RIGOH	Technical B	Bulletin	No.	F/L Series-001
SUBJECT: Introduction of the New	Tools for ROM/RAM [	Data Change		<b>DATE:</b> Apr. 30, 1995
PREPARED BY: Y. Okunishi CHECKED BY: M. Iwasa FROM: 2nd		d T.S. Section		
CLASSIFICATION:	_		MODE	L:
Action Required Revision of service manual		FX	(6, FX4, LSO	
Troubleshooting	Information only			
Retrofit Information	Other			

The following service tools have been developed to change ROM and RAM data for F/L series machines.

#### 1. RRW (Remote ROM Writer)

Software in ROM can be changed remotely since a Flash ROM is used for F/L series machines. The RRW is a software package that runs in a Personal Computer with an external class 1 modem of a type recommended by Ricoh and can change the ROM data in F/L series machines through the telephone network.

Please contact Ricoh to order the RRW. It will be released in May 1995.

#### 2. RDS Version 2.0

The new RDS Version 2.0 runs in a Personal Computer with an external class 1 modem of a type recommended by Ricoh and can change RAM data such as Quick Tel. Numbers, Bit switches, RTI etc. ... in remote fax machines made by Ricoh through the telephone network.

This RDS can also change ROM data in Ricoh made fax machines that use flash ROMs.

Please contact Ricoh to order RDS Version 2.0. It will be released in June 1995.

#### 3. Flash ROM/SRAM Copy Tool ( P/N: H5159100 )

This is an interface card between the FCE inside the machine and an FCE outside the machine. There are three purposes for this tool.

- [1] Transferring user data in the RAM such as Quick Tel. Numbers, Bit Switches, etc. ... in an FCE removed from a defective machine to a new FCE installed in the machine.
- [2] Updating the ROM inside the machine from an FCE or EPROM Board outside the machine without replacing the ROM.
- [3] Copying the ROM data inside the machine into the ROM on an FCE outside the machine.

This tool is available at the Spare Parts Center.



No. F/L Series-001

**SUBJECT:** Introduction of the New Tools for ROM/RAM Data Change

DATE: Apr. 30, 1995

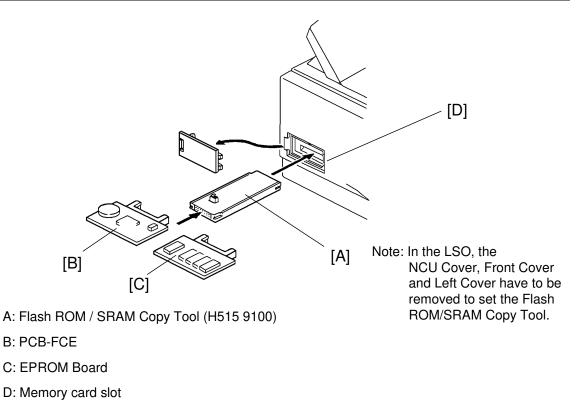
#### 4. EPROM Board

This is a tool for updating the ROM inside the machine without replacing the ROM. Programmed EPROM(s) can be installed on the EPROM board.

The EPROM Board is connected to the Flash ROM/SRAM Copy Tool and the data in the EPROM is transferred to the Flash ROM inside the machine through the Flash ROM/SRAM Copy Tool.

Please contact Ricoh to order EPROM Board.





The Flash ROM / SRAM Copy Tool [A] is inserted into the memory card slot [D], then the FCE [B] or EPROM Board [C] with new software is connected to the opposite side of the tool.

#### **ROM Data Download**

This function copies software from an external medium to the Flash ROM on the machine's FCE. The external medium for the new software can be an FCE [B] or an EPROM Board [C].

#### **ROM Data Upload**

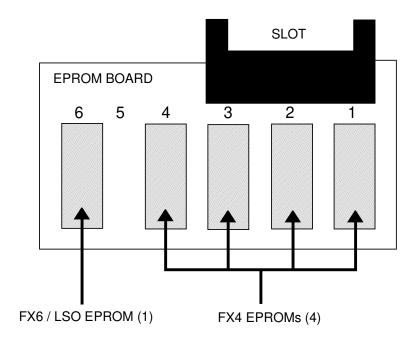
This function copies the software from the machine's built-in FCE to an external FCE [B]. This function does not work with an EPROM Board [C].

#### **SRAM Data Download**

This function copies all the data stored in the SRAM on an external FCE [B] to the machine's FCE. Use this after replacing a damaged FCE to save any previous settings that were programmed in the damaged FCE.

#### Note:

- 1) SRAM data upload is not available.
- 2) Refer to the service manual for the operation procedure.
- 3) The blank EPROM (P/N H082 7110) which is 150ns or 120ns speed for the CFO can be used for the FX4. However, it cannot be used for the FX6 and the LSO. The blank EPROM (P/N 19050020) which is 100ns speed can be used for the FX6, the LSO, and the FX4.



RI	Contraction Technical	I Bull	etin	No.F	/L Series-002		
SUBJEC	SUBJECT: Fax FX6CD (FAX2400L) InformationDATE: June 30, '95PAGE: 1 of 1						
PREPARED BY: K. Misugi FROM: 2nd Technical Support Se CHECKED BY: M. Iwasa					Support Section		
CLASSIFICATION:       MOI         Action Required       Revision of service manual         Troubleshooting       Information only         Retrofit Information       Other					EL: 2400L		
The FX	w model FX6CD has been releas 6CD is almost the same as the F ces in specifications between the	FX6. Ple e two ma	ase see the fol achines.	llowing ta	ble for the		
			FX6	FX6			
	100 sheet cassette		railable	Not Ava			
	Mech. Counter		Available Not Available				
Bypass Feeding			vailable Not Available				
	nory Backup		railable	Not Ava			
Stamp		Av	ailable	Not Ava	ailable		
The foll	owing parts for the FX6CD are d	lifferent f					
Index	Name		Part Nur FX6	FX6			
1	PCB - FCE		166002	H5276			
2	PCB - FDU		166003	H5276			
3	Manual Feed Table		163437	H527			
4	Cover - Operation Panel		164221	H5274			
5	Stamp Solenoid		155005	Not u			
6	Harness - 100 sheet cassette		155085	Not u			
7			215061	H527			
8	- 13		212040	H5272			
9	Operator's Manual			H5278			
Note: Since th used as	ne stamp is not available in the F s the Printer Function Key when refer to the operation manual for	- X6CD, t the optic	he Stamp Key	on the or	peration panel is		

# I

## Technical Bulletin No. F/L Series-003

**SUBJECT:** Service Manual Corrections

DATE:

June 30, 1995

PREPARED BY: Y. Furuya CHECKED BY: M. Iwasa			d T.S. Section	
CLASSIFICATION: Action Required Troubleshooting Retrofit Information	Revision of servi Information only Other		MODEL: FX6	

## **Chapter 2**



### Section 2.2.1. Printing Process - Overview

	Wrong	Correct
Charge bias current and voltage	-5.4 kV/ 305 μA	-5.3 kV/ 300 μA
Zenor diode voltage	715V	698V
Transfer current	+5 μΑ	+4 μA

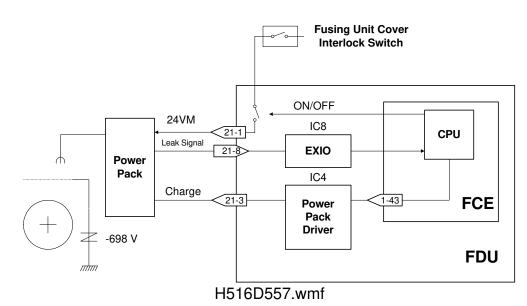
#### Section 2.2.2. OPC Drum

Wrong Sentence	Correct Sentence	
The toner application roller, and	The toner application roller, and	
transport roller [E] are	transfer roller [E] are	



#### Section 2.2.3. Charge

Wrong Sentence	Correct Sentence
The corona wire [A] generates (the	The corona wire [A] generates (the
voltage is about <u><b>-5.4</b></u> kV).	voltage is about <u>-5.3</u> kV).





No. F/L Series-003

SUBJECT: Service Manual Corrections

DATE:

June 30, 1995



#### Section 2.2.4. - 2. Block Diagram

Wrong Sentence	Correct Sentence
The LIF block in the (FDU <u>CN26-6</u> ) and	The LIF block in the (FDU CN26-2) and
transfers	transfers
Speed of hexagonal mirror motor is:	Speed of hexagonal mirror motor is:
<u>7977.9 rpm</u>	<u>7977.8 rpm</u>

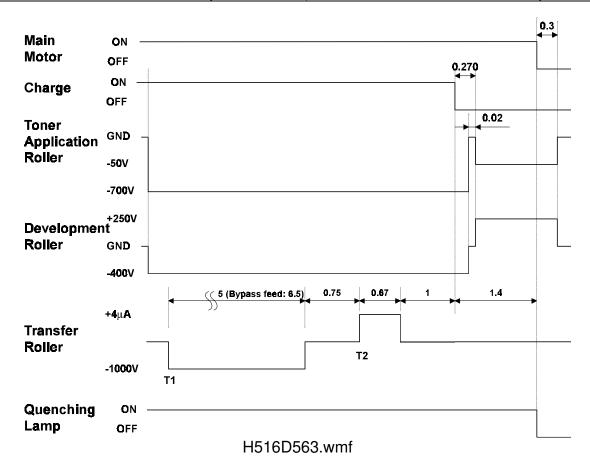
#### Section 2.2.7. Paper Feed - 1. Overview

Delete the following sentence from the first paragraph. "The bypass feed slot can only be used in copy mode."

#### Section 2.2.9. Transfer and Separation

Г			ы
н	-	•	L
L	-		L
н	-		L
н		-	
н			v

Wrong Sentence	Correct Sentence		
A constant current of +5 +/- 0.2 $\mu$ A is	A constant current of +4 +/- 0.2 $\mu$ A is		



No. F/L Series-003

**SUBJECT:** Service Manual Corrections

DATE:

#### June 30, 1995

#### Section 2.2.11. Fusing - Service Call Conditions

	Wrong	Correct
Sub-code 05	more than <u>40</u> seconds	more than 18 seconds
Sub-code 02	to reach <b>150 deg.C</b> from	to reach <b><u>165 deg.C</u></b> from
Sub-code 01	stays above 175 deg.C for	stays above <b><u>190 deg.C</u></b> for
Sub-code 03/04	go down to <b>the standby</b>	go down to 100 deg.C when
	temperature when	

### Chapter 3



E

#### Section 3.2. INITIAL PROGRAMMING

Add "**Protocol Requirements (G3 Bit Switch 0B) - Function 01**" in the "Items to Program (Service Level)" section. This is because these bit switches must be enabled manually at installation.

### Chapter 4



#### Section 4.1.20. Software Download (Function 12) - Step 9 Section 4.1.21. Software Upload (Function 12) - Step 8 Section 4.1.22. SRAM Data Download (Function 12) - Step 9

Wrong Sentence	Correct Sentence
Turn off the machine, then turn it back on.	Turn off the machine and disconnect the
	tool. Then turn the machine back on.



No. F/L Series-003

**SUBJECT:** Service Manual Corrections

DATE: June 30, 1995



#### Section 4.2. BIT SWITCHES

Switch	Bit No.	Wrong	Correct
System 00	2	Third and fourth numbers: The left hand figure is the <u>low</u> byte and the right hand figure is the <u>high</u> byte	Third and fourth numbers: The left hand figure is the <u>high</u> byte and the right hand figure is the <u>low</u> byte
			Refer to "How to calculate the rx level listed on the TCR (Journal)" below, for details.
System-0F	0 - 7	Cross reference - NCU parameter <u>00</u>	Cross reference - NCU parameter <u>CC</u>
G3-03	3	1: ECM reception is disabled, which enlarges the SAF memory.	1: The machine transmits with a frame size of 64 bytes in ECM. Set this bit to 1 when the other terminal only has only a 64 byte frame size.
G3-08	0 - 3	Not used.	PABX cable equalizers The bit assignments are completely the same as PSTN cable equalizer (G3 switch 07).
G3-0B	0 - 5	These bits are automatically set to the appropriate settings after a country code (System Switch 0F) is programmed.	Manually program these bit switches to match local requirements.



#### How to calculate the rx level listed on the TCR (Journal)

Example: V29 96 L 01 0C 00 00

High byte

Low byte

If bit 2 of system switch 00 is set to 1, the 4-digit hexadecimal value (=N) after the letter "L" indicates the rx level. The calculation to get the actual rx level is given below.

$$[Rx \ level \ (-dB)] = \frac{Decimal \ value \ of \ N}{16}$$

In the above example, the decimal value of 010C (H) is 268. So, the actual rx level is -16.75 dB.



## Technical Bulletin No. F/L Series-003

**SUBJECT:** Service Manual Corrections

DATE:

June 30, 1995

### 

#### Section 4.3. NCU PARAMETERS

Address (H)	Wrong	Correct
807F00	Function 08 (parameter 00)	Function 08 (parameter <u>CC</u> )
807FA1/FA2	Factory setting: 2100 Hz	See Note 2.
Notes - 2		If the addresses for tone detection parameters contains FF(H), tone detection is disabled.



#### Section 4.5. SERVICE RAM ADDRESSES

Address (H)	Wrong	Correct
80001E		Unit of the update counter is hexadecimal.
8003AD 8003B2	Setting (1, 1, 1, 0) is <u>Legal</u> <u>sideways</u>	Setting (1, 1, 1, 0) is <u>Legal</u> lengthwise
8003FD to 800404	Bit assignments: Bits 0 to 2: Not used.	Bit assignments: Bit 0: Edge detection during the halftone process 0:Off, 1: On Bit 2: Edge detection threshold during the halftone process 0: Normal, 1: High

# RIGOH

## Technical Bulletin

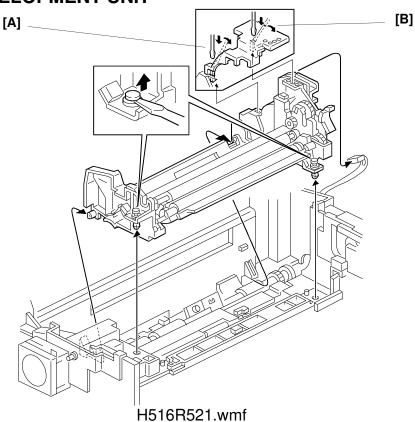
No. F/L Series-003

**SUBJECT:** Service Manual Corrections

DATE: June 30, 1995

## **Chapter 5**

### Section 5.6. DEVELOPMENT UNIT



Use a small ( -) screw driver to release the hooks [A] and [B] off the development unit.

