CHAPTER 2. ADJUSTMENTS

[1] Adjustments

General

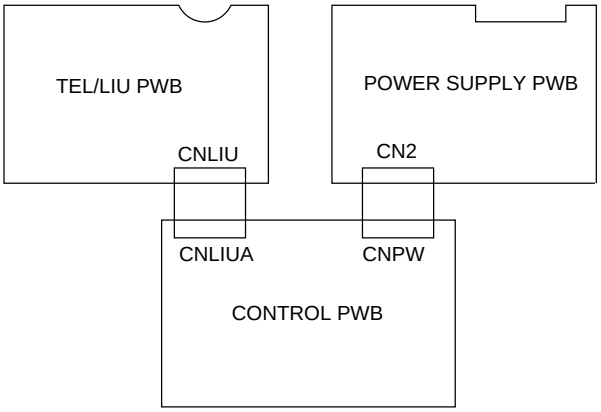
Since the following adjustments and settings are provided for this model, make adjustments and/or setup as necessary.

1. Adjustments

Adjustments of output voltage (FACTORY ONLY)

1. Install the power supply unit in the machine.
2. Set the recording paper and document.
3. When the document is loaded, power is supplied to the output lines. Confirm that outputs are within the limits below.

Output voltage settings



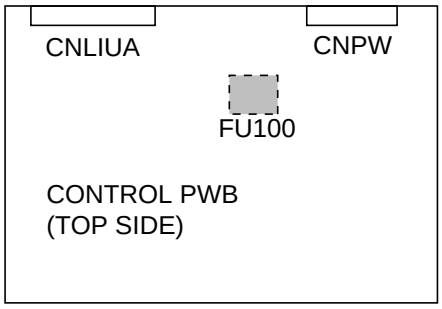
Output	Voltage limits
+5V	4.75V ~ 5.25V
+24V	23.3V ~ 24.7V

Connector No. / Pin No.	CNPW
1	DG
2	+5V
3	VTH-ON
4	MG
5	MG
6	MG
7	+24V
8	VTH
9	VTH
10	VTH

2. IC protectors replacement

ICPs (IC Protectors) are installed to protect the motor driver circuit. ICPs protect various ICs and electronic circuits from an overcurrent condition.

The location of ICPs are shown below:



(1) FU100 (ICP-S07) is installed in order to protect IC's from an overcurrent generated in the motor drive circuit. If FU100 is open, replace it with a new one.

3. Settings

(1) Dial mode selector

DIAL mode (Soft Switch No. SWB4 DATA No. 3)

(step 1) Select "OPTION SETTING".

KEY : [FUNCTION] (4)

DISPLAY: [OPTION SETTING] ⟺ [PRESS✳ OR #]

(step 2) Select "DIAL MODE".

KEY: (#)(#)(#)(#)(#)(#)(#)(#)

Cursor
When initially registering, the mode shows 1=TONE.
When registering again, the mode which was registered formerly is shown.

DISPLAY: [DIAL MODE] ⟺ [1=TONE, 2=PULSE]

(step 3) Select, using "1" or "2".

KEY: (1)

DISPLAY: [TONE SELECTED]

KEY: (2)

DISPLAY: [PULSE SELECTED]

(step 4) End, using the "STOP" key.

KEY: STOP

4. Method of release of starting lock up by Battery Reset

(1) Summary

There is a possibility of release of the lock up by reset the signal BATRST of CPU (XFC3, XFC5), if it lock up when you turn on the power of the set in UX-108 series. We inform you of the method of release.

(2) Contents

When you turn on the power of the set without EPROM by your mistake, if you turn off the power after, turn on the power with EPROM again, the set don't start.

In this case, before you judge the cpu (XFC3, XFC5) is wrong, you need to confirm the release of the lock up by reset the signal BATRST. and unknown origin in the same way.

Method of the reset of signal BATRST
Short the between leads of the capacitor C5 on the control PWB, S2915SC-70 in the state of POWER OFF.

[2] Diagnostics and service soft switch

1. Operating procedure

(1) Entering the diagnostic mode

Press FUNC →9→ ✳ →8 →# →7 , and the following display will appear.

ROM Ver. FWU0✳ (FWT0✳, FXZ0✳) After 2 sec: DIAG MODE

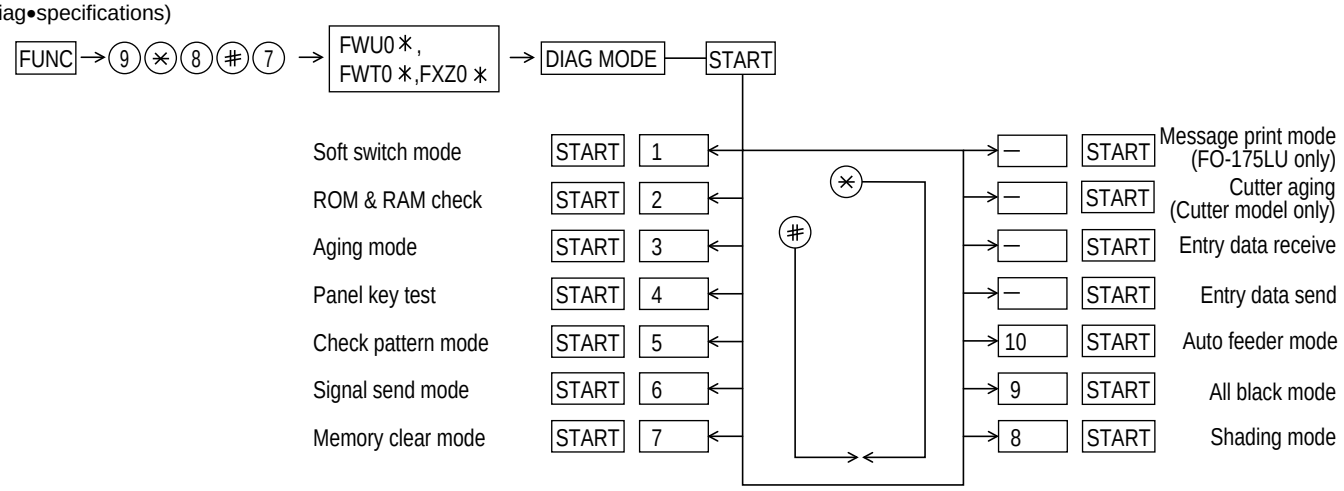
FWU0✳ (UX-178C/188C/FO-375C)

FWT0✳ (UX-108C/118C)

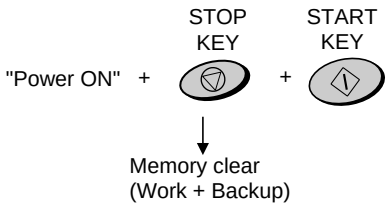
FXZ0✳ (FO-175LU)

Then press the START key. Select the desired item with the ✳ key or the # key or select with the rapid key. Enter the mode with the START key.

