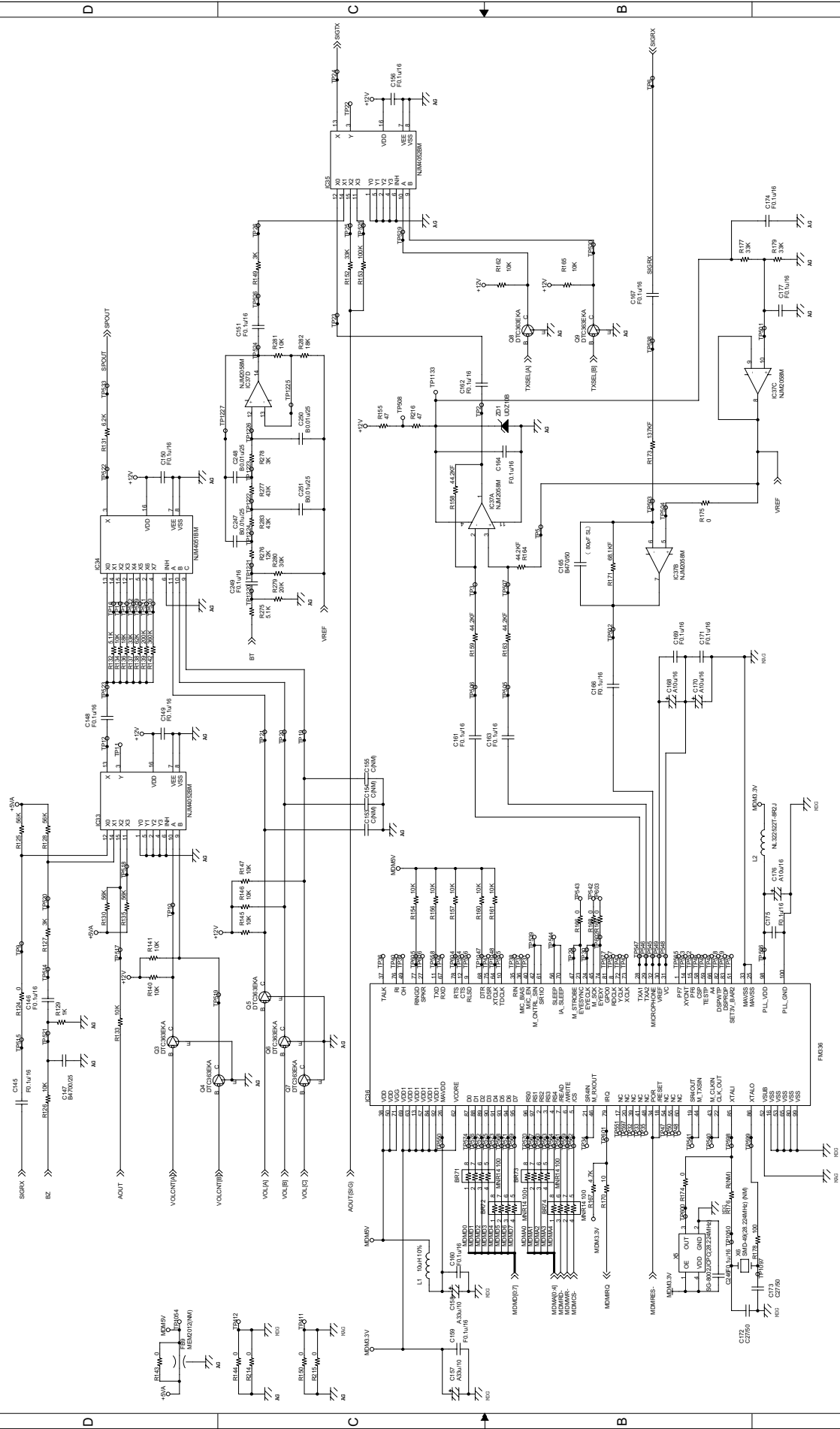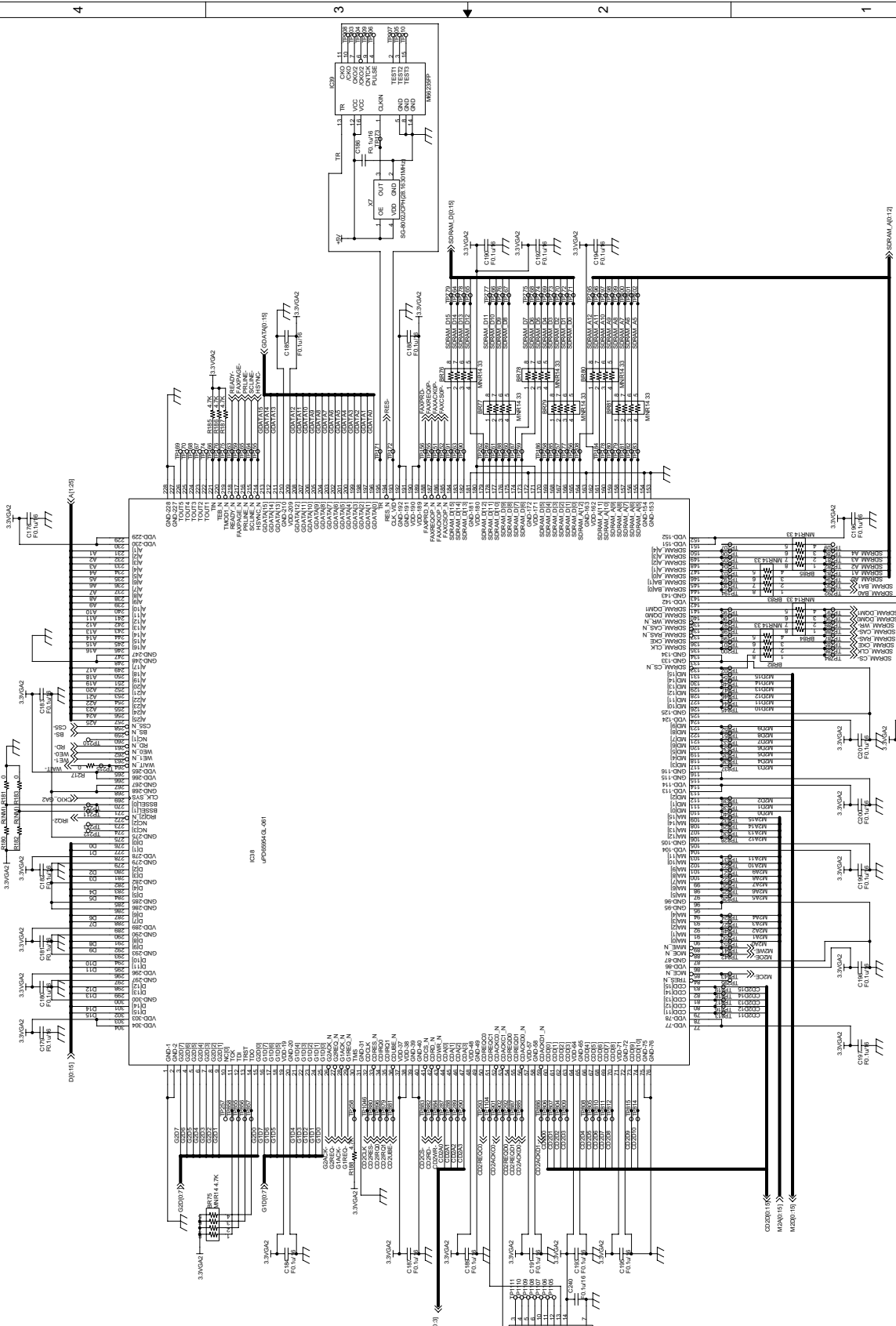
FAX MAIN PWB (GA2)