#### Section 5.9.3. Power Pack

Add a note "Do not touch the dials on the power pack when replacing the power pack."

The three dials on the power packs are to be sealed with plastic. However, the power packs that were produced earlier do not have plastic seals on the dials. If you have power packs on which the dials are not sealed, be careful not to turn the dials.

#### Section 5.12.3. Margins (Main Scan Direction) - Parameter W1

Delete the following sentence from "Formula": "2. How a setting affects printer interface output. W1PIF = (Current setting x 0.5)/ 0.68 mm"



## Technical Bulletin No. F/L Series-003

**SUBJECT:** Service Manual Corrections

DATE: June 30, 1995

## **Chapter 6**



#### Section 6.3. SERVICE CALL CONDITIONS - Fusing Unit Failure

	Wrong	Correct
Sub-code 05	more than <u>40</u> seconds	more than <b>18</b> seconds
Sub-code 02	to reach <b>150 deg.C</b> .	to reach <b>165 deg.C.</b>
Sub-code 01	stays above 175 deg.C for	stays above <b><u>190 deg.C</u></b> for
Sub-code 03/04	fall back to <b>80 deg.C</b> .	fall back to <b>100 deg.C</b> .



#### Section 6.4. ERROR CODES - Error Code 0-24

Delete the following sentences from "Suggested Cause/Action", because there is no such adjustment available.

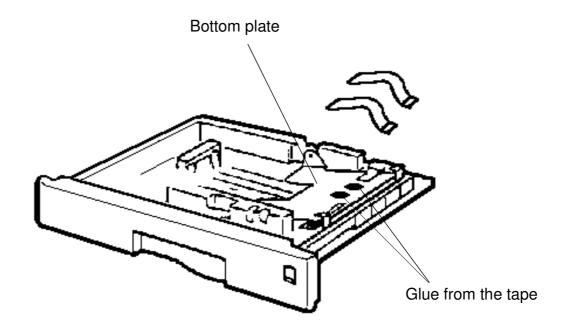
"Try changing the post-message command tx timing." "Cross reference: Post message command tx timing"

## Technical Bulletin No. F/L series-004

SUBJECT: Possibility of pap		<b>DATE:</b> Aug. 31, 1995		
PREPARED BY: T. Kimura CHECKED BY: M. Iwasa		FROM: 2nd	1 T.S. S	ection
CLASSIFICATION:			MODE	L:
Action Required	ice manual	M	V310	
Troubleshooting	Information only			
Retrofit Information	Other			

When peeling off tapes, in particular for the paper cassette, please check if the glue from the tape has been completely removed from the paper cassette bottom plate.

If not, a paper misfeed may occur when the last sheet is fed, since it sticks to the bottom plate.



## Technical Bulletin No. F/L series-005

SUBJECT: Unreleased side cassette locks	<b>DATE:</b> Aug. 31,1995		
PREPARED BY: T. Kimura CHECKED BY: M. Iwasa	FROM: 2nd	IT.S. Se	ection
CLASSIFICATION:		MODE	L:
Action Required Revision of serv Troubleshooting Information only Retrofit Information Other		M	/310

When installing the optional side cassette, there may be a problem in which the lock of the bottom plate is not released. If it is not released, paper end will be detected. This is because the height margin between the protuberance on the bottom plate and the release lock lever is not sufficient for the two parts to contact.

To prevent this problem, the height adjustment part should be attached before installing the side cassette.

#### Installation procedure:

See the attached procedure.

#### The machines to be modified:

The July production run or earlier, and the 633 August production run. The serial numbers of the 633 machines are as follows:

M0350800 001~032, 034~055, 059~097, 099, 101~103, 105~164, 169~386, 395~408, 417~476, 478~483, 485, 487, 489, 492, 494, 496, 498, 507~519, 522~532, 541, 543, 545, 548, 550, 552, 556, 558, 560, 562, 564, 566, 567, 569, 571, 573, 575~582, 584, 586, 588, 590, 591, 593, 595, 597, 645, 648, 649, 652~709, 711, 713, 715, 718, 720, 722, 724, 734, 736, 738, 740, 760, 761, 763, 765, 768, 770, 772, 774~807, 890, 891

## Technical Bulletin No. F/L series-005

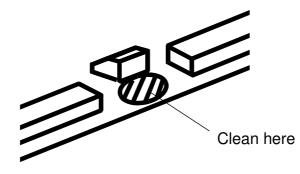
SUBJECT: Unreleased side cassette locks

DATE: Aug. 31,1995

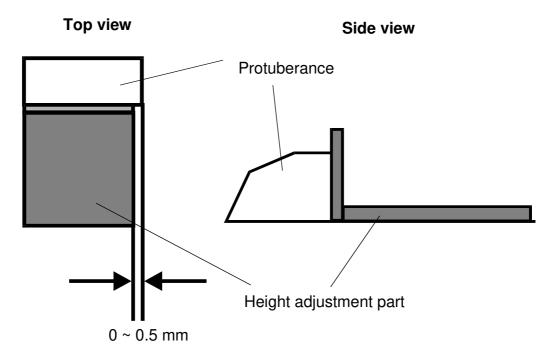
#### <Attachment>

#### **Installation Procedure**

1. Clean the portion on which the part will be attached with alcohol or wet cloth.



- 2. Peel off the backing of the part.
- 3. Attach the part.



#### 

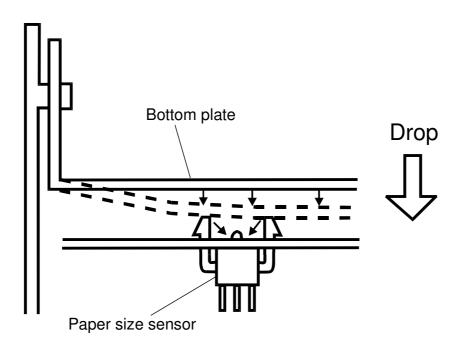
SUBJECT: Paper size sense		<b>DATE:</b> Aug. 31, 1995		
PREPARED BY: T. Kimura CHECKED BY: M. Iwasa	l	FROM: 2nd	d T.S. S	ection
CLASSIFICATION:		L	MODE	L:
Action Required	Revision of servi	ice manual	M	V310 / FX6
Troubleshooting				
Retrofit Information	Other			

After installing the side cassette, it may be found that the paper size cannot be set properly in spite of setting the paper size indicator dial. If this problem occurs, the machine cannot detect any size other than LT/LEGAL.

In this case, it is assumed that the paper size sensor is out of position because of transportation damage.

The drop test was checked up to a height of 80 cm (our specification) but no problem was found.

If it is dropped from a height exceeding 80 cm, it is considered that the problem may occur because the bottom plate rebounds and presses down the paper size sensor.



## **R C C Technical Bulletin** No. F/L series-006

SUBJECT: Paper size sensor out of position

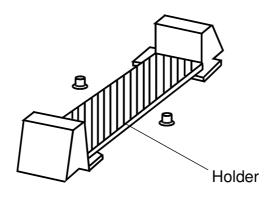
DATE: Aug. 31, 1995

#### The procedure to cure the problem:

This problem does NOT occur in normal operation. Therefore, please put the sensor back into place. For how to access the sensor, please refer to the attachment.

#### Others:

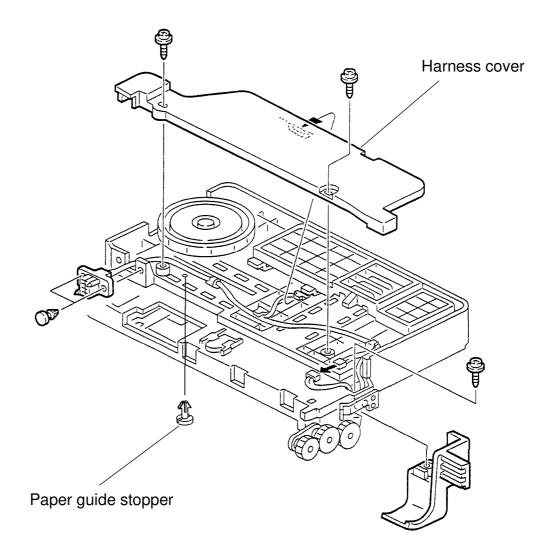
To increase the safety margin for dropping, a holder has been added as shown below from July production at the factory.



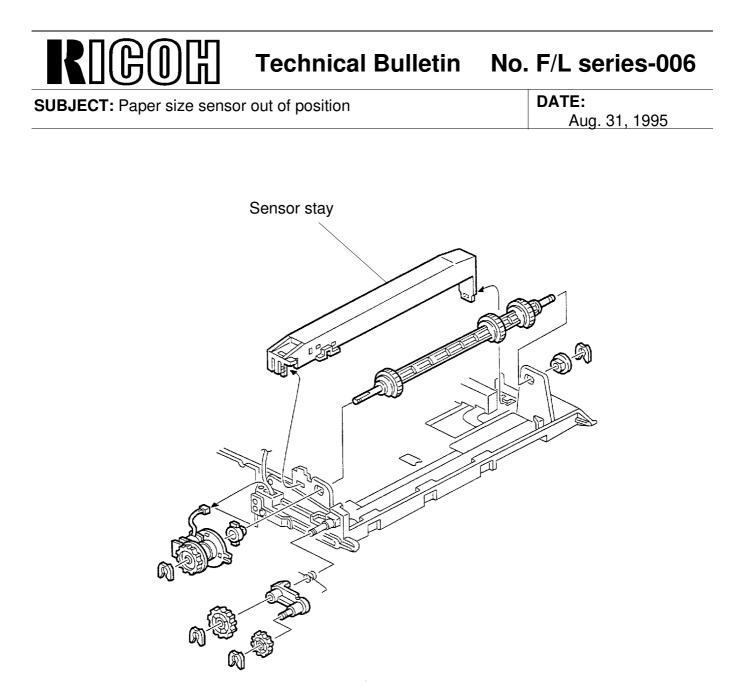
# RIGOI Technical BulletinNo. F/L series-006SUBJECT: Paper size sensor out of positionDATE:

Aug. 31, 1995

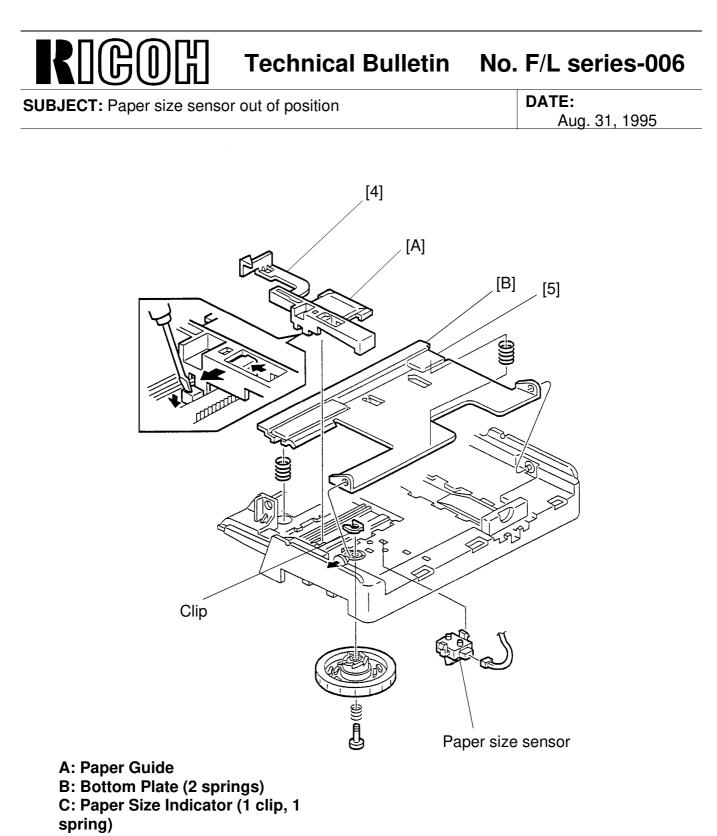
#### < Attachment >



- 1. Remove the two screws and take off the harness cover.
- 2. Remove the paper guide stopper.



3. Remove the sensor stay.



- 4. Remove the paper guide.
- 5. Remove the bottom plate.
- 6. Take off the clip and remove the paper size indicator.
- 7. Reinstall the paper size sensor.

### Technical Bulletin No. F/L Series-007

SUBJECT: Auto Service Call 0-05

DATE:

Sep. 1	5, 1	995
JUD. I	<b>J</b> . I	330

PREPARED BY: Y. Okunis CHECKED BY: M. Iwasa	hi	FROM: 2nd	d T.S. Section	
CLASSIFICATION: Action Required Troubleshooting Retrofit Information	<ul> <li>Revision of servi</li> <li>Information only</li> <li>Other</li> </ul>		MODEL: FX6	

#### **Problem:**

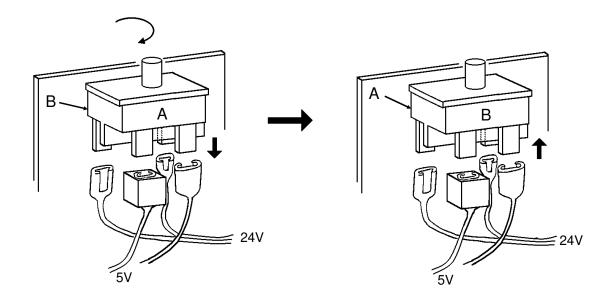
Auto Service Call 0-05 (Fusing Unit Failure; see page 6-26 of the Service Manual)

#### Cause:

There are two switches, for the 5V line and the 24V line, in the Safety Switch (Index no.133 on page 1-16 of Parts Catalog). If the Top Cover or Front Cover is not closed completely, there is a possibility that the 5V switch will turn on but the 24V switch will not. In this case, "Cover Closed" is detected but the fusing lamp is not turned on, and this is the cause of the Auto Service Call.