(Diag•specifications)



If the diag mode cannot be set, repeat the diag mode operation, performing the following operation.
After the power is turned on and "WAIT A MOMENT" is indicated, press the STOP key.



In relation with the process response (request from Production Engineering) "WAIT A MOMENT" clock indication may appear depending on STOP key timing. If the STOP key is held down, "MEMORY CLEAR?" appears.

2. Diagnostic items

ITEM No.	DIRECT key	Contents	Function
1	1	SOFT SWITCH MODE	Soft switches are displayed and changed. List can be output.
2	2	ROM & RAM CHECK	ROM is sum-checked, and RAM is matched. Result list is output.
3	3	AGING MODE	10 sheets of check patterns are output every 5 minutes per sheet.
4	4	PANEL KEY TEST	Panel keys are tested. Result list is output.
5	5	CHECK PATTERN MODE	Check pattern is output.
6	6	SIGNAL SEND MODE	Various signals of FAX communication are output.
7	7	MEMORY CLEAR MODE	Back-up memory is cleared, and is set at delivery.
8	8	SHADING MODE	Shading compensation is performed in this mode.
9	9	ALL BLACK MODE	To check the print head, whole dots are printed over the interval of 2 m.
10	10	AUTO FEEDER MODE	Insertion and discharge of document are tested.
11	–	ENTRY DATA SEND	Registered content is sent.
12	–	ENTRY DATA RECEIVE	Registered content is received, and its list is output.
13	–	MESSAGE PRINT MODE	The display message of each language is printed out together with the English equivalent. (FO-175LU only)
13	–	CUTTER AGING	Recording paper is successively cut. (Cutter model only: UX-178C/188C/FO-375C)

3. Diagnostic items description

3. 1. Soft switch mode

Used to change the soft switch settings.

The soft switch which is stored internally is set by using the keys.

The available soft switches are SW-A1 to SW-L2.

The content of soft switches is shown in page 2-5 to 2-16.

The contents are set to factory default settings.

3. 2. ROM & RAM check

ROM executes the sum check, and RAM executes the matching test. The result will be notified with the number of short sounds of the buzzer as well as by printing the ROM & RAM check list.

Number of short sounds of buzzer 0 → No error
1 → ROM error
2 → RAM error (32Kbyte)

3. 3. Aging mode

If any document is first present, copying will be executed sheet by sheet. If no document is present, the check pattern will be printed sheet by sheet. This operation will be executed at a rate of one sheet per 5minutes, and will be ended at a total of 10 sheets.

3. 4. Panel key test

The mode is used to check whether each key operates properly or not. Press the key on the operation panel, and the key will be displayed on the display. Therefore, press all keys. At this time, finally press the STOP key.

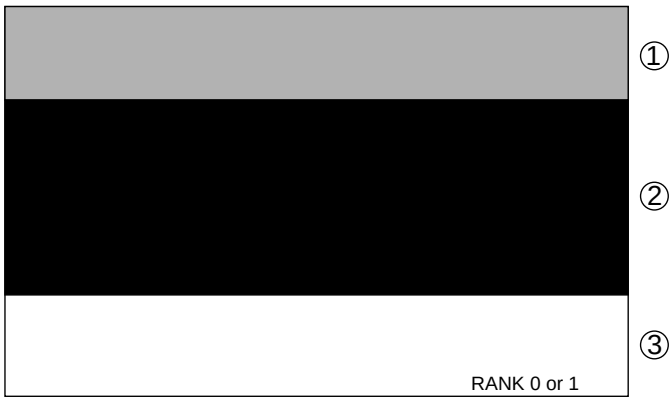
When the STOP key is pressed, the keys which are not judged as "pressed" will be printed on the result list.

- LED port of the contact image sensor (CIS) is kept on during the term from when start of the panel test mode to end with the STOP key.

3. 5. Check pattern mode

This mode is used to check the status of print head. Two sheets of check pattern are printed. The following information of check pattern is printed.

① Vertical stripes (alternate white and black lines)	Approx. 35 mm
② Full black	Approx. 70 mm
③ Full white	Approx. 35 mm



Note:
There is a selection RANK 0 or 1 depending on resistance value of the thermal head. RANK 0 or RANK 1 is printed at the tail of check pattern to identify.

3. 6. Signal send mode

The mode is used to send various signals to the circuit during FAX communication. Every push of START key sends a signal in the following sequence. Moreover, the signal sound is also output to the speaker when the line monitor of the soft switch is on.

[1] No signal (CML signal turned on)
[2] 9600bps
[3] 7200bps
[4] 4800bps
[5] 2400bps
[6] 300bps (FLAG)
[7] 2100Hz (CED)
[8] 1100Hz (CNG)
[9] END

3. 7. Memory clear mode

This mode is used to clear the backup memory and reset to the default settings.

3. 8. Shading mode

The mode is used for the shooting compensation. For reading, set up the special original paper.

The shooting compensation memorizes the reference data of white and black for reading.

Moreover, the memorized data is not erased even if memory clear mode is executed.

3. 9. All black mode

The mode is used to check the state of the printing head and intentionally overheat it. Whole dots are printed over the interval of 2 m. If it is overheated or the printing sheet is jammed, press STOP key for the end.

3. 10. Auto feeder mode

In this mode, a document is inserted and discharged to check the auto feed function.

After this mode is started, set a document, and the document feed will be automatically tested.

3. 11. Entry data send

The mode is used to send the registered data to the other machine and make the other machine copy the registered content.

Before sending in this mode, it is necessary to set the other machine at the entry data receive mode.

The sent content is as follows. After printing is completed, the following lists are printed.

1. Telephone list data
2. Sender register data
3. Optional setting content
4. Soft switch content
5. Junk fax number list
6. Timer reservation data (only on the model which timer reservation is possible)

3. 12. Entry data receive

In this mode, the registered data sent from the other machine are received and the received data are registered in the own machine. When this mode is used for receiving, the other machine must be in the entry data send mode.

After receiving is completed, the following lists are printed.

1. Telephone list data
2. Sender register data (The passcode No. is also printed if the poling function is provided.)
3. Optional setting list
4. Soft switch content
5. Junk fax number list
6. Timer reservation list (only model which timer communication is possible)

3. 13. Cutter aging (Cutter model only)

The mode is used to continuously cut the recording paper to approx. 10 mm and display the number of cutting times.

(Unless the memory clear is executed, the number of cutting times is integrated.)

In the following cases, the operation is stopped.