FAX MAIN PWB (GA2-CODEC)

FAX MAIN PWB (TEL/LIU IF)

TEL/LIU PWB

1/3

Capacitors are of 50V unless otherwise specified.
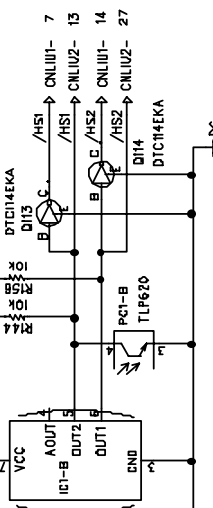Resistors are of 1/16W unless otherwise specified.

TEL/LIU PWB

Capacitors are of 50V unless otherwise specified.
Resistors are of 1/16W unless otherwise specified.

TEL/LIU PWB

W12	
1	N.C.
2	N.C.
3	T1
4	T2
5	N.C.
6	N.C.

W11	
1	N.C.
2	T1
3	L1
4	L2
5	T2
6	N.C.

CNJU1

DG	1	16	+5V
DG	2	17	AG
+12VA	3	18	FNETD
+12V	4	19	AG
+24V	5	20	/VRSEL1
MPXA	6	21	/VRSEL2
/HS1	7	22	/VRSEL3
TELMUTE	8	23	CION
RCVMUTE	9	24	SIGTX
SIGRX	10	25	/RHS
DPMUTE	11	26	DP
/CI	12	27	CML
S	13	28	EC
/HS2	14	29	/EXHS
LIUD	15	30	150VDN

CNJU2

DG	1	2	+5V
DG	3	4	AG
+12VA	5	6	AG
+12V	7	8	AG
+24V	9	10	/VRSEL1
MPXA	11	12	VRSEL2
/HS1	13	14	VRSEL3
TELMUTE	15	16	CION
RCVMUTE	17	18	SIGTX
SIGRX	19	20	/RHS
DG	21	22	DP
/CI	23	24	DML
S	25	26	EC
/HS2	27	28	/EXHS
NC	29	30	150VDN

Capacitors are of 50V unless otherwise specified.
Resistors are of 1/16W unless otherwise specified.

CAUTION FOR BATTERY REPLACEMENT

(Danish)   ADVARSEL !
Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English)   Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the manufacturer.
"BATTERY DISPOSAL"
CONTAINS MANGANESE DIOXIDE LITHIUM BATTERY
MUST BE DISPOSED OF PROPERLY.
REMOVE THE BATTERY FROM THE PRODUCT AND
CONTACT FEDERAL OR STATE ENVIRONMENTAL
AGENCIES FOR INFORMATION ON RECYCLING
AND DISPOSAL OPTIONS.
"BATTERY DISPOSAL"
CONTAINS LITHIUM-ION BATTERY.
MUST BE DISPOSED OF PROPERLY.
REMOVE THE BATTERY FROM THE PRODUCT AND
CONTACT FEDERAL OR STATE ENVIRONMENTAL
AGENCIES FOR INFORMATION ON RECYCLING
AND DISPOSAL OPTIONS.

(Finnish)   VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French)   ATTENTION
Il y a danger d'explosion s' il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type équivalent recommandé par
le constructeur.
Mettre au rebut les batteries usagées conformément aux
instructions du fabricant.

(Swedish)   VARNING
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German)   Achtung
Explosionsgefahr bei Verwendung inkorrekter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

SHARP®