#### Action Taken:

- 1) Remove the Right Cover.
- 2) Disconnect the 5V lines and the 24V lines.
- 3) Remove the Safety Switch.
- 4) Turn the Safety Switch 180 degrees.
- 5) Connect the 5V lines and 24V lines.



#### Note:

RAM reset is required to escape from the Auto Service Call.

#### For the production:

A modification will be implemented to turn on the 24V line and 5V line at the same time.

RIGOH	Technical E	Bulletin	No.	F/L Series-008
SUBJECT: Service Manual Co	orrection			<b>DATE:</b> Sep. 15, 1995
PREPARED BY: Y. Okunishi CHECKED BY: M. Iwasa		FROM: 2nd	d T.S. Se	ection
CLASSIFICATION:			MODE	L:

ASSIFICATION:		MODEL:
Action Required	Revision of service manual	FX6
Troubleshooting	Information only	
Retrofit Information	Other	

The PM table in the service manual has been corrected.

See the attached sheet.

## SERVICE TABLES AND PROCEDURES SPECIAL TOOLS AND LUBRICANTS

#### April 7th, 1995

#### **4.6 SPECIAL TOOLS AND LUBRICANTS**

• Flash/SRAM data copy harness (P/N: H5159100)

#### 4.7 PM RABLE

#### Scanner

Item	30K	60K	90K	1 year	Notes
Exposure Glass	C(user)	C(user)	C(user)	C(user)	Soft cloth and alcohol
R1 and R2 Rollers	C(user)	C(user)	C(user)	C(user)	Soft cloth and alcohol
White Plate	C(user)	C(user)	C(user)	C(user)	Soft cloth and water
ADF Roller Assy	R(user)	R(user)	R(user)	C(user)	Soft cloth and water
Separation Pad	R(user)	R(user)	R(user)	C(user)	Soft cloth and water

#### Printer

Item	30K	60K	90K	1 year	Notes
Paper Feed Roller (*)		С		_	Soft cloth and water
Registration Roller		C(user)		C(user)	Soft cloth and alcohol
Thermistor		R			
Hot Roller Strippers		R			
Pressure Roller		R			
(Fusing)					
Cleaning Pad	R(user)			A cleaning pad is	
	Repla	aced when a new CTM (toner		enclosed in the CTM.	
	L	cassette)	is installed	•	
Transfer Roller (*)		R			Dry paper
Development Unit		R			

#### 100 Sheet Cassette (Optional)

Item		30K	60K	90K	1 year	Notes
Feed Roller	(*)				C(user)	Soft cloth and water

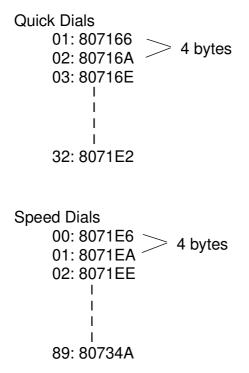
#### C: Clean, R: Replace

\* : Corrected

# **R**[**GG**] Technical Bulletin No. F/L Series-009

SUBJECT: Dedicated Tx Parameters				DATE: Sep. 15, 1995
PREPARED BY: Y. Okunishi CHECKED BY: M. Iwasa		FROM: 2nd	1 T.S. S	ection
	sion of servi mation only r		MODE F)	L: K6, FX6MII, FX6CD

RAM Addresses for Dedicated Tx Parameters



#### Technical Bulletin No. F/L Series - 010 DATE: SUBJECT: New Model FAX FX6MkII (FAX 3700L) 1995. 9. 14 PREPARED BY: K. Misugi FROM: 2nd T.S. Section CHECKED BY: M. Iwasa **CLASSIFICATION:** MODEL: FAX 3700L **Action Required** Revision of service manual Troubleshooting Information only **RC Only**

The new model FX6MkII (FAX 3700L) has been released in the line-up of the FX6 (FAX 2700L) series.

Other

This technical bulletin contains information on differences between the FX6MkII and the FX6. They are listed in order of sections that appear in the service manual.

#### **1. OVERALL MACHINE INFORMATION**

#### **1.1. SPECIFICATIONS**

**Retrofit Information** 

	FX6	FX6MkII	
Maximum Scan Width	216 mm [8.5 ins] ± 0.25%	256 mm [10.0 ins] ± 0.25%	
SAF	244 kbytes	512 kbytes	
	(19 pages/Slerexe letter)	(38 pages/Slerexe letter)	
Modulation	V.29, V27ter, V21	V.33/V.17 (TCM),	
	,,	V.29, V.27ter, V21	
Data Rate (bps)	9600/7200/4800/2400	14,400/12,000/ 9600/7200/4800/2400	
Transmission Time	9 s at 9600 bps; (Measured with G3 ECM using memory for a ITU-T #1 test document at standard resolution)	6 s at 14,400 bps; (Measured with G3 ECM using memory for a ITU-T #1 test document at standard resolution)	
Paper Size and Capacity	Not Available	Paper Feed Unit (Optional): 500 sheets, available paper size USA: Letter, Legal Europe: A4, A5 sideways Asia: A4, A5 sideways, F/F4	

# RIGOH

## Technical Bulletin

No. F/L Series - 010

SUBJECT: New Model FAX FX6MkII (FAX 3700L)

**DATE:** 1995. 9. 14

#### **1.2. FEATURES**

Sub-Title	Item	FX6	FX6MkII
Equipment	Optional paper feed unit	Not available	Available
Video Processing Features	Reduction (B4 to A4)	Not available	Available
Communication Features	AI Redial (last ten numbers)	Not available	Available
	Telephone Directory	Not available	Available
	Two in one	Not available	Available
	Continuous Polling	Not available	Available
Other User Features	Checkered mark	Not available	Available
	Reception time printing	Not available	Available

#### 1.4. OVERALL MACHINE CONTROL (Please refer to page 4.)

1.5. VIDEO DATA PATH (Please refer to page 5 and 6.)

#### 1.6. POWER DISTRIBUTION DIAGRAM (Please refer to page 7.)

#### 2. DETAILED SECTION DESCRIPTIONS

#### 2.1. Scanner

- 2.1.1. Mechanisms
- 3. Drive Mechanism: The actual scan width for FX6MkII is 256 mm (10.1").
- 4. Image Scanning: The number of photosensitive elements in the image sensor is 2048.

#### 2.2. PRINTING

2.2.7. Paper Feed

#### 5. Drive Mechanism

#### Paper Feed Priority

If all the cassettes contain paper of the same size, the machine uses the paper in the optional paper feed unit first, the paper in the standard cassette second, and the paper in the optional 100 sheet cassette last. However, this order can be changed with printer bit switch 02 bit 0. (Please refer to the bit switch section in this bulletin.)

No. F/L Series - 010

#### SUBJECT: New Model FAX FX6MkII (FAX 3700L)

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#### 2.2.8. Registration

Jam Detection

R

New error codes have been added for the optional paper feed unit (500 sheets).

	Condition	Error Code
When the optional paper feed unit is used	When the relay sensor in the paper feed unit is not turned on within 2.0 seconds after the paper feed clutch is enabled.	9-50
	When the registration sensor in the fax machine is not turned on within 2.0 seconds after the paper feed motor started.	9-51

2.2.11. Fusing

The fusing (printing) temperature is 185 °C. The printing start temperature is 160 °C.

2.2.13. Paper Size Selection

Same as the previous page for the Paper Feed Priority.

#### 2.4. PCBs

**2.4.1. FCE2** (Please refer to page 8.)

2.4.2. FDU (Please refer to page 9.)

#### 4. SERVICE TABLES AND PROCEDURES

Please see the attachment for section 4.

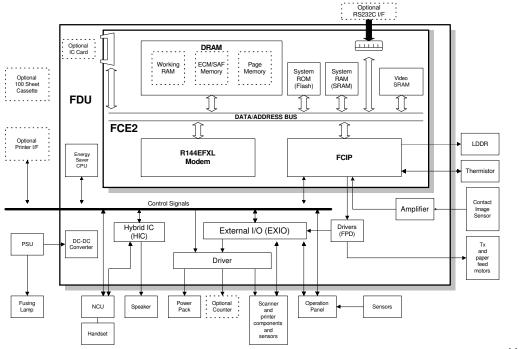
The settings and the switches that are different from the FX6 are shaded.

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#### **1.4.OVERALL MACHINE CONTROL**



H516V506.wmf

# The FCE2 (Facsimile Control Engine) contains the FCIP (Facsimile Control and Image Processor), DRAM, SRAM, System ROM, R144EFXL modem, and video processing memory, and controls the entire system through the FDU (Facsimile Driver Unit).

There are two cpus in the machine: the main cpu (FCIP) on the FCE and the energy saver cpu on the FDU. In energy saver mode, the main CPU switches off and the energy saver CPU takes over.

The FCIP consists of the following component blocks:

• RU8 CPU - Main CPU

• PRIF - Printer Interface

LIF- Laser Interface

- MDM Modem
- DMAC DMA Controller
- DIP Digital Image Processor
- DCR Data Compression and Reconstruction

The modem inside the FCIP is used for V.29, V27.ter, and V.21 communications. In addition, the Rockwell R144EFXL modem is used for V.17 and V.33 communications.

The 1.5 MB DRAM contains the SAF memory, ECM buffer memory, work area, and page memory. The SAF memory can be extended by 2 or 4 Mbytes with an IC card. A 512 kB (4 Mbit) flash ROM is used for the system ROM. Software in this ROM can be rewritten from the IC card slot or by RDS. Another 128 kB mask ROM contains LCD wording data.

# RIGOH

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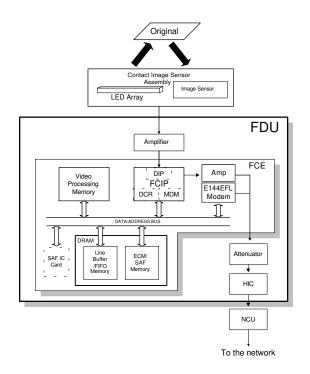
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### **1.5.VIDEO DATA PATH**

#### 1.5.1. Transmission



H516V507.wmf

DIP: Digital Image Processor DCR: Data Compression & Reconstruction MDM: Modem

#### Immediate Transmission:

Scanned data from the contact image sensor passes to the DIP block in the FCIP. After analog/digital video processing, the DCR block compresses the data for transmission. The compressed data then passes either to the FIFO memory or to the ECM memory before it is sent to the telephone line through the modem. If a data rate of 12,000 or 14,400 bps is used, the data passes through the E144EFL Modem.

#### Memory Transmission:

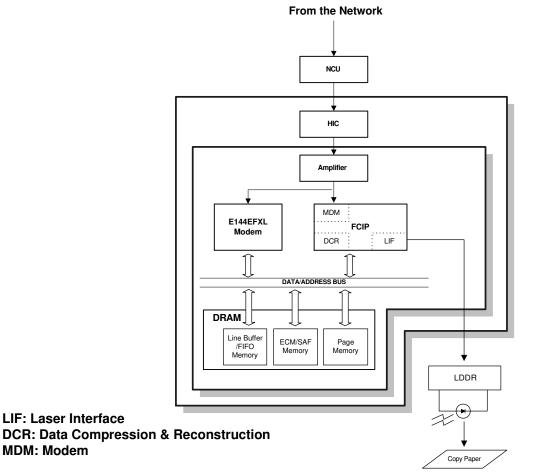
First, the scanned data is stored in the SAF memory after compression in the DCR block. At the time for transmission, the DCR block decompresses the data from the SAF memory, then compresses it again after handshaking with the other terminal is done. The compressed data then passes either to the FIFO memory or to the ECM memory, before it is sent to the telephone line through the modem.

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#### 1.5.2. Reception



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Data from the line passes to the modem through the NCU and hybrid IC. After the modem demodulates the data, the decompressed data passes to the DCR block, through either the FIFO or the ECM memory, where the data is decompressed to raster image data. At the same time, the compressed data passes to the SAF memory as a backup in case of mechanical problems during printing (substitute reception).

The raster image data is then passed to the page memory for printing. After a page of data has been stored in the page memory, the data is sent to the LDDR through the LIF block.

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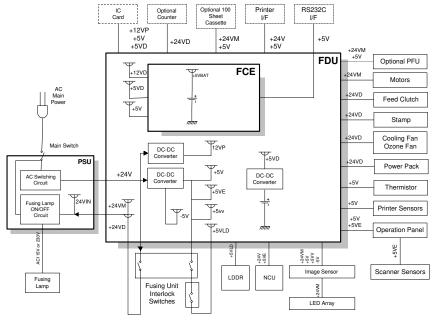
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#### **1.6. POWER DISTRIBUTION**

#### 1.6.1. Distribution Diagram

I



H516V511.wmf

The PSU supplies +24V dc power to the FDU. The FDU converts the +24V dc power supply to the following supplies.

+5V	This is normally on when the main switch is on.
+5VE	This is used for detecting an activation signal from the NCU, document feeder, or operation panel when the machine is in energy saving mode.
+5VLD	This supplies the laser diode. It is interrupted if the fusing unit cover interlock switch opens.
+5VV	This is a more stable power supply than +5V. It is used for the Contact Image Sensor.
+5VD	This supplies back up power for the DRAM and the optional IC card on the FCE. It can back up stored data for one hour after the power is switched off. A rechargeable battery on the FDU is used to generate +5VD.
+5VBAT	This supplies back up power to the system RAM on the FCE to back up the programmed data. A lithium battery is used to generate +5VBAT.
+24V	This is normally on when the main switch is on.
+24VD	This is interrupted if the fusing unit cover interlock switch opens.
+24VIN	This supplies +24V to the fusing unit on/off switching circuit. It is interrupted if the fusing unit cover interlock switch opens.
+24VM	This is interrupted if the machine enters energy saving mode.
-5V	This is used for the image sensor.
+12VP	This is supplied to the Flash ROMs on the FCE and the optional IC card.