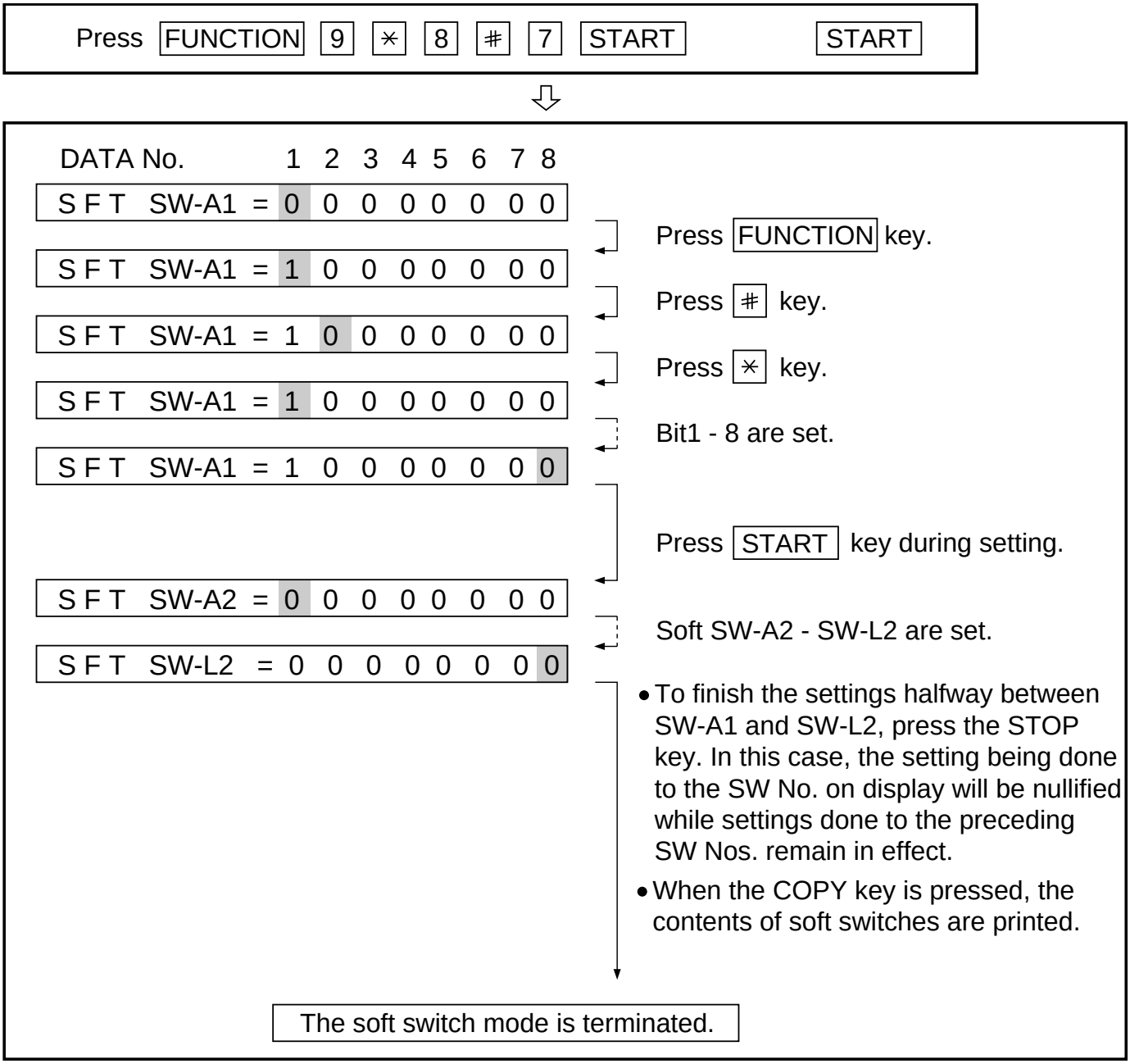
1. The stop key is continuously pressed.
2. There is no recording paper.
3. The recording paper is jammed.

3. 13. Message print mode (FO-175LU only)

Used to print the displayed message of communication for translate each language.

4. How to make soft switch setting

To enter the soft switch mode, make the following key entries in sequence.



5. Soft switch description

• Soft switch

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I A1	1	Protect from echo	No	Yes	0	
	2	Forced 4800 BPS reception	Yes	No	0	
	3	Footer print	Yes	No	0	
	4	Length limitation of copy/send/receive	No limit	Copy/send: 60cm Receive: 1.5m	0	
	5	CSI transmission	No transmitted	Transmitted	0	
	6	DIS receive acknowledgement during G3 transmission	Twice	NSF: Once DIS: Twice	0	
	7	Non-modulated carrier for V29 transmission modem	Yes	No	0	
	8	EOL detect timer	25 s	13 s	0	
SW I A2		Modem speed		V.29 / V.27 ter		
				9600bps / 7200bps / 4800bps / 2400bps		
	1		No. 1	0 / 0 / 0 / 0	0	
	2		No. 2	0 / 0 / 0 / 0	0	
	3		No. 3	0 / 1 / 1 / 0	0	
	4		No. 4	1 / 1 / 0 / 0	1	
	5	Sender's information transmit	No	Yes	0	
	6	H2 mode	No	Yes	0	
	7	Communication error treatment in RTN sending mode (reception)	No communication error	Communication error	0	
	8	CNG transmission	No	Yes	0	
SW I A3		CED tone signal interval		1000ms / 750ms / 500ms / 75ms		
	1		No. 1	1 / 1 / 0 / 0	0	
	2		No. 2	1 / 0 / 1 / 0	0	
	3	MR coding	No	Yes	0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I A4	1	Signal transmission level	Binary input No. = 16 8 4 2 1 1 2 3 4 5 0 1 0 1 0 (-10 dBm)		0 1 0 1 0	
	2					
	3					
	4					
	5					
	6	Protocol monitor (error print)	Printed at com. err	Not printed	0	
	7	Protocol monitor	Yes	No	0	
	8	Line monitor	Yes	No	0	
SW I A5		Digital line equalization setting (Reception)		7.2km / 0km		
	1		No. 1	1 / 0	1	
	2		No. 2	1 / 0	1	
	3	Reserved			0	
	4	Reserved			0	
		Digital cable equalizer setting (Reception for Caller ID) (Canada only)		7.2km / 0km		
	5		No. 5	1 / 0	0	
	6		No. 6	1 / 0	0	
	7	Error criterion	10 ~ 20 %	5 ~ 10 %	0	
	8	Anti junk fax check	Yes	No	0	OPTION