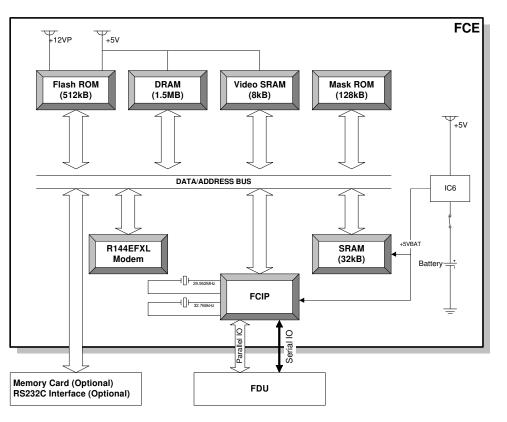
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#### 2.4. PCBs

2.4.1. FCE2



H516D530.wmf

#### 1. FCIP (Facsimile Controller and Image Processor)

- CPU
- Modem (V.29, V.27, V.21)
- · Data compression and reconstruction (DCR)
- Digital image processor (DIP)
- Laser interface (LIF)
- DMA controller
- Clock generation
- Stepper motor control
- Serial interface to the FDU
- DRAM backup control
- Ringing signal/Tone detection
- Fusing lamp control

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#### 2. Modem (Rockwell R144EFXL)

• V.17, V.33 modem

#### 3. ROM

- 512 kB (4 Mbit) flash ROM for system software storage.
- 128 kB (1 Mbit) mask ROM for LCD wording data storage (not used in the US model)

#### 4. DRAM

- 1.5 MB DRAM shared between the Line Buffer (32 kB), ECM Buffer (128 kB), Page Memory (768 kB), and SAF memory (512 kB).
- 5. Backed up by the battery on the FDU.

#### 5. SRAM

- 32 kB SRAM for system and user parameter storage.
- Backed up by the battery on the FCE.

#### 6. Video SRAM

• 8 kB SRAM for video processing.

#### 7. Oscillators

- 29.952 MHz oscillator for system clock generation.
- 32.768 MHz oscillator for the real time clock. This is backed up by the battery on the FCE.
- 38.00053 MHz oscillator for the R144EFXL modem.

#### 8. Jumpers, Switches, and Test Points

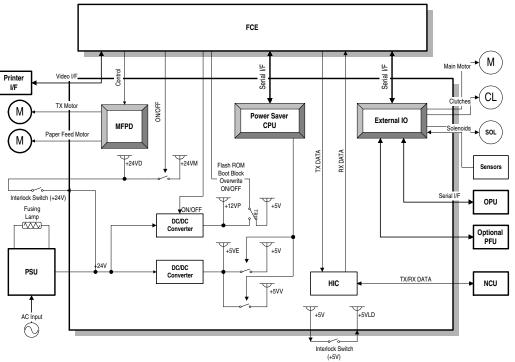
Item Description	
SW1 Switches the backup battery ON/OFF	

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#### 2.4.2. FDU



H516D531.wmf

#### **1. Power Saver CPU**

• 4 bit CPU for controlling the machine during power saver mode.

#### 2. FPD (Facsimile Power Driver)

• Stepper motor driver.

#### 3. EXIO (External I/O)

- Serial interface to the FCE and OPU.
- · Serial interface to an optional paper feed unit.
- · Parallel interface to the main motor, clutches, and sensors.

#### 4. HIC (Hybrid IC)

- 2-4 wire switching
- Filters and amplifiers
- Monitor speaker driver

#### 5. DC/DC Converters

- +5V generation
- +12V generation

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The following parts for the FX6MkII are different from the FX6.

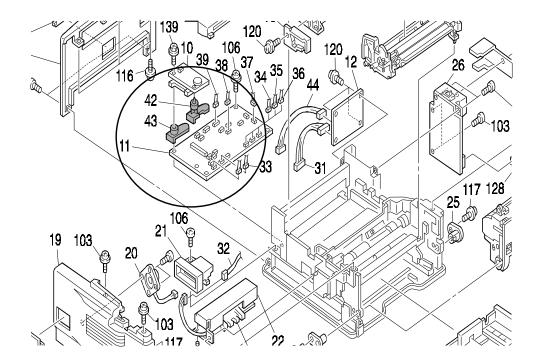
Index	F16	F16mkll	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5212041	H5152040	Laser Unit
3-10	H5166002	H5266002	PCB - FCE - FX6MkII - US
3-11	H5166043	H5266003	PCB - FDU - FX6MkII - US
3-*	H5168600	H5268600	Operator's Manual - FX6MkII - US
7-2	H5164225	H5264291	Cover - Operation Panel - FX6MkII
7-24	H5164303	H5264309	Quick Dial Sheet - US
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5215061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
21-5	H5163407	H5163401	Cassette Base - Universal
21-42	H5163465	H5153465	Support Plate - End Fence
		H5155318	PFU Harness
		H5163430	Paper Size Detector - LG
		H5153466	Plastic Rivet (Cassette End Fence)
18-36*		H5153693	Positioning Pin
		H5164088	Cassette Cover
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear

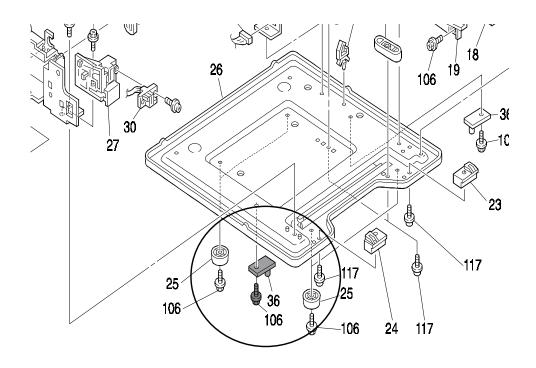
Note: \* Please see the next page for the location of the parts.

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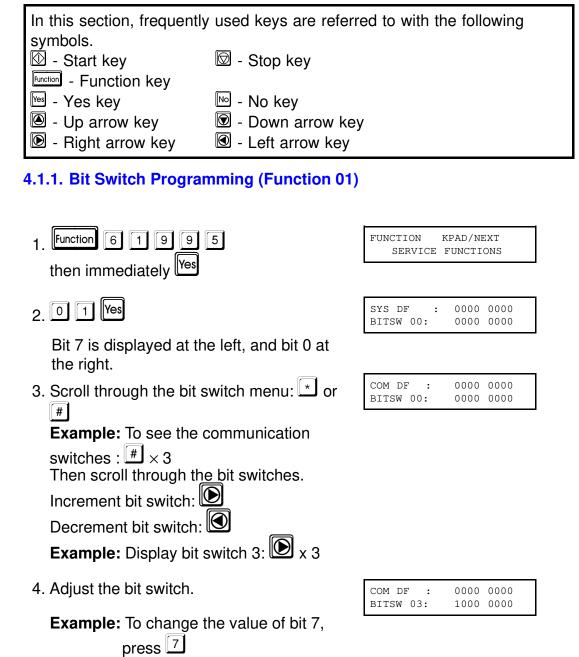
DATE: 1995. 9. 14





# 4. SERVICE TABLES AND PROCEDURES

# 4.1. SERVICE LEVEL FUNCTIONS



- 5. Either:
  - Adjust more bit switches go to step 3.
  - Finish Function

#### SERVICE TABLES AND PROCEDURES SERVICE LEVEL FUNCTIONS

## 4.1.2. System Parameter List (Function 02)

The format of the list is as follows.

2. 0 2 Yes

3. Finish: Function

Kî)

```
* * * SYSTEM PARAMETER LIST (Date and Time) * * *
                                                                           ттт
              SERIAL NO. - Serial number programmed by function 14)
             ROM VER. [Version] [Software release no.] [Software release date]
ROM NO. [Software part no.] [Check sum values (total) (boot) (main)]
              RTI
              T T I
              C S I
                                                       CONFIDENTIAL ID
              ID CODE
              MEMORY LOCK ID
              NUMBER
                OWN NUMBER
                SERVICE NUMBER
              NCU PARAMETER
              COUNTER
              PARAMETER
                SCAN THRESHOLD

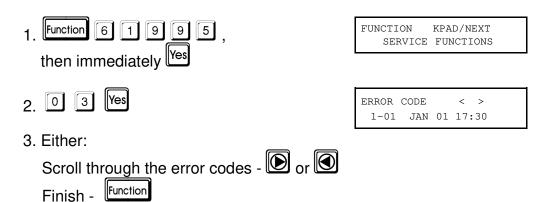
    2MB or 4MB
    - Optional memory card capacity installed

    CASSETTE 2
    - Optional paper feed unit installed

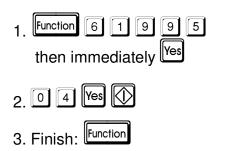
              SWITCH (UPPER:DEFAULT LOWER:CURRENT)
              (SWUSR) - User Parameter Settings
              SWITCH (UPPER:DEFAULT LOWER:CURRENT)
                 (SWSYS) - System Bit Switch Settings
                 (SWSCN) - Scanner Bit Switch Settings
                 (SWPLT) - Printer Bit Switch Settings
                 (SWCOM) - Communication Bit Switch Settings
                  (SWG3) - G3 Bit Switch Settings
                                                                                                   H526M510.wmf
1. Function 6 1 9 9 5
                                                                        FUNCTION KPAD/NEXT
                                                                              SERVICE FUNCTIONS
   then immediately Ves
```

4-2

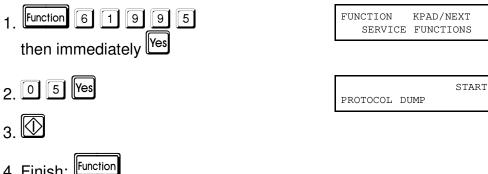
## 4.1.3. Error Code Display (Function 03)



# 4.1.4. Service Monitor Report (Function 04)



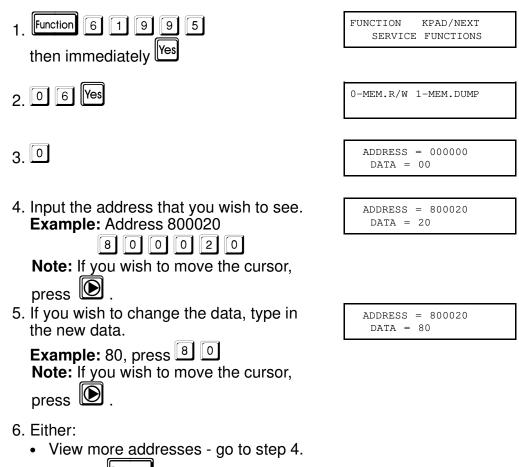
FUNCTION	KPAD/NEXT
SERVICE	FUNCTIONS



#### KPAD/NEXT SERVICE FUNCTIONS

## 4.1.6. RAM Display/Rewrite (Function 06)

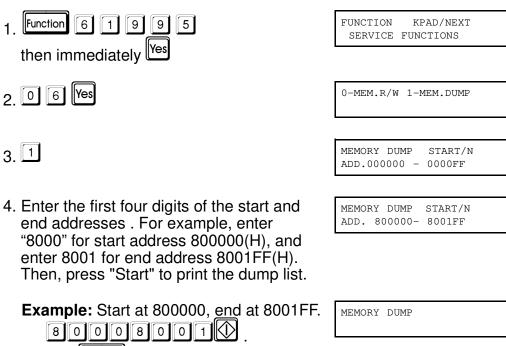
4. Finish:



Function Finish -•

4-4

## 4.1.7. RAM Dump (Function 06)



5. Finish: Function

4.1.8. Counter	<b>Display/Rewrite</b>	(Function 07)

1. Function 6 1 9 9 5	FUNCTION SERVICE	KPAD/NEXT FUNCTIONS
then immediately Yes		
2. 0 7 Yes	0-COUNTER 2-CTM	1-PM 3-OPU

3. Either:

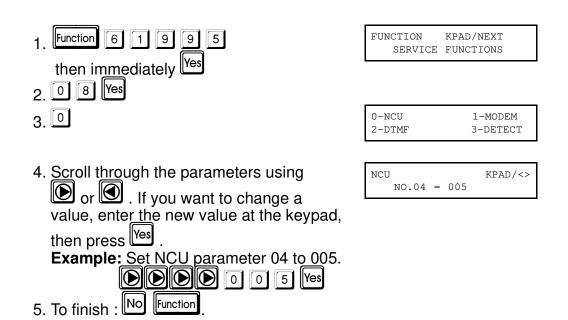
Check the transmitted, received, scanned and printed page counters, and the printer and scanner jam counters - press

TX:	012345	
RX:	012345	

#### SERVICE TABLES AND PROCEDURES SERVICE LEVEL FUNCTIONS

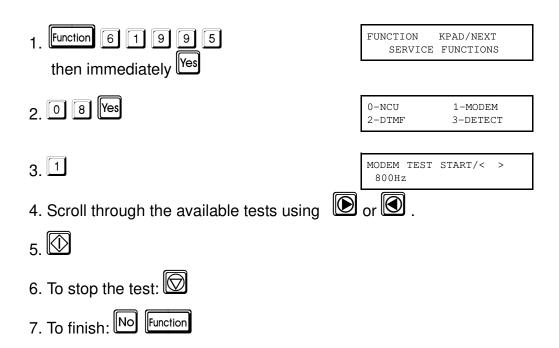
(To see the scanned and printed page counters, press #.	SCAN PRINT	: :	012345 012345
To see the printer and scanner jam count- ers, press $\#$ again.)	S.JAM: P.JAM:		000000 000000
Check the PM counter - press 1	PM COUNT	[ER:	001234
Check the CTM counter - press 2	CTM COUN	NTER:	001234
Check the OPU counter - press 3	OPU COUN	NTER:	001234
4. To change the contents of a counter,			
input the new value, then press Yes .			
5. To finish: Function			

## 4.1.9. NCU Parameters (Function 08)

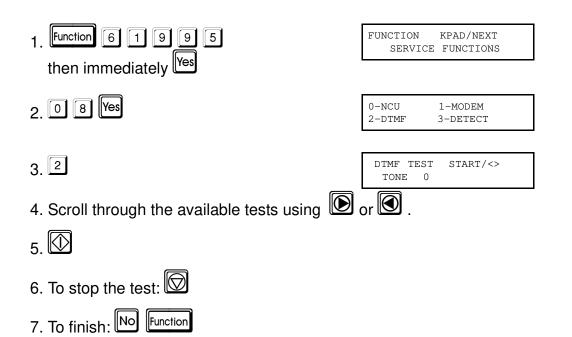


**Note:** Parameter CC is the Country Code, Parameter 01 is the Tx level. Refer to section 4.3 for full details on NCU parameters.