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I A6	1	Auto gain control (MODEM)	Enable	Disable	1	
	2	End Buzzer	Yes	No	1	
	3	Disconnect the line when DIS is received in RX mode	No	Yes	1	
	4	Equalizer freeze control (MODEM)	On	Off	0	
	5	Equalizer freeze control 7200 BPS only	No	Yes	0	
	6	CNG transmission in manual TX mode	Yes	No	1	
	7	Initial compression scheme for sharp fax in TX mode	MR mode	H2 mode	0	
	8	Reserved			0	
SW I B1	1	Recall interval	Binary input		0	OPTION
	2		No. = 8 4 2 1		1	
	3		1 2 3 4		0	
	4		0 1 0 1 (5 x 60 sec = 5 min)		1	
	5	Recall times	Binary input		0	OPTION
	6		No. = 8 4 2 1		0	
	7		5 6 7 8		1	
	8		0 0 1 0 (Twice)		0	
SW I B2	1	Dial pausing (sec/pause)	4 sec	2 sec	0	
	2	Reserved			0	
	3	Reserved			0	
	4	Busy tone detection (after auto dial)	No	Yes	C: 0 LU: 1	
	5	Waiting time after dialing	90 sec	45 sec	0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I B3	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Hold function	Enable	Disable	1	
SW I B4	1	Auto Dial Mode Delay timer of before line connect	3 sec	0 sec	0	
	2	Auto Dial Mode Delay timer of after line connect	3 sec	1.7 sec	0	
	3	Dial mode	Tone	Pulse	1	OPTION
	4	Pulse → Tone change function by ✳ key	Enable	Disable	0	
	5	Dial pulse make/break ratio (%)	40/60	33/67	1	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I B5	1	DTMF signal transmission level (Low)	Binary input		0	
	2		No. = 16 8 4 2 1		1	
	3		1 2 3 4 5		0	
	4		0 1 0 1 0 (0.5 x 10 = -5 dBm)		1	
	5				0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1				0		
SW I B6	1	DTMF signal transmission level (High)	Binary input					0	
	2		No. = 16 8 4 2 1					0	
	3		1 2 3 4 5					1	
	4		0 0 1 1 1 (0.5 x 7 = -3.5 dBm)					1	
	5							1	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I C1		Reading slice (Binary)		Factory setting	Light	Dark	Darker in dark mode		
	1		No. 1	0	1	0	1	0	
	2		No. 2	0	0	1	1	0	
		Reading slice (Half tone)		Factory setting	Light	Dark	Darker in dark mode		
	3		No. 3	0	1	0	1	0	
	4		No. 4	0	0	1	1	0	
	5	Line density selection	Fine			Standard		0	OPTION
	6	Halftone gray scale selection	16 level			64 level		0	
	7	MTF correction in half tone mode	No			Yes		0	
	8	Reserved						0	
SW I D1	1	Number of rings for auto receive	Binary input					0	OPTION
	2		No. = 8 4 2 1					1	
	3		1 2 3 4					0	
	4		0 1 0 0 (4 times)					0	
	5	Automatic switching manual to auto receive mode	Reception after 5 rings			No reception		0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I D2		Distinctive ringing setting			No. 1	No. 2	No. 3		OPTION
		Factory setting: OFF	OFF		0	0	0		
		(Canada only)	STANDARD		0	0	1		
	1		PATTERN1		0	1	0	0	
	2		PATTERN2		0	1	1	0	
	3		PATTERN3		1	0	0	0	
	4	Reserved						0	
	5	Caller ID function (Canada only)	Yes			No		0	OPTION
		CI off detection timer (Distinctive ring		1200ms	1000ms	700ms	350ms		
	6	setting off only)	No. 6	0	1	0	1	0	
	7		No. 7	0	0	1	1	1	
	8	Reserved						0	
SW I E1	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1				0		
SW I E2	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I F1		DTMF detection time		50ms	80ms	100ms	120ms		
	1		No. 1	0	0	1	1	0	
	2		No. 2	0	1	0	1	0	
	3	Protection of remote reception (5 ✳✳) detect	Yes			No		0	OPTION
	4	Remote reception with GE telephone	Compatible			Not compatible		1	
	5	Remote operation code figures by external	Binary input					0	OPTION
	6	TEL (0~9)	No. = 8 4 2 1					1	
	7		5 6 7 8					0	
	8		0 1 0 1 (5 ✳✳)					1	
SW I F2	1	CNG detection in STAND-BY mode	Yes			No		1	OPTION
		Number of CNG detect (AM mode)		1pulse	2pulses	3pulses	4pulses		
	2		No. 2	0	0	1	1	0	
	3		No. 3	0	1	0	1	1	
		Number of CNG (STAND-BY mode)		1pulse	2pulses	3pulses	4pulses		
	4		No. 4	0	0	1	1	0	
	5		No. 5	0	1	0	1	1	
	6	Fax signal detection after telephone mode dial	Yes			No		0	
	7	Reserved						0	
	8	Reserved						0	
SW I G1	1	Quiet detect time	Binary input					0	OPTION
	2		No. = 8 4 2 1					1	
	3		1 2 3 4					0	
	4		0 1 0 0 (4 sec)					0	
	5	Quiet detect start timing	Binary input					0	
	6		No. = 8 4 2 1					1	
	7		5 6 7 8					0	
	8		0 1 0 1 (5 sec)					1	
SW I G2	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I G3	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
		Section time of quiet detection		30s	40s	50s	60s		
	5		No. 5	0	0	1	1	0	
	6		No. 6	0	1	0	1	1	
	7	Reserved						0	
	8	Reserved						0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1		0				
SW I H1	1	Busy tone detection ON/OFF time (Lower duration)	350ms		200ms			0	
	2	Busy tone detection ON/OFF time (Upper duration)	650ms		900ms			0	
	3	Reserved						0	
	4	Busy tone continuous sound detect time	5s		10s			1	
	5	Reserved						0	
	6	Busy tone detect continuation sound detect	No		Yes			0	
	7	Reserved						0	
	8	Busy tone detect intermittent sound detect	No		Yes			0	
		Busy tone detection pulse number		2pulses	4pulses	6pulses	10pulses		
	1		No. 1	0	0	1	1	0	
	2		No. 2	0	1	0	1	1	
SW I H2	3	Fax switching when A.M. full	Yes		No			0	OPTION
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I I1	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I I2	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I I3	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I I4	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I I5	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I I6	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I I7	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I J1	1	Reserved			0	
	2	Reserved			0	
	3	Sender’s phone number setting	Cannot change	Change allowed	0	
	4	Reserved			0	
	5	Reserved			0	
	6	Day light saving setting	No	Yes	1	OPTION
		Ringer volume	Off / Low / Middle / High			OPTION
	7		No. 7: 0 / 0 / 1 / 1		1	
	8		No. 8: 0 / 1 / 0 / 1		0	
SW I J2		Speaker volume	Low / Low / Middle / High			OPTION
	1		No. 1: 0 / 0 / 1 / 1		1	
	2		No. 2: 0 / 1 / 0 / 1		0	
	3	Polling key	Yes	No	0	OPTION
		Handset receiver volume	Low / Low / Middle / High			OPTION
	4		No. 4: 0 / 0 / 1 / 1		1	
	5		No. 5: 0 / 1 / 0 / 1		0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I J3	1	Reserved			0	
	2	Reserved			0	
		Communication results printout	Error/Timer / Send only / Always / No print			OPTION
	3	(Transaction report)	No. 3: 0 / 0 / 1 / 1		0	
	4		No. 4: 0 / 1 / 0 / 1		0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I K1	1	Entering DIAG mode by pressing SPEED key	Yes	No	0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I L1	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I L2	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	

• Soft switch function description

SW-A1 No. 1 Protect from echo

Used to protect from echo in reception.

SW-A1 No. 2 Forced 4800BPS reception

When line conditions warrant that receptions take place at 4800 BPS repeatedly.

It may improve the success of receptions by setting at 4800BPS.

This improve the receiving document quality and reduces handshake time due to fallback during training.

SW-A1 No. 3 Footer print

When set to "1", the date of reception, the sender machine No., and the page No. are automatically recorded at the end of reception.

SW-A1 No. 4 Length limitation of copy/send/receive

Used to set the maximum page length.

To avoid possible paper jam, the page length is normally limited to 0.6 meter for copy or transmit, and 1.5 meters for receive.

It is possible to set it to "No limit" to transmit a long document, such as a computer print form, etc. (In this case, the receiver must also be set to no limit.)

SW-A1 No. 5 CSI transmission

(CSI TRANSMISSION) is a switch to set whether the machine sends or does not send the signal (CSI signal) informing its own telephone No. to the remote fax. machine when information is received. When "nonsending" is set, the telephone No. is not output on the remote transmitting machine if the remote transmitting machine has the function to display or print the telephone No. of receiving machine, using this CSI signal.

SW-A1 No. 6 DIS receive acknowledgment during G3 transmission

Used to make a choice of whether reception of DIS (NSF) is acknowledged after receiving two DISs (NSFs) or receiving one DIS (two NSFs). It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

SW-A1 No. 7 Non-modulated carrier for V29 transmission modem

Though transmission of a non-modulated carrier is not required for transmission by the V29 modem according to the CCITT recommendation, it may be permitted to a send non-modulated carrier before the image signal to avoid and echo suppression problem. It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

SW-A1 No. 8 EOL (End Of Line) detect timer

Used to make a choice of whether to use the 25-second or 13-second timer for detection of EOL.
This is effective to override communication failures with some facsimile models that have longer EOL detection.

SW-A2 No. 1 ~ No. 4 Modem speed

Used to set determine the initial modem speed. The default is 9600BPS. It may be necessary to program it to a slower speed when frequent line fallback is encountered, in order to save the time required for fallback procedure.

SW-A2 No. 5 Sender's information transmit

(SENDER'S INFORMATION TRANSMISSION) is a switch to set the function to print the content of HEADER PRINT described in the passcode list at the front end of receiver's original when original is sent to the remote machine.

If this switch is set to "NO", the HEADER PRINT is not output at the receiving machine.

SW-A2 No. 6 H2 mode

Used to determine reception of H2 mode (15 sec transmission mode). When set to OFF, H2 mode reception is inhibited even though the transmitting machine has H2 mode function.

SW-A2 No. 7 Communication error treatment in RTN sending mode (Reception)

Used to determine communication error treatment when RTN is sent by occurrence of a received image error in G3 reception. When it is set to "1", communication error is judged as no error.

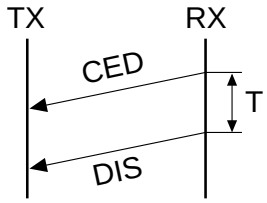
SW-A2 No. 8 CNG transmission

When set to "0" , this model allows CNG transmission by pressing the Start key in the key pad dialing mode. When set to "1", CNG transmission in the key pad dialing mode cannot be performed. In either case, CNG transmission can be performed in the auto dial mode.

SW-A3 No. 1, No. 2 CED tone signal interval

For international communication, the 2100Hz CED tone may act as an echo suppression switch, causing a communication problem.

Though SW-A3 No. 1 and No. 2 are normally set to 0, it should be changed this time between the CED tone signal to eliminate the communication problem caused by echo.



SW-A3 No. 3 MR Coding

Used to select the MR coding enable or disable.

SW-A3 No. 4 ~ No. 8 Reserved

Set to "0".

SW-A4 No. 1 ~ No. 5 Signal transmission level

Used to control the signal transmission level in the range of-0dB to-31dB.

The factory setting is at -10dB (MODEM output).

SW-A4 No. 6 Protocol monitor (Error print)

If set to "1", protocol is printed at communication error.

SW-A4 No. 7 Protocol monitor

Normally set to "0". If set to "1", communication can be checked, in case of troubles, without using a G3 tester or other tools.
When communication FSK data transmission or reception is made, the data is taken into the buffer. When communication is finished, the data is analyzed and printed out. When data is received with the line monitor (SW-A4 No. 8) set to "1" the reception level is also printed out.

SW-A4 No. 8 Line monitor

Normally set to "0". If set to "1", the transmission speed and the reception level are displayed on the LCD. Used for line tests.

SW-A5 No. 1, No. 2 Digital line equalization setting (Reception)

Line equalization when reception is to be set according to the line characteristics.

Setting should be made according to distance between the telephone and the telephone company central switching station.

SW-A5 No. 3, No. 4 Reserved

Set to "0".

SW-A5 No. 5, No. 6 Digital cable equalizer setting (Reception for Caller ID) (Canada only)

Line equalization when reception for CALLER ID is to be set according to the line characteristics.

Setting should be made according to distance between the telephone and the telephone company central switching station.

SW-A5 No. 7 Error criterion

Used to select error criterion for sending back RTN when receiving image data.

SW-A5 No. 8 Anti junk fax check

When use the Anti junk fax function, set to "1".

SW-A6 No. 1 Auto gain control (MODEM)

When this mode is enabled, if the reception signal level is under 31dBm. The modem itself controls the signal gain automatically.

SW-A6 No. 2 End buzzer

Setting this bit to 0 will disable the end buzzer (including the error buzzer/ on-hook buzzer).

SW-A6 No. 3 Disconnect the line when DIS is received in RX mode

Bit1= 0: When DIS signal is received during RX mode, disconnected the line is immediately.

Bit1= 1: When DIS signal is received during RX mode, wait the next signal.

SW-A6 No. 4 Equalizer freeze control (MODEM)

This switch is used to perform reception operation by fixing the equalizer control of modem for the line which is always in unfavorable state and picture cannot be received.