## 4.1.10. Modem Test (Function 08)



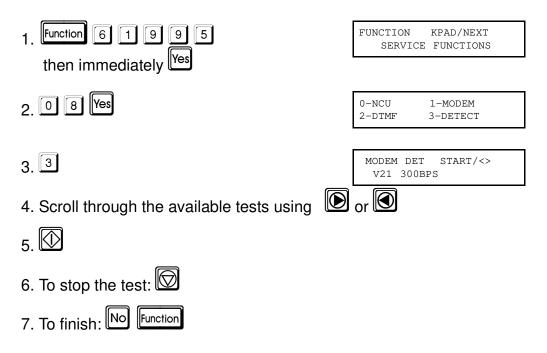
### 4.1.11. DTMF Tone Test (Function 08)



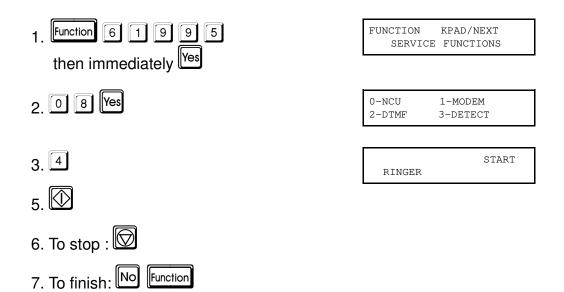
#### SERVICE TABLES AND PROCEDURES SERVICE LEVEL FUNCTIONS

### 4.1.12. Modem Detection Test (Function 08)

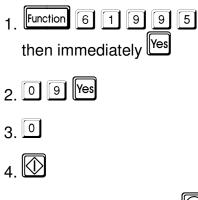
Note: This function can be used only when G3 bit switch 0B bit 5 (French PTT requirements) is 1 in European models. It cannot be used in USA models.

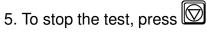


### 4.1.13. Ringer Test (Function 08)



## 4.1.14. Operation Panel Test (Function 09)



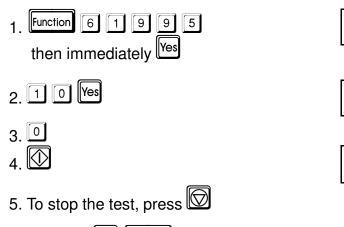


6. To finish: No Function

#### FUNCTION KPAD/NEXT SERVICE FUNCTIONS

0-LED/LCD

## 4.1.15. LED Array Test (Function 10)



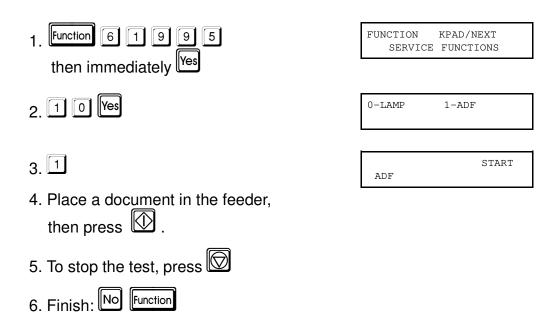
6. To finish: No Function

FUNCTION	KPAD/NEXT
SERVICE	FUNCTIONS

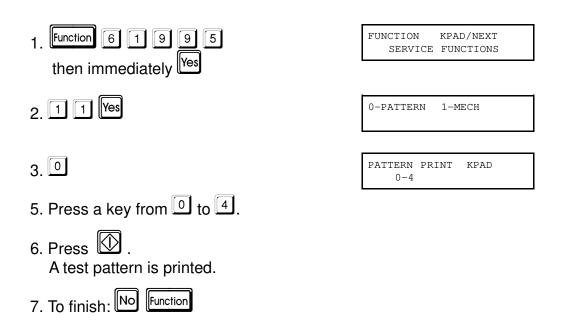
0-LAMP 1-ADF



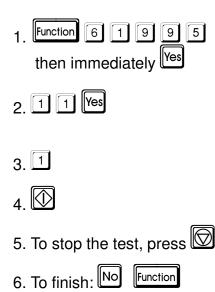
### 4.1.16. ADF Test (Function 10)



### 4.1.17. Printer Test Patterns (Function 11)



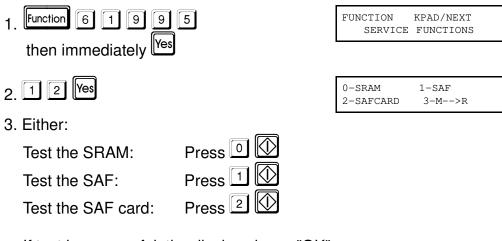
### 4.1.18. Printer Mechanism Test - Free Run (Function 11)



FUNCTION 9 SERVICE	KPAD/NEXT FUNCTIONS
0-PATTERN	1-MECH
MECH	START

### 4.1.19. RAM Tests (Function 12)

Function



If test is successful, the display shows "OK". If test is unsuccessful, the display shows "ADDRESS=".

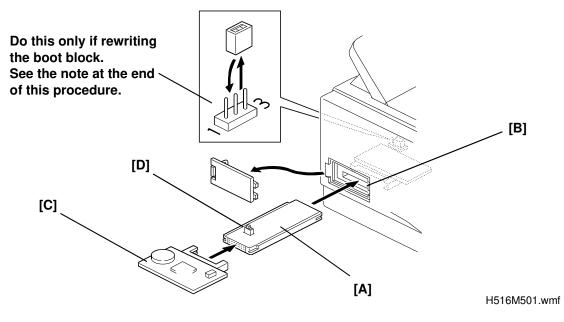
4. To finish: No Function

#### SERVICE TABLES AND PROCEDURES SERVICE LEVEL FUNCTIONS

#### 4.1.20. Software Download (Function 12)

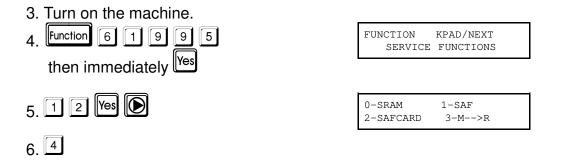
Instead of replacing an EPROM to update the machine's software, use this procedure to update the software in the machine's Flash ROM. This function copies software from an external medium to the Flash ROM on the machine's FCE. The external medium for the new software can be an FCE or an EPROM board.

1. Turn off the machine.



2. Insert the Flash/SRAM Copy Tool [A] into the IC card slot [B], then connect the FCE or EPROM board with new software [C] to the opposite side of the tool.

**Note:** The switch [D] on the tool [A] must be at the **ON** position.



7. 🔯

If the software is successfully downloaded, the display shows "OK".

OK!!				
COPY	MACH	<-	FLROM	

If the software download fails, the display shows "**NG**".

NG!!				
COPY	MACH	<-	FLROM	

- 8. To finish, press
- 9. Turn off the machine and disconnect the tool. Then turn the machine back on.
- 10. Print out the system parameter list and check the ROM version on it.
- **Note:** In rare cases, the boot block will have to be rewritten. In such cases, you must do the following in addition to the above procedure.
  - Before step 1, open the rear cover and change the jumper at TB1 on the FDU as shown in the diagram on the previous page.
  - After step 3, set bit 5 of system switch 02 to 1.
  - Before switching on the machine again in step 9, put TB1 back to the default position (pins 2-3 shorted).

#### 4.1.21. Software Upload (Function 12)

This function copies the software from the machine's built-in FCE to an external FCE.

- 1. Turn off the machine.
- 2. Connect the Flash/SRAM Copy Tool and an FCE as shown in the previous section.

Note: The switch [D] on the tool must be at the OFF position.

3. Turn on the machine.



E	FUNCTION	KPAD/NEXT	
	SERVICE	FUNCTIONS	
L			

5. 1 2 Yes
------------

0-SRAM	1-SAF
2-SAFCARD	3-M>R

#### SERVICE TABLES AND PROCEDURES SERVICE LEVEL FUNCTIONS

6. 3

If the software is successfully uploaded, the display shows "**OK**".

OK!! COPY	MACH	->	FLROM	

If the software upload fails, the display shows "**NG**".

NG!!				
COPY	MACH	->	FLROM	

- 7. Finish : Function
- 8. Turn off the machine and disconnect the tool. Then turn the machine back on again.

# 4.1.22. SRAM Data Download (Function 12)

This function copies all the data stored in the SRAM on an external FCE to the machine's FCE. Use this after replacing a damaged FCE to save any previous settings that were programmed in the damaged FCE.

1. Turn off the machine.

8. Finish : Function

2. Connect the Flash/SRAM Copy Tool [A] and the damaged FCE [C] as shown in section 4.1.20.

**Note:** The setting of switch [D] on the tool will not affect the result of this procedure.

- 3. Turn on the machine. FUNCTION Function KPAD/NEXT 6 1 9 9 5 4 SERVICE FUNCTIONS Yes then immediately 5 1 2 Yes 0-SRAM 1-SAF -SAFCARD 3-M-->R 6. 5 7. OK!! COPY MACH <- SRAM If the SRAM data is successfully downloaded, the display shows "OK". If the SRAM download fails, the display NGU shows "NG". COPY MACH <- SRAM
- 9. Turn off the machine and disconnect the tool. Then turn the machine back on.

### 4.1.23. Serial Number (Function 14)



2. 1 4 Yes

SERVICE FUNCTIONS

KPAD/NEXT

FUNCTION

- 3. Enter the machine's serial number at the keypad.
  - To correct a mistake:
- 4. If the display is correct:
- 5. Finish: Function

### 4.1.24. Service Station Fax Number (Function 13)

1. Function 6 1 9 9 5 then immediately Yes

 KPAD/NEXT FUNCTIONS	

2. 1 3 Yes

s.s.	NO.	KPAD
_		

3. Input the telephone number of the service station that will receive Auto Service calls from this machine.

 To erase the telephone number: press
 S.S. NO. KPAD

 2125555242
 4. If the display is correct:

# 4.2. BIT SWITCHES

#### 

Do not adjust a bit switch that is described as "Not used", as this may cause the machine to malfunction or to operate in a manner that is not accepted by local regulations. Such bits are for use only in other areas, such as Japan.

**Note:** Default settings for bit switches are not listed in this manual. Refer to the System Parameter List printed by the machine.

#### 4.2.1. System Switches

Sy	System Switch 00			
No	FUNCTION		CTION	COMMENTS
	RAM	Reset		<b>Reset Level 3:</b> Erases all image data files stored in the SAF memory and communciation files (e.g. polling
	Bit 1	Bit 0	Reset Level	rx file). This setting is recommended for use when it is
	0	0	No reset	necessary to clear the SAF.
	0	1	Reset Level 2	Reset Level 2: In addition to those items erased by
0	1 1	0 1	Reset Level 3 Not used	Reset Level 3, the following items are erased: own telephone number, bit switches, RTI/TTI/CSI, report data, programmed telephone numbers (Quick/Speed/Groups, service station, etc.), NCU parameters, personal codes.
0				After erasing, the machine changes these two bits back to 0 automatically.
				No reset: Normal operation
				Cross reference RAM Reset Level 1 (Factory reset): Change the data in RAM address 800000(H) to FF(H), then turn the machine off and on. In addition to those items erased by Reset Level 2, the clock and scan/print registration settings are erased.

Sy	System Switch 00			
No	FUNCTION	COMMENTS		
2	Technical data printout on TCR (Journal) 0: Disabled 1: Enabled	1: Instead of the personal code, the following data are listed on the TCR for each analog G3 communication. e.g. V33 14 01 03 00 02 First number: Final modem type used Second number: Final modem rate (for example, 14 means 14.4 kbps) Third and fourth numbers: Line quality data. Either a measure of the error rate or the rx level is printed, depending on the bit 3 setting below. (An M on the report indicates that it is error rate, and an L indicates Rx level.) The left hand figure is the high byte and the right hand figure is the low byte (see the note below this table for how to read this value). If it is a measure of the error rate; a larger number means more errors. Fifth number (rx mode only): Total number of error lines that occurred during non-ECM reception. Sixth number (rx mode only): Total number of burst error lines that occurred during non-ECM reception. The fifth and sixth numbers are fixed at 00 for transmission records and ECM reception records.		
3	Line quality data output method <b>0:</b> Measure of error rate (during image data transmission only) <b>1:</b> Rx level	This bit determines the data type to be printed on the TCR (Journal) when technical data printout is enabled by bit 2 above.		
4	Line error marks 0: Disabled 1: Enabled	If this bit is 1, a mark will be printed on the left edge of the page at any place where a line error occured in the data. Such errors are caused by a noisy line, for example.		
5	Communication parameter display 0: Disabled 1: Enabled	This is a fault-finding aid. The LCD shows the key parameters (see the next page). This is normally disabled because it cancels the CSI display for the user. Be sure to reset this bit to 0 after testing.		
6	Protocol dump list output after each communication <b>0:</b> Off <b>1:</b> On	This is only used for communication troubleshooting. It shows the content of the transmitted facsimile protocol signals. Always reset this bit to 0 after finishing testing.		
7	Not used	Do not change the settings.		

How to calculate the rx level listed on the TCR (when bit 2 of system switch 00 is set to 1)

#### Example: V29 96 L 01 0C 00 00

The four-digit hexadecimal value (N) after L indicates the rx level. Divide the decimal value of N by -16 to get the rx level.

In this example, the decimal value of 010C(H) is 268. So, the actual rx level is 268/16 = -16.75 dB.