* Usually, the control is executed according to the state of line where the equalizer setting is changed always.

SW-A6 No. 5 Equalizer freeze control 7200BPS only

Setting which specifies SW-A3 No. 6 control only in the condition of 7200BPS modem speed.

SW-A6 No. 6 CNG transmission in manual TX mode

When set to "1", fax transmit the CNG signal in case of manual transmission mode (User press the START key after waiting the fax answering signal from handset or speaker).

SW-A6 No. 7 Initial compression scheme for sharp fax in TX mode

When set to "0", if the other fax is Sharp model, fax transmit the document by H2 mode. When set to "1", even if the other fax is Sharp model, fax transmit the document by MR mode.

SW-A6 No. 8 Reserved

Set to "0".

SW-B1 No. 1 ~ No. 4 Recall interval

Choice is made for a redial interval for speed and rapid dial calls.
Used a binary number to program this. If set to 0 accidentally, 1 will be assumed.

SW-B1 No. 5 ~ No. 8 Recall times

Choice is made as to how many redials should be.

SW-B2 No. 1 Dialing pause (sec/pause)

Pauses can be inserted between telephone numbers of direct dial connection. Selection of 4 sec or 2 sec pause is available.

SW-B2 No. 2, No. 3 Reserved

Set to "0".

SW-B2 No. 4 Busy tone detection (after auto dial)

Used to set YES/NO of busy tone detection after auto dialing.

SW-B2 No. 5 Waiting time after dialing

This is waiting time for the opponent's signals after dialing.

When set to "0", waiting time is 45 sec.

When set to "1", waiting time is 90 sec.

SW-B2 No. 6 ~ No. 8 Reserved

Set to "0".

SW-B3 No. 1 ~ No. 7 Reserved

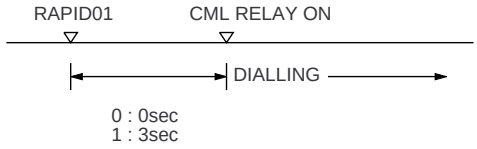
Set to "0".

SW-B3 No. 8 Hold function

Used to set YES/NO of holding function by the HOLD key.

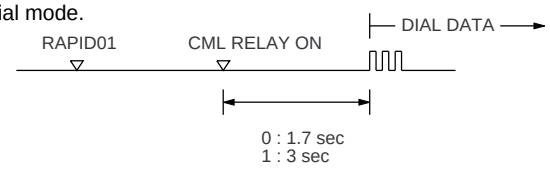
SW-B4 No. 1 Auto dial mode Delay timer of before line connect

Delay time between the dial key input and line connection under the auto dial mode.



SW-B4 No. 2 Auto dial mode Delay timer of after line connect

Delay time between the line connection and dial data output under the auto dial mode.



SW-B4 No. 3 Dial mode

When using the pulse dial, set to 0. When using the tone dial, set to 1.

SW-B4 No. 4 Pulse → Tone change function by ⋇ key

When setting to 1, the mode is changed by pressing the ⋇ key from the pulse dial mode to the tone dial mode.

SW-B4 No. 5 Dial pulse make/break ratio (%)

When using the 33 % make ratio pulse dial, set to "0".
When using the 40 % make ratio pulse dial, set to "1".

SW-B4 No. 6 ~ No. 8 Reserved

Set to "0".

SW-B5 No. 1 ~ No. 5 DTMF signal transmission level (Low)

The transmission level of DTMF signal is adjusted. (lower frequency)

00000: 0dBm

↓

11111: -15.5dBm (-0.5dBm x 31)

SW-B5 No. 6 ~ No. 8 Reserved

Set to "0".

SW-B6 No. 1 ~ No. 5 DTMF signal transmission level (High)

The transmission level of DTMF signal is adjusted. (higher frequency)

00000: 0dBm

↓

11111: -15.5 dBm (-0.5dBm x 31)

SW-B6 No. 6 ~ No. 8 Reserved

Set to "0".

SW-C1 No. 1, No. 2 Reading slice (Binary)

Used to determine the set value of reading density in standard/fine mode. The standard setting is "00" (Factory setting is "00")

SW-C1 No. 3, No. 4 Reading slice (Half tone)

Used to determine the set value of reading density in half tone mode. The standard setting is "00" (Factory setting is "00")

SW-C1 No. 5 Line density selection

Used to set the transmission mode which is automatically selected when the Resolution key is not pressed. In the copy mode, however, the fine mode is automatically selected unless the Resolution key is manually set to another mode.

SW-C1 No. 6 Half tone gray scale selection

Used to determine the reading gray scale in half tone mode.

When set to "0", gray scale is 64 levels.

When set to "1", gray scale is 16 levels.

SW-C1 No. 7 MTF correction in half tone mode

This allows selection of MTF correction (dimness correction) in the half tone mode.
When "NO" (=1) is selected, the whole image becomes soft and mild. On the contrary, however, clearness of characters will be reduced. Normally set to "YES" (=0).

SW-C1 No. 8 Reserved

Set to "0".

SW-D1 No. 1 ~ No. 4 Number of rings for auto receive

When the machine is set in the auto receive mode, the number of rings before answering can be selected. It may be set from one to four rings using a binary number. Since the facsimile telephone could be used as an ordinary telephone if the handset is taken off the hook, it should be programmed to the user's choice. If the soft switch was set to 1, direct connection is made to the facsimile. If a facsimile calling beep was heard when the handset is taken off the hook, press the START key and put the handset on the hook to have the facsimile start receiving. If it was set to 0 accidentally, receive ring is set to 1.

NOTE: If the machine is set to answer after a large number of rings, it may not be able to receive faxes successfully. If you have difficulty receiving faxes, reduce the number of rings to a maximum of 5.

SW-D1 No. 5 Automatic switching manual to auto receive mode

This soft switch is used to select whether the machine should switch to the auto receive mode after 5 rings in the manual receive mode or remain in the same way as SW-D1 No. 1, No. 2, No. 3 and No. 4 "0"1"0"1"(5 rings).

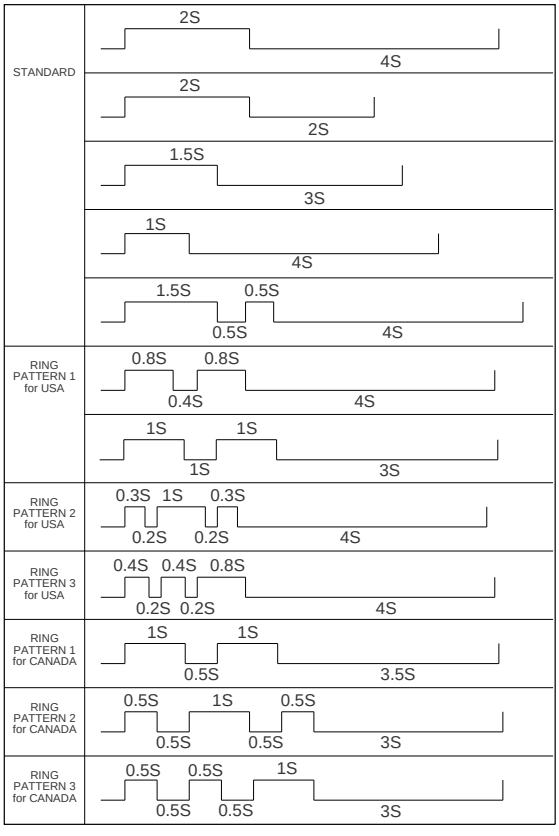
SW-D1 No. 6 ~ No. 8 Reserved

Set to "0".

SW-D2 No. 1 ~ No. 3 Distinctive ringing setting
Factory setting: OFF (Canada only)

When the ringing setting is turned off, all of the CI signal are received. When any of the standard, and ring patterns 1 through 3 is selected for the ringing setting, only the selected CI signal is received.

CI signal patterns
The CI signal patterns consists of the standard pattern, and ring patterns 1 through 7. The standard pattern is the conventional one.



SW-D2 No. 4 Reserved

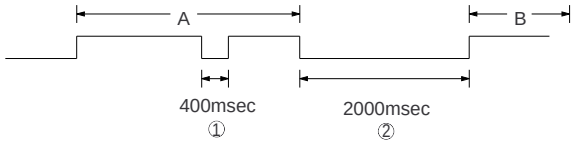
Set to "0".

SW-D2 No. 5 Caller ID function (Canada only)

Used for Caller ID function.

SW-D2 No. 6, No. 7 CI off detection timer (Distinctive ring setting off only)

Set the minimum time period of CI signal interruption which affords to be judged as a CI OFF section.



SW-D2 No. 8 Reserved

Set to "0".

SW-E1 No. 1 ~ No. 8 Reserved

Set to "0".

SW-E2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-F1 No. 1, No. 2 DTMF detect time

Used to set detect time of DTMF (Dual Tone Multi Frequency) used in remote reception (5 ✳ ✳).

The longer the detect time is, the less the error detection is caused by noises.

SW-F1 No. 3 Protection of remote reception (5 ✳ ✳) detect

Used to set the function of remote reception (5 ✳ ✳). When set to "1", the remote reception function is disabled.

SW-F1 No. 4 Remote reception with GE telephone

(Corresponding to TEL made by GE) P. B. X.

"1": Compatible with TEL mode by GE

"0": Not compatible

- When sending (5 ✳ ✳) for remote reception with a GE manufactured telephone remote reception may not take place because of special specifications in their DTMF.
  To overcome this, a soft SW is provided to change the modem setting to allow for remote reception.
- If this soft SW is set to "1", other telephone sets may be adversely affected.

SW-F1 No. 5 ~ No. 8 Remote operation code figures by external TEL (0 ~ 9)

Remote operation codes can be changes from 0 through 9. If set to greater than 9, it defaults to 9. The "5 ✳ ✳ " is not changed.
Ex-7 ✳ ✳ (Default: 5 ✳ ✳)

SW-F2 No. 1 CNG detection in STAND-BY mode

When setting to "1", the CNG signal detection function during standby stops.

SW-F2 No. 2, No. 3 Number of CNG detect (AM mode)

Used for detection of CNG in 1 to 4 pulses.

SW-F2 No. 4, No. 5 Number of CNG (STAND-BY mode)

Used for detection of CNG in 1 to 4 pulses.

SW-F2 No. 6 Fax signal detection after telephone mode dial

When set to "1", if machine detect the fax answering signal after telephone calling (handset off-hook or speaker mode dial), machine start to receive the documents automatically.

SW-F2 No. 7, No. 8 Reserved

Set to "0".

SW-G1 No. 1 ~ No. 4 Quiet detect time

When an answering machine is connected, if a no sound state is detected for a certain period of time, the machine judges it as a transmission from a facsimile machine and automatically switches to the FAX mode.

SW-G1 No. 5 ~ No. 8 Quiet detect start timing

Inserts a pause before commencing quiet detection.

SW-G2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-G3 No. 1 ~ No. 4 Reserved

Set to "0".

SW-G3 No. 5, No. 6 Section time of quiet detection

The switch which sets the time from the start of detection function to the end of the function.

SW-G3 No. 7, No. 8 Reserved

Set to "0".

SW-H1 No. 1 Busy tone detection ON/OFF time (Lower duration)

The initial value of detection is set according to electric condition.

The set value is changed according to the local switch board. (Erroneous detection of sound is reduced.)

Normally the upper limit is set to 900msec, and the lower limit to 200msec.

If erroneous detection is caused by sound, etc., adjust the detection range.

The lower limit can be set in the range of 350msec to 200msec.

SW-H1 No. 2 Busy tone detection ON/OFF time (Upper duration)

Similarly to SW-H1 No. 1, the set value can be varied.

The upper limit can be set in the range of 650msec to 900msec.

SW-H1 No. 1	SW-H1 No. 2	Detection range
0	0	200msec ~ 900msec
0	1	200msec ~ 650msec
1	0	350msec ~ 900msec
1	1	350msec ~ 650msec

SW-H1 No. 3 Reserved

Set to "0".

SW-H1 No. 4 Busy tone continuous sound detect time

Set detecting time busy tone continuous sound for 5 seconds or 10 seconds.

SW-H1 No. 5 Reserved

Set to "0".

SW-H1 No. 6 Busy tone detect continuation sound detect

Used to select detection of the continuous sound of certain frequency.

SW-H1 No. 7 Reserved

Set to "0".

SW-H1 No. 8 Busy tone detect intermittent sound detect

Used to select detection of the intermittent sound of certain frequency.

SW-H2 No. 1, No. 2 Busy tone detection pulse number

Used to set detection of Busy tone intermittent sounds.

SW-H2 No. 3 Fax switching when A.M. full

If the answering machine's memory (tape) is full and there is no response, the machine automatically switches to Fax reception.

SW-H2 No. 4 ~ No. 8 Reserved

Set to "0".

SW-I1 No. 1 ~ No. 8 Reserved

Set to "0".

SW-I2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-I3 No. 1 ~ No. 8 Reserved

Set to "0".

SW-I4 No. 1 ~ No. 8 Reserved

Set to "0".

SW-I5 No. 1 ~ No. 8 Reserved

Set to "0".

SW-I6 No. 1 ~ No. 8 Reserved

Set to "0".

SW-I7 No. 1 ~ No. 8 Reserved

Set to "0".

SW-J1 No. 1, No. 2 Reserved

Set to "0".