### **Communication Parameters**

Mode	DCS: ITU-T standard	NSS: Non-standard G3
Modem rate	144: 14400 bps	
	120: 12000 bps	
	96: 9600 bps	
	72: 7200 bps	
	48: 4800 bps	
	24: 2400 bps	
Communication	ECM: With ECM SSC: Using	g SSC
mode	EFC: Using EFC NML: With	no ECM, SSC, or EFC
Compression MMR: MMR compression		
mode	MR: MR compression	
	MH: MH compression	
Resolution	SSF: Fine, transmitted at 8 x	15.4 dots per mm
	DTL: Detail, transmitted at 8	x 7.7 dots per mm
	STD: Standard, transmitted a	t 8 x 3.85 dots per mm
I/O rate	0M: 0 ms/line 10M: 10 m	s/line
	2/M: 2.5 ms/line 20M: 20 m	s/line
	5M: 5 ms/line 40M: 40 m	s/line
Width and	=A4: A4 (8.3"), no reduction	
reduction	=B4: B4 (10.1") no reduction	
	>A4: Reduced to A4 (8.3") be	efore transmission

Sy	System Switch 01		
No	FUNCTION	COMMENTS	
0	PM call 0: Disabled 1: Enabled	This bit switch determines whether the machine will send an Auto Service Call to the service station when it is time for PM. <b>Cross reference</b> Auto service calls: Section 2.3.2	
1-7	Not used	Do not change the settings.	

Sy	System Switch 02			
No	FUNCTION	COMMENTS		
0	Memory file transfer 0: Disabled 1: Enabled	<ul> <li>1: All messages in the memory (including confidential rx messages) are sent to the fax number which is programmed as the service station.</li> <li>Always reset this bit to zero after transfer.</li> <li>Cross reference</li> <li>Service station number programming: Function 13</li> </ul>		
1	Programmed data transfer (Back-to-back) 0: Disabled 1: Enabled	<ul> <li>Do the following steps to transfer the data.</li> <li>1. Connect two machines of the same type back to back and enable back-to-back communication on both machines. (For this machine, set bit 7 of the G3 bit switch 00 to 1.)</li> <li>2. Set this switch to 1 on the receiving machine.</li> <li>3. Insert a sheet of paper in the ADF, and press Start on both machines. The data is transferred.</li> <li>4. Disable back-to-back comminication and set this bit to 0 after finishing.</li> </ul>		
2	Not used	Do not change the setting.		
3	Memory file printout 0: Disabled 1: Enabled	1: All SAF files, including confidential messages, can be printed using Function 54 or 55. Always reset this bit after printing the messages.		
4	Not used	Do not change the settings.		
5	Software download area <b>0:</b> All except the boot block <b>1:</b> All areas, including the boot block Keep this bit at 0 except for the rare cases when the Flash ROM boot block has to be rewritten.	<ul> <li>0: This is the normal setting. For normal software downloads, do not change this bit switch.</li> <li>1: Set this bit to 1 only when you need to rewrite the boot block in the Flash ROM using Function 12.</li> <li>Cross reference</li> <li>Software Download: Section 4.1.20</li> </ul>		
6 7	Memory read/write by RDS <b>Bit 7 6 Setting</b> 0 0 Always disabled 0 1 User selectable 1 0 User selectable 1 1 Always enabled	<ul> <li>(0,0): All RDS systems are always locked out.</li> <li>(0,1), (1,0): Normally, RDS systems are locked out, but the user can temporarily switch RDS on to allow RDS operations to take place. RDS will automatically be locked out again after a certain time, which is stored in System Switch 03 (see below). Note that if an RDS operation takes place, RDS will not switch off until this time limit has expired.</li> <li>(1,1): At any time, an RDS system can access the machine.</li> </ul>		

Sy	System Switch 03		
No	FUNCTION	COMMENTS	
0	Length of time that RDS is temporarily switched on	00 - 99 hours (BCD).	
to	when bits 6 and 7 of System Switch 02 are set to	This data is only valid if bits 6 and 7 of System Switch 02 are set to "User selectable".	
7	"User selectable"	The default setting is 24 hours.	

Sy	stem Switch 04	
No	FUNCTION	COMMENTS
0 1 2	LCD contrast Bit 2 1 0 Contrast 0 0 0 Brightest 0 0 1 $\downarrow$ 1 1 0 $\downarrow$ 1 1 Darkest	Use these bit switches to adjust the contrast of the LCD on the operation panel.
3	Dedicated transmission parameter programming <b>0:</b> Disabled <b>1:</b> Enabled	This bit must be set to 1 before changing any dedicated transmission parameters.
4	Inclusion of the Start key in Keystroke Programs 0: Not needed 1: Needed	<b>0:</b> The user does not need to press the Start key when operating a keystroke program.
5	OPC (master drum) replacement level 0: User 1: Service	<ul> <li>0: The machine asks the user to replace the OPC drum at 30,000 print intervals (default interval). After the user replaces the drum, the machine asks the user if the drum is replaced or not. If the user answers yes, the machine resets the OPC counter to zero. The drum replacement interval is programmed at addresses 8001E5 to 8001E7(H). Refer to section 4.5 for more details.</li> <li>1: The machine will not ask the user to replace the drum.</li> </ul>
6	CSI programming level 0: User level 1: Service level	<b>1:</b> The CSI can only be programmed using a service function.
7	Telephone line type programming mode 0: User level 1: Service level	<b>1:</b> Telephone line type selection can only be programmed using a service function.

Sy	System Switch 05		
No	FUNCTION	COMMENTS	
0	Not used	Do not change the settings.	
1			
2	Display of both RTI and CSI on the LCD <b>0:</b> Disabled <b>1:</b> Enabled	<b>1:</b> Both RTI and CSI will be displayed alternately on the LCD.	
3-7	Not used	Do not change the settings.	

Sy	System Switch 06		
No	FUNCTION	COMMENTS	
0	Use of the Stop key during memory transmission <b>0:</b> Disabled <b>1:</b> Enabled	<b>1:</b> Memory transmissions can be stopped by pressing the Stop key. However, users might accidentally cancel another person's memory transmission in progress.	
1-7	Not used	Do not change the settings.	

System Switch 07 - Not used (do not change the settings) System Switch 08 - Not used (do not change the settings)

Sy	System Switch 09			
No	FUNCTION	COMMENTS		
0	Addition of part of the image data from confidential transmissions on the transmission result report <b>0:</b> Disabled <b>1:</b> Enabled	If this feature is enabled, the top half of the first page of confidential messages will be printed on transmission result reports.		
1	Inclusion of communications on the TCR when no image data was exchanged. <b>0:</b> Disabled <b>1:</b> Enabled	<ul> <li>0: Communications which reached phase C (message tx/rx) of the T.30 protocol are listed on the TCR (Journal).</li> <li>1: Communications which reached phase A (call setup) of T.30 protocol are listed on the TCR (Journal). This will include telephone calls.</li> </ul>		
2	Automatic error report printout <b>0:</b> Disabled <b>1:</b> Enabled	<ul> <li>0: Error reports will not be printed.</li> <li>1: Error reports will be printed automatically after failed communications.</li> </ul>		
3	Printing of the error code on the error report <b>0:</b> No <b>1:</b> Yes	1: Error codes are printed on the error reports.		
4	Listing of Confidential IDs on the Personal Code List <b>0:</b> Disabled <b>1:</b> Enabled	1: Confidential IDs registered with Personal Codes by the users will appear on the Personal Code List.		
5	Power failure report <b>0:</b> Disabled <b>1:</b> Enabled	1: A power failure report will be automatically printed after the power is switched on if a fax message disappeared from the memory when the power was turned off last.		
6	Not used	Do not change the settings.		

Sy	System Switch 09		
No	FUNCTION	COMMENTS	
7	Priority given to various types of remote terminal ID when printing reports <b>0:</b> RTI > CSI > Dial label > Tel. number <b>1:</b> Dial label > Tel. number > RTI > CSI	This bit determines which set of priorities the machine uses when listing remote terminal names on reports. Dial Label: The name stored with the Quick/Speed Dial number by the user.	

Sy	System Switch 0A			
No	FUNCTION	COMMENTS		
0 to 2	Not used	Do not change the settings.		
3	Continuous polling reception <b>0:</b> Disabled <b>1:</b> Enabled	1: The machine repeats polling reception to the same station until the polling file is manually erased.		
4	Dialing on the ten-key pad when the handset is off-hook <b>0:</b> Disabled <b>1:</b> Enabled	<b>1:</b> The user can dial on the machine's ten-key pad when the handset is off-hook.		
5	On hook dial <b>0:</b> Disabled <b>1:</b> Enabled	<b>0:</b> On hook dial is disabled.		
6	Not used	Do not change the settings.		
7				

Sy	System Switch 0B			
No		FUN	CTION	COMMENTS
0 1	Autom <b>Bit 1</b> 0 1 1		set timer <b>Timer setting</b> 1 minute 3 minutes 5 minutes No limit	<ul> <li>(1, 1): Automatic reset is disabled.</li> <li>(Other): The machine returns to the standby mode when the timer expires after the last operation.</li> </ul>
2 3	Power <b>Bit 3</b> 0 0 1 1	<b>Bit 2</b> 0 1	mode timer <b>Time Limit</b> 1 minute 3 minutes 5 minutes No limit	<ul> <li>(1, 1): Automatic Power Saver mode is disabled.</li> <li>(Other): The machine goes into a Power Saver mode when the timer expires after the last operation.</li> <li>Cross reference</li> <li>Power Saver modes: Section 2.3.1</li> </ul>
4 to 7	Not us	ed		Do not change the settings.

System Switch 0C - Not used (do not change the settings)

System Switch 0D - Not used (do not change the settings)

System Switch 0E - Not used (do not change the settings)

#### System Switch 0F

No	FU	NCTION	COMMENTS
No 0 to 7		r functional settings 10: Not used 11: USA 12: Asia 13: Japan 14: Hong Kong 15: South Africa	COMMENTS This country code determines the factory settings of bit switches and RAM addresses. However, it has no effect on the NCU parameter settings and communication parameter RAM addresses. Cross reference NCU country code: Function 08, parameter CC.
	0E: Spain 0F: Israel		

System Switch 10 - Not used (do not change the settings)System Switch 11 - Not used (do not change the settings)

Sy	System Switch 12			
No	FUNCTION	COMMENTS		
0	TTI print position 0: Inside the image area 1: Outside the image area	1: The TTI will be added without overwriting the image data.		
1 to 7	Not used.	Do not change the settings.		

Sy	System Switch 12		
No	FUNCTION	COMMENTS	
0 to 7	TTI printing position in the main scan direction	08 to 92 (BCD) mm. Input even numbers only. This setting determines the TTI print start position from the left edge of the paper. If the TTI is moved too far to the right, it may be obscured by the file number which is on the top right of the page.	

System Switch 13 - Not used (do not change the settings)

Sy	System Switch 14		
No	FUNCTION	COMMENTS	
0 to 7	Wait time between pages in printer mode (with an optional printer interface unit)	<ul> <li>05 to 64 (H) (5 to 100s) - This setting determines the machine's wait time between pages in printer mode.</li> <li>A longer setting forces the fax machine to wait until the end of printer interface output before printing any incoming fax message.</li> <li>A shorter setting allows the fax machine to print incoming fax messages while printing from a computer. If the controller takes more than the specified time to process a page of data from the host computer, the fax machine releases the printer resources for fax output.</li> </ul>	

System Switch 15 - Not used (do not change the settings)
System Switch 16 - Not used (do not change the settings)
System Switch 17 - Not used (do not change the settings)
System Switch 18 - Not used (do not change the settings)
System Switch 19 - Not used (do not change the settings)
System Switch 1A - Not used (do not change the settings)
System Switch 1B - Not used (do not change the settings)
System Switch 1C - Not used (do not change the settings)
System Switch 1D - Not used (do not change the settings)
System Switch 1E - Not used (do not change the settings)
System Switch 1F - Not used (do not change the settings)

### 4.2.2. Scanner Switches

Sc	Scanner Switch 00			
No	FUNCTION	COMMENTS		
0	Not used	Do not change the settings.		
1	Not used	Do not change the settings.		
2 3	Maximum transmittable document lengthBit 32Setting00600 mm011200 mm1014 m11Not used	If the user wants to send very long documents such as well logs, select 14 m or a higher setting.		
4	OR processing in immediate tx and copying (Standard resolution) 0: Disabled 1: Enabled	<ul> <li>0: The machine scans the document in 3.85 line/mm steps, then transmits or makes copies.</li> <li>1: The machine scans the document in 7.7 line/mm steps. Each pair of lines is OR processed before transmission or making copies. Toner may be used up earlier if OR processing is enabled.</li> </ul>		
5 to 7	Not used	Do not change the settings.		

Scanner Switch 01 - Not used (do not change the settings)

Sc	Scanner Switch 02		
No	FUNCTION	COMMENTS	
0	Contrast threshold with	The value can be between 00 to FF. For a darker	
to	halftone disabled - Normal	threshold, input a lower value.	
7	setting	Default setting - 08(H)	

Sc	Scanner Switch 03				
No	FUNCTION	COMMENTS			
0	Contrast threshold with	The value can be between 00 to 0F. For a darker			
to	halftone disabled - Lighten	threshold, input a lower value.			
7	setting	Default setting - 0A(H)			

Scanner Switch 04				
No	FUNCTION	COMMENTS		
0	Contrast threshold with	The value can be between 00 to 0F. For a darker		
to	halftone disabled - Darken	threshold, input a lower value.		
7	setting	Default setting - 06(H)		

Scanner Switch 05			
No	FUNCTION	COMMENTS	
0	Contrast threshold with	The value can be between 00 to 0F. For a darker	
to 7	halftone enabled - Normal setting	threshold, input a lower value. Default setting - 07(H)	

Sc	Scanner Switch 06				
No	FUNCTION	COMMENTS			
0	Contrast threshold with	The value can be between 00 to 0F. For a darker			
to	halftone enabled - Lighten	threshold, input a lower value.			
7	setting	Default setting - 08(H)			

Sc	Scanner Switch 07				
No	FUNCTION	COMMENTS			
0	Contrast threshold with	The value can be between 00 to 0F. For a darker			
to	halftone enabled - Darken	threshold, input a lower value.			
7	setting	Default setting - 06(H)			

Ir
Scanner Switch 08 - Not used (do not change the settings)
Scanner Switch 09 - Not used (do not change the settings)
Scanner Switch 0A - Not used (do not change the settings)
Scanner Switch 0B - Not used (do not change the settings)
Scanner Switch 0C - Not used (do not change the settings)
Scanner Switch 0D - Not used (do not change the settings)
Scanner Switch 0E - Not used (do not change the settings)
Scanner Switch 0F - Not used (do not change the settings)

### 4.2.3. Printer Switches

Pri	Printer Switch 00				
No	FUNCTION	COMMENTS			
0	Page separation mark <b>0:</b> Disabled <b>1:</b> Enabled	<ul> <li>0: No marks are printed.</li> <li>1: If a received page has to be printed out on two sheets, an "x" inside a small box is printed at the bottom right hand corner of the first sheet, and a "2" inside a small box is printed at the top right hand corner of the second sheet. This helps the user to identify pages that have been split up.</li> </ul>			
1	Repetition of data when the received page is longer than the printer paper <b>0:</b> Disabled <b>1:</b> Enabled	<ul> <li>0: The next page continues from where the previous page left off.</li> <li>1: The final few mm of the previous page are printed at the top of the next page.</li> <li>See section 2.2.12 for details.</li> </ul>			
2	Not used	Do not change the settings.			
3	Cleaning mode after bypass feed <b>0:</b> Disabled <b>1:</b> After each page is fed from the bypass feed slot	<ul> <li>0: Cleaning mode is not done at all if bypass feed is used.</li> <li>1: Cleaning mode is done every time after a sheet of paper is fed from the bypass feed slot.</li> </ul>			
4 to 7	Not used	Do not change the settings.			

Printer Switch 01 - Not used (do not change the settings)

Pri	Printer Switch 02				
No	FUNCTION	COMMENTS			
0	Paper Feed Priority <b>0:</b> Optional paper feed unit > 100 sheet cassette > Standard cassette <b>1:</b> Optional paper feed unit > Standard cassette > 100 sheet cassette	This bit determines which set of priorities the machine uses for feeding the paper when all the cassettes contain the same paper size.			
2 to 7	Not used	Do not change the settings.			

Pri	Printer Switch 03				
No	FUNCTION	COMMENTS			
received data       reduction.         0: Disabled       Cross refe         1: Enabled       Page separ         0       1: Incoming         when printin       Cross refe         Reduction reference       Reduction reference		<ul> <li>0: Incoming pages are printed without length reduction.</li> <li>Cross reference</li> <li>Page separation threshold: Printer Sw. 03, bits 4 to 7.</li> <li>1: Incoming pages are reduced in the length direction when printing.</li> <li>Cross reference</li> <li>Reduction ratio: Printer Switches 04/05</li> <li>Page separation and data reduction: section 2-2-12</li> </ul>			
1	Not used	Do not change the settings.			
2					
3					
4	vith reduction disabled in switch 03-0 above) x mm longer than the copy paper, the excess portion will g page is more than x mm longer than the copy paper, nted on the next page. by these four bits.				
to 7	Hex value of bits 4 to 7 0 1 and so on until F	x (mm) 0 1 15			
	<b>Cross reference</b> Page separation and data reduction: section 2-2-12 Length reduction On/Off: Printer Switch 03, Bit 0				

Pri	Printer Switches 04 and 05					
No	FUNCTI	ON	COMMENTS			
	Reduction ratios above)	Reduction ratios used for different paper sizes (with reduction enabled in switch 03-0 above)				
		If reduction is enabled, the data will be reduced in the length direction before printing. These switches determine the maximum reduction ratio for each paper size.				
		Cross reference				
	Page separation	and data red	uction: section 2.2.12.			
0 to 7			Not used Not used A4 lengthwise Not used	Not used Not used A4 lengthwise F/F4 lengthwise Not used Not used Not used		

Printer Switch 06 - Not used (do not change the settings)
Printer Switch 07 - Not used (do not change the settings)
Printer Switch 08 - Not used (do not change the settings)
Printer Switch 09 - Not used (do not change the settings)
Printer Switch 0A - Not used (do not change the settings)
Printer Switch 0B - Not used (do not change the settings)
Printer Switch 0C - Not used (do not change the settings)
Printer Switch 0D - Not used (do not change the settings)
Printer Switch 0E - Not used (do not change the settings)
Printer Switch 0F - Not used (do not change the settings)

### 4.2.4. Communication Switches

Communication Switch 00					
FUNCTION		NCTION	COMMENTS		
	Compression modes available in receive mode		These bits determine the compression capabilities to be declared in phase B (handshaking) of the T.30		
Bit 1	0	Modes	protocol.		
0	0				
0	•				
1	•				
1	•		<b>-</b>		
Compression modes available in transmit mode			These bits determine the compression capabilities to be used in the transmission and to be declared in		
Bit 3	2	Modes	phase B (handshaking) of the T.30 protocol.		
0	0	MH only	Cross reference		
0			EFC compression in transmission: Communication		
1	•		Switch 01, bit 1.		
1	1	Not used			
Not use	ed		Do not change the settings.		
6					
Closed network (reception)		vork (reception)	1: Reception will not go ahead if the ID code of the other terminal does not match the ID code of this		
			terminal. This function is only available in NSF/NSS		
			mode.		
	Compr availab Bit 1 0 0 1 1 Compr availab Bit 3 0 0 1 1 Not use Closed 0: Disa	FUN Compression available in Bit 1 0 0 0 0 1 1 0 1 1 Compression available in Bit 3 2 0 0 0 1 1 0 1 1 Not used	FUNCTION         Compression modes         available in receive mode         Bit 1       0       Modes         0       0       MH only         0       1       MH/MR         1       0       MH/MR/MMR         1       1       Not used         Compression modes         available in transmit mode         Bit 3       2       Modes         0       0       MH only         0       0       MH only         0       1       MH/MR         1       0       MH/MR         1       1       Not used         Not used       Image: Second Seco		

Со	Communication Switch 01	
No	FUNCTION	COMMENTS
0	ECM <b>0:</b> Off <b>1:</b> On	If this bit is 0, ECM is switched off for all communications.
1	EFC during transmission 0: Off 1: On	If this bit is 0, EFC is switched off during transmission.
2 3	Wrong connection prevention method Bit 3 Bit 2 Setting 0 0 None 0 1 8 digit CSI 1 0 4 digit CSI 1 1 CSI/RTI	<ul> <li>(0,1) - The machine will not transmit if the last 8 digits of the received CSI do not match the last 8 digits of the dialed telephone number. This does not work for manual dialing.</li> <li>(1,0) - The same as above, except that only the last 4 digits are compared.</li> <li>(1,1) - The machine will not transmit if the other end does not identify itself with an RTI or CSI.</li> <li>(0,0) - Nothing is checked; transmission will always go ahead.</li> </ul>
4	Operator call if no response is received in reply to NSF/DIS <b>0:</b> Disabled <b>1:</b> Enabled	Set this bit to 1 if the user expects to receive phone calls at the same number which the machine is connected to.
5	Not used	Do not change the setting.
6 7	Maximum printable pagelength availableBit 7 Bit 6Setting00No limit01B4 and A410A411Not used	The setting determined by these bits is informed to the transmitting terminal in the pre-message protocol exchange (in the DIS/NSF frames).

Со	Communication Switch 02		
No	FUNCTION	COMMENTS	
0	Burst error threshold <b>0:</b> Low <b>1:</b> High	If there are more consecutive error lines in the received page than the threshold, the machine will send a negative response.The Low and High threshold values depend on the sub-scan resolution, and are as follows.ResolutionStandardDetailLow settings36High settings612	
1	Acceptable total error line ratio <b>0:</b> 5% <b>1:</b> 10%	If the error line ratio of a page exceeds the acceptable ratio, RTN will be sent to the other end.	
2	Treatment of pages received with errors during G3 reception 0: Deleted from memory without printing 1: Printed	<b>0:</b> Pages received with errors are not printed.	
3	Hang-up decision when a negative code (RTN or PIN) is received during G3 immediate transmission <b>0:</b> No hang-up, <b>1:</b> Hang-up	<ul> <li>0: The next page will be sent even if RTN or PIN is received.</li> <li>1: The machine will send DCN and hang up if it receives RTN or PIN.</li> <li>This bit is ignored for memory transmissions or if ECM is being used.</li> </ul>	
4 to 7	Not used	Do not change the settings.	

Communication Switch 03		
No	FUNCTION	COMMENTS
0 to 7	Maximum number of page retransmissions in a G3 memory transmission	00 - FF (Hex) times. This setting is not used if ECM is switched on. Default setting - 03(H)

Communication Switch 04 - Not used (do not change the settings)	
Communication Switch 05 - Not used (do not change the settings)	

Со	Communication Switch 06		
No	FUNCTION	COMMENTS	
0	Dialing requirements: Germany <b>0:</b> Disabled <b>1:</b> Enabled	These switches are automatically set to the settings required by each country after a country code (System Switch 0F) is programmed.	
1	Dialing requirements: Austria <b>0:</b> Disabled <b>1:</b> Enabled		
2	Dialing requirements: Norway <b>0:</b> Disabled <b>1:</b> Enabled		
3	Dialing requirements: Denmark <b>0:</b> Disabled <b>1:</b> Enabled		
4	Dialing requirements: France 0: Disabled 1: Enabled		
5	Dialing requirements: Switzerland <b>0:</b> Disabled <b>1:</b> Enabled		
6 7	Not used	Do not change the settings.	

Communication Switch 07 - Not used (do not change the settings)		
Communication Switch 08 - Not used (do not change the settings)		
Communication Switch 09 - Not used (do not change the settings)		

Со	Communication Switch 0A	
No	FUNCTION	COMMENTS
0	Point of resumption of memory transmission upon redialing 0: From the error page 1: From page 1	<ul> <li>0: The transmission begins from the page where transmission failed the previous time.</li> <li>1: Transmission begins from the first page.</li> </ul>
1 to 6	Not used	Do not change the settings.
7	Emergency calls using 999 <b>0:</b> Enabled <b>1:</b> Disabled	If this bit is at 1, the machine will not allow you to dial 999 at the auto-dialer. This is a PTT requirement in the UK and some other countries.

Communication Switch 0B - Not used (do not change the settings)	
Communication Switch 0C - Not used (do not change the settings)	

Со	Communication Switch 0D		
No	FUNCTION	COMMENTS	
0 to 7	The amount of remaining memory below which ringing detection (and therefore reception into memory) is disabled	00 to FF (Hex), unit = 2 kbytes (e.g., 0C(H) = 24 kbytes) One page is about 24 kbytes. If this setting is kept at 0, the machine will detect ringing signals and go into receive mode even if there is no memory space left. This will result in communication failure.	

Co	Communication Switch 0E		
No	FUNCTION	COMMENTS	
0 to 7	Minumum interval between automatic dialing attempts	06 to FF (Hex), unit = 2 s (e.g., $06(H) = 12 s$ ) This value is the minimum time that the machine waits before it dials the next destination.	

Со	Communication Switch 0F		
No	FUNCTION	COMMENTS	
0 to 7	Minimum number of times that a destination will dialed when TRD is being used	01 - FF (Hex) times	

Со	Communication Switch 10		
No	FUNCTION	COMMENTS	
0 to 7	Memory transmission: Maximum number of dialing attempts to the same destination	01 - FF (Hex) times	

Со	Communication Switch 11				
No	FUNCTION	COMMENTS			
0 to 7	Immediate transmission: Maximum number of dialing attempts to the same destination	01 - FF (Hex) times			

Со	Communication Switch 12				
No	FUNCTION	COMMENTS			
0 to 7	Memory transmission: Interval between dialing attempts to the same destination	00 - FF (Hex) minutes			

Со	Communication Switch 13				
No	FUNCTION	COMMENTS			
0 to 7	Immediate transmission: Interval between dialing attempts to the same destination	00 - FF (Hex) minutes			

Communication Switch 14 - Not used (do not change the settings)
Communication Switch 15 - Not used (do not change the settings)
Communication Switch 16 - Not used (do not change the settings)
Communication Switch 17 - Not used (do not change the settings)
Communication Switch 18 - Not used (do not change the settings)
Communication Switch 19 - Not used (do not change the settings)
Communication Switch 1A - Not used (do not change the settings)
Communication Switch 1B - Not used (do not change the settings)
Communication Switch 1C - Not used (do not change the settings)
Communication Switch 1D - Not used (do not change the settings)
Communication Switch 1E - Not used (do not change the settings)
Communication Switch 1F - Not used (do not change the settings)

### 4.2.5. G3 Switches

G3	G3 Switch 00				
No	FUNCTION		COMMENTS		
0 1	Monitor spea communicat <b>Bit 1 Bit 0</b> 0 0 0 1 1 0 1 1	aker during ion (tx and rx) <b>Setting</b> Disabled Up to Phase B All the time Not used	<ul> <li>(0, 0): The monitor speaker is disabled all through the communication.</li> <li>(0, 1): The monitor speaker is on up to phase B in the T.30 protocol.</li> <li>(1, 0): Used for testing. The monitor speaker is on all through the communication.</li> <li>Make sure that you reset these bits after testing.</li> </ul>		
2	Monitor speaker during memory transmission <b>0:</b> Disabled <b>1:</b> Enabled		<b>1:</b> The monitor speaker is enabled during memory transmission.		
3 to 6	Not used		Do not change the settings.		
7	Back to back test 0: Disabled 1: Enabled		Set this bit to 1 when you wish to do a back to back test. <b>115 V model:</b> Be sure to connect jumpers JP5 and JP6 on the NCU before doing the test. <b>220 V model:</b> Be sure to apply dc voltage between wires L1 and L2 on the NCU.		

G3	G3 Switch 01			
No	FUNCTION	COMMENTS		
0 to 3	Not used	Do not change the settings.		
4	DIS frame length <b>0:</b> 6 bytes <b>1:</b> 4 bytes	<b>1:</b> The 5th and 6th bytes in the DIS frame will not be transmitted (set to 1 if there are communication problems with PC-based faxes which cannot receive the extended DIS frames).		
5	Not used	Do not change the settings.		
6				
7				

G3	G3 Switch 02				
No	FUNCTION	COMMENTS			
0	G3 protocol mode used <b>0:</b> Standard and non-standard <b>1:</b> Standard only	<b>1:</b> Disables NSF/NSS signals (these are used in non-standard mode communication).			
1 to 4	Not used	Do not change the settings.			
5	Use of modem rate history when dialling using Quick/Speed dials 0: Disabled 1: Enabled	<ul> <li>0: Communications using Quick/Speed dials always start with the highest modem rate.</li> <li>1: The machine uses the modem rate history for communications with the same machine when determining the most suitable rate for the current communication.</li> </ul>			
6	Al short protocol (transmission and reception) <b>0:</b> Disabled <b>1:</b> Enabled	Refer to Appendix B in the Group 3 Facsimile Manual for details about AI Short Protocol.			
7	Not used	Do not change the setting.			