SW-J1 No. 3 Sender's phone number setting

Used to make a choice of whether the registered sender's phone number can be changed or not. If the switch is set to "1", new registration of the sender's phone number is disabled to prevent accidental wrong input.

SW-J1 No. 4, No. 5 Reserved

Set to "0".

SW-J1 No. 6 Day light saving setting

This is used to set YES/NO of automatic clock adjustment for day light saving.

SW-J1 No. 7, No. 8 Ringer volume

Used to adjust ringing volume.

SW-J2 No. 1, No. 2 Speaker volume

Used to adjust sound volume from a speaker.

SW-J2 No. 3 Polling key

If this switch is set to 1, the last of Rapid key works as polling key.

SW-J2 No. 4, No. 5 Handset receiver volume

Used to adjust sound volume from a handset receiver volume.

SW-J2 No. 6 ~ No. 8 Reserved

Set to "0".

SW-J3 No. 1, No. 2 Reserved

Set to "0".

SW-J3 No. 3, No. 4 Communication result printout (Transaction report)

It is possible to obtain transaction results after each communication. Normally, the switch is set (No. 1: 0, No. 2: 0) so that the transaction report is produced only when a communication error is encountered. If No. 1 was set to 1 and No. 2 to 0, the transaction report will be produced every time a communication is done, even if the communication was successful.
Setting No. 1 to 1 and No. 2 to 1 will disable this function. No transaction report printed.

SW-J3 No. 5 ~ No. 8 Reserved

Set to "0".

SW-K1 No. 1 Entering DIAG mode by pressing SPEED key

A bit which is used in the production process only. When the SPEED key is pressed, the switch is changed from the stand-by state to the DIAG mode.

SW-K1 No. 2 ~ No. 8 Reserved

Set to "0".

SW-L1 No. 1 ~ No. 8 Reserved

Set to "0".

SW-L2 No. 1 ~ No. 8 Reserved

Set to "0".

[3] Troubleshooting

Refer to the following actions to troubleshoot any of problems mentioned in 1-4.

[1] A communication error occurs.

[2] Image distortion produced.

[3] Unable to do overseas communication.

[4] Communication speed slow due to FALLBACK.

- Increase the transmission level SOFT SWITCH A4-1, 2, 3, 4, 5. May be used in case [1] [2] [3].
- Decrease the transmission level SOFT SWITCH A4-1, 2, 3, 4, 5. May be used in case [3].
- Apply line equalization SOFT SWITCH A5-1, 2. May be used in case [1] [2] [3] [4].
- Slow down the transmission speed SOFT SWITCH A2-1, 2, 3, 4. May be used in case [2] [3].
- Replace the TEL/LIU PWB. May be used in all cases.
- Replace the control PWB. May be used in all cases.

* If transmission problems still exist on the machine, use the following format and check the related matters.

TO: ATT: Ref.No. :

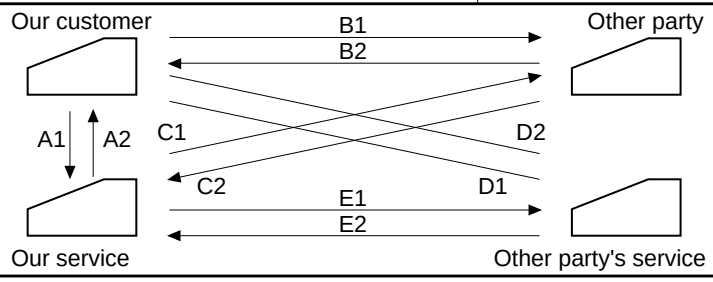
CC: ATT: Date :

FM: Dept :

Sign :

***** Facsimile communication problem *****				Ref.No.:
From: Mr.	Fax Tel No.:			Date:
Our customer	Name			Tel No.
	Address			Fax No.
	Contact person			Model name
Other party	Name			Tel No.
	Address			Fax No.
	Contact person			Model name
Problem mode	Line: Domestic / international		Model: G3	Phase: A, B, C, D.
	Reception / Transmission	Automatic reception / Manual reception		
		Automatic dialing / Manual dialing / Others		
Frequency:		%	ROM version:	

Confirmation item



Please mark problem with an X.
No problem is: 0.

A1	A2	B1	B2	C1	C2	D1	D2	E1	E2

Transmission level setting is ( ) dB at our customer

Transmission level ( ) dBm
Reception level ( ) dBm
By level meter at B1 and B2

Comment	
Countermeasure	

**** Please attach the G3 data and activity report on problem. ****

* Please complete this report before calling the “TAC” hotline if problem still occurs.

[4] Error code table

1. Communication error code table

G3 Transmission

Code	Final received signal	Error Condition (Receiver side)
0	Incomplete signal frame	Cannot recognize bit stream after flag
1	NSF, DIS	Cannot recognize DCS signal by echo etc. Cannot recognize NSS signal (FIF code etc)
2	CFR	Disconnects line during reception (carrier missing etc)
3	FTT	Disconnects line by fall back
4	MCF	Disconnects line during reception of multi page Cannot recognize NSS, DCS signal in the case of mode change
5	PIP or PIN	The line is hung up without replying to telephone request from the receiving party.
6	RTN or RTP	Cannot recognize NSS, DCS signal after transmit RTN or RTP signal.
7	No signal or DCN	No response in receiver side or DCN signal received* (transmitter side)
8	–	Owing to error in some page the error could not be corrected although the specified number of error retransmission was at tempted.
11	–	Error occurred after or while reception by the remote (receiving) machine was revealed to be impossible.
12	–	Error occurred just after fallback.
13	–	Error occurred after a response to retransmission end command was received.

G3 Reception

Code	Final received signal	Error Condition (Receiver side)
0	Incomplete signal frame	Cannot recognize bit stream after flag
1	NSS, DCS	Cannot recognize CFR or FTT signal Disconnects line during transmission (line error)
2	NSC, DTC	Cannot recognize NSS signal (FIF code etc)
3	EOP	Cannot recognize MCF, PIP, PIN, RTN, RTP signal
4	EOM	Cannot recognize MCF, PIP, PIN, RTN, RTP signal in the case of mode change
5	MPS	The line is hung up without replying to communication request.
6	PR1-Q	Cannot recognize PIP, PIN signal in the case of TALK request
7	No signal or DCN	No response in transmitter (cannot recognize DIS signal) or DCN signal received* (receiver side)
8	–	Error occurred upon completion of reception of all pages.
9	–	Error occurred when mode was changed or Transmission/Reception switching was performed.
10	–	Error occurred during partial page or physical page reception.
11	–	Error occurred after or during inquiry from the remote (transmitting) machine as to whether reception is possible or not.
12	–	Error occurred during or just after fallback.
13	–	Error occurred after the retransmission end command was received.