G3	G3 Switch 03				
No	FUNCTION	COMMENTS			
0	DIS detection number (Echo countermeasure) 0: 1 1: 2	<ul> <li>0: The machine will hang up if it receives the same DIS frame twice.</li> <li>1: Before sending DCS, the machine will wait for the second DIS which is caused by echo on the line.</li> </ul>			
1	Not used	Do not change the setting.			
2					
3	ECM frame size 0: 256 bytes 1: 64 bytes	<b>1:</b> The machine transmits with a frame size of 64 bytes. Set this bit to 1 when the other terminal only has a 64 byte frame size.			
4	CTC transmission conditions <b>0:</b> Ricoh mode (PPR x 1) <b>1:</b> ITU-T mode (PPR x 4)	When using ECM, the machine will choose a slower modem rate after receiving PPR once (Ricoh mode) or four times (ITU-T mode). ITU-T: New acronym for the CCITT.			
5	Modem rate used for the next page after receiving a negative code (RTN or PIN) <b>0:</b> No change <b>1:</b> Fallback	1: The machine's tx modem rate will fall back before sending the next page if a negative code is received. This bit is ignored if ECM is being used.			
6 7	Not used	Do not change the setting.			

# SERVICE TABLES AND PROCEDURES BIT SWITCHES

G3	G3 Switch 04				
	FUNCTION	COMMENTS			
0 to 3	Training error detection threshold	0 - F (Hex); 0 - 15 bits If the number of error bits in the received TCF is below this threshold, the machine informs the sender that the training has succeeded.			
4 to 7	Not used	Do not change the settings.			

G	G3 Switch 05					
	FUNCTION	COMMENTS				
0 to 3	Initial Tx modem rate Bit 3 2 1 0 Setting (bps) 0 0 0 1 2.4k 0 0 1 0 4.8k 0 0 1 1 7.2k 0 1 0 0 9.6k 0 1 0 1 12.0k 0 1 1 0 14.4k Other settings - Not used	These bits set the initial starting modem rate for transmission.				
4 to 7	Not used	Do not change the settings.				

G	G3 Switch 06					
	FUNCTION	COMMENTS				
0 to 3	Initial Rx modem rate Bit 3 2 1 0 Setting (bps) 0 0 0 1 2.4 k 0 0 1 0 4.8 k 0 0 1 1 7.2 k 0 1 0 0 9.6 k 0 1 0 1 12.0k 0 1 1 0 14.4k Other settings - Not used	The setting of these bits is used to inform the transmitting terminal of the available modem rate for the machine in receive mode. Use a lower setting if high speeds pose problems during reception.				
4 to 7	Modem types available for reception <b>Bit 7 6 5 4 Setting</b> 0 0 0 1 V27ter 0 0 1 0 V27ter and V29 0 0 1 1 V27ter, V29, and V33 0 1 0 0 V27ter, V29, V33 and V17 Other settings - Not used	The setting of these bits is used to inform the transmitting terminal of the available modem type for the machine in receive mode.				

G3	G3 Switch 07					
	FUNCTION			COMMENTS		
0	0 0 None 0 1 Low		Setting None Low Medium	<ul><li>Use a higher setting if there is signal loss at higher frequencies because of the length of wire between the modem and the telephone exchange.</li><li>Also, try using the cable equalizer if one or more of the following symptoms occurs.</li><li>Communication error</li></ul>		
	PSTN cable equalizer		qualizer	<ul> <li>Modem rate fallback occurs frequently.</li> <li>Use a higher setting if there is signal loss at higher</li> </ul>		
2	(rx mc Bit 3 0	ode)	Setting None	frequencies because of the length of wire between the modem and the telephone exchange.		
3	0 1	1 0	Low Medium	Also, try using the cable equalizer if one or more of the following symptoms occurs.		
	1	1	High	• Communication error with error codes such as 0-20, 0-23, etc.		
				Modem rate fallback occurs frequently.		
4 to 7	Not used			Do not change the settings.		

G3 Switch 08 - Not used (do not change the settings)	
G3 Switch 09 - Not used (do not change the settings)	

# SERVICE TABLES AND PROCEDURES BIT SWITCHES

G3	G3 Switch 0A				
	FUNCTION	COMMENTS			
0	Maximum allowable carrie drop during image data receptionBit 1Bit 0Value (ms)00200014001080011Not used	These bits set the acceptable modem carrier drop time. Try using a longer setting if error code 0-22 is frequent.			
2	Not used	Do not change the settings.			
3					
4	Maximum allowable frame interval during image data reception. <b>0:</b> 5 s <b>1:</b> 13 s	This bit set the maximum intervals between each EOL signal (end-of-line) or intervals between each ECM frame from the other end. Try using a longer setting if error code 0-21 is frequent.			
5	Not used	Do not change the settings.			
6	Reconstruction time for the first line in receive mode <b>0:</b> 6 s <b>1:</b> 12 s	When the sending terminal is controlled by a computer, there may be a delay in receiving page data after the local machine accepts set-up data and sends CFR. If this occurs, set this bit to 1 to give the sending machine more time to send data. Refer to error code 0-20.			
7	Not used	Do not change the settings.			

G3	G3 Switch 0B				
	FUNCTION	COMMENTS			
0	Protocol requirements: Europe <b>0:</b> Disabled <b>1:</b> Enabled	Program these bit switches manually to match local requirements.			
1	Protocol requirements: Spain <b>0:</b> Disabled <b>1:</b> Enabled				
2	Protocol requirements: Germany <b>0:</b> Disabled <b>1:</b> Enabled				
3	Protocol requirements: France <b>0:</b> Disabled <b>1:</b> Enabled				
4	PTT requirements: Germany <b>0:</b> Disabled <b>1:</b> Enabled				
5	PTT requirements: France <b>0:</b> Disabled <b>1:</b> Enabled				
6	Not used	Do not change the settings.			
7					

G3	G3 Switch 0C					
	FUNCTION			COMMENTS		
0			g method Setting Normal (P=N) Oslo (P=10 - N) Sweden (N+1) Not used	P = Number of pulses sent out, N = Number dialed.		
2 to 7	Not used			Do not change the settings.		

G3 Switch 0D - Not used (do not change the settings)		
G3 Switch 0E - Not used (do not change the settings)		
G3 Switch 0F - Not used (do not change the settings)		

### 4.3. NCU PARAMETERS \*

The following tables give the RAM addresses and units of calculation of the parameters that the machine uses for ringing signal detection and automatic dialing. The factory settings for each country are also given. Most of these must be changed by RAM read/write (Function 06), but some can be changed using NCU Parameter programming (Function 08); if Function 08 can be used, this will be indicated in the Remarks column. The RAM is programmed in hex code unless (BCD) is included in the Unit column.

Address	Function	Unit	Remarks
807F00	Country code for NCU parameters	Use the He country coo use the dee	ex value to program the         de directly into this address, or         cimal value to program it         tion 08 (parameter CC).         Decimal       Hex         00       00         01       01         02       02         03       03         04       04         05       05         06       06         07       07         08       08         09       09         10       0A         dd       11         12       0C         13       0D         14       0E         15       0F         17       11         18       12         02       20         14       0E         15       0F         17       11         18       12         02       20         14       0E         15       0F         17       11         18       12         22       16         and       23
807F01	Line current detection time	Malaysia 20 ms	25 19 Line current is not detected
807F01 807F02	Line current wait time	201115	if 807F01 contains FF.
807F02	Line current drop detect time	-	
807F04	PSTN dial tone frequency range (high byte)	Hz (BCD)	See Note 2.
807F05	PSTN dial tone frequency range (low byte)		

Address	Function	Unit	Remarks
807F06	Not used	•	Do not change the factory
807F07			setting.
807F08	PSTN dial tone detection time	20 ms	If 807F08 contains FF, the
807F09	PSTN dial tone reset time (LOW)		machine pauses for the
807F0A	PSTN dial tone reset time (HIGH)		pause time (address
807F0B	PSTN dial tone continuous tone		807F0D / 807F0E).
00/100	time		See Note 3 (Italy).
807F0C	PSTN dial tone permissible drop		
807F0D	time PSTN wait interval (LOW)		
807F0D 807F0E	PSTN wait interval (LOW)		
	PSTN ringback tone detection time	20 ms	Detection is disabled if this
807F0F		201113	contains FF.
007510	PSTN ringback tone off detection	20 ms	
807F10	time		
	PSTN detection time for silent	20 ms	
807F11	period after ringback tone		
	detected (LOW) PSTN detection time for silent	20 ms	
807F12	period after ringback tone	20 1115	
	detected (HIGH)		
807F13	PSTN busy tone frequency range	Hz (BCD)	If 807F13 is FF, detection is
007113	(high byte)		disabled. See Note 2.
807F14	PSTN busy tone frequency range		
007515	(low byte)		Do not obongo the factory
807F15 807F16	Not used		Do not change the factory settings.
	PABX dial tone frequency range	Hz (BCD)	See Note 2.
807F17	(high byte)	112 (000)	
007510	PABX dial tone frequency range		
807F18	(low byte)		
807F19	Not used		Do not change the factory
807F1A			settings.
807F1B	PABX dial tone detection time	20 ms	If 807F1B contains FF, the
807F1C	PABX dial tone reset time (LOW)		machine pauses for the pause time (807F20 /
807F1D	PABX dial tone reset time (HIGH)		807F21).
807F1E	PABX dial tone continuous tone time		,
	PABX dial tone permissible drop		
807F1F	time		
807F20	PABX wait interval (HIGH)		
807F21	PABX wait interval (LOW)		
807F22	PABX ringback tone detection time	20 ms	Detection is disabled if this
00/722			contains FF.
807F23	PABX ringback tone off detection	20 ms	
	time		

Address	Function	Unit	Remarks		
807F24	PABX detection time for silent period after ringback tone detected (LOW)	20 ms			
807F25	PABX detection time for silent period after ringback tone detected (HIGH)	20 ms			
807F26	PABX busy tone frequency range (high byte)	Hz (BCD)	If this is FF, detection is disabled. See Note 2.		
807F27	PABX busy tone frequency range (low byte)		See Note 2.		
807F28	Not used		Do not change the factory		
807F29			settings.		
807F2A	Busy tone ON time: range 1	20 ms			
807F2B	Busy tone OFF time: range 1	-			
807F2C	Busy tone ON time: range 2				
807F2D	Busy tone OFF time: range 2				
807F2E	Busy tone ON time: range 3				
807F2F	Busy tone OFF time: range 3				
807F30	Busy tone ON time: range 4				
807F31	Busy tone OFF time: range 4				
807F32	Busy tone continuous tone detection time				
807F33	Busy tone signal state time tolerand required for detection (a setting of 4 OFF-ON-OFF must be detected twi Tolerance (±) Bit 1 0 0 0 75% 0 1 50% 1 0 25% 1 1 12.5%	e cycles mear ce). Bits 2 and be kept at	ns that ON-OFF-ON or 3 must always 0.		
	Bits 7, 6, 5, 4 - number of cycles red				
807F34	International dial tone frequency range (high byte)	Hz (BCD)	See Note 2.		
807F35	International dial tone frequency range (low byte)				
807F36	Not used		Do not change the factory		
807F37			settings		

Address	Function	Unit	Remarks
807F38	International dial tone detection time	20 ms	If 807F38 contains FF, the machine pauses for the
807F39	International dial tone reset time (LOW)		pause time (807F3D / 807F3E).
807F3A	International dial tone reset time (HIGH)		See Note 3 (Belgium).
807F3B	International dial tone continuous tone time		
807F3C	International dial tone permissible drop time		
807F3D	International dial wait interval (LOW)		
807F3E	International dial wait interval (HIGH)		
807F3F	Country dial tone upper frequency limit (HIGH)	Hz (BCD)	See Note 2.
807F40	Country dial tone upper frequency limit (LOW)		
807F41	Country dial tone lower frequency limit (HIGH)		
807F42	Country dial tone lower frequency limit (LOW)		
807F43	Country dial tone detection time	20 ms	If 807F43 contains FF, the
807F44	Country dial tone reset time (LOW)		machine pauses for the
807F45	Country dial tone reset time (HIGH)		pause time (807F48 / 807F49).
807F46	Country dial tone continuous tone time		
807F47	Country dial tone permissible drop time		
807F48	Country dial wait interval (LOW)		
807F49	Country dial wait interval (HIGH)		
807F4A	Time between opening or closing the Ds relay and opening the Di relay	1 ms	See Notes 4 and 7. Function 08 (parameter 11).
807F4B	Break time for pulse dialling	1 ms	See Note 4. Function 08 (parameter 12).
807F4C	Make time for pulse dialling	1 ms	See Note 4. Function 08 (parameter 13).
807F4D	Time between final Di relay closure and Ds relay opening or closing	1 ms	See Notes 4 and 7. Function 08 (parameter 14).
807F4E	Minimum pause between dialled digits (pulse dial mode)	20 ms	See Note 4. Function 08 (parameter 15).
807F4F	Time waited when a pause is entered at the operation panel		Function 08 (parameter 16). See Note 4.
807F50	DTMF tone on time	1 ms	Function 08 (parameter 17).
807F51	DTMF tone off time		Function 08 (parameter 18).

Address	Function	Unit	Remarks
807F52	Tone attenuation value in DTMF signals	-dBm x 0.5	Function 08 (parameter 19). See Note 6.
807F53	Tone attenuation value difference between high frequency tone and low frequency tone in DTMF signals	-Nx0.5 (dB)	Function 08 (parameter 20). See Note 6.
807F54	PSTN: DTMF tone attenuation level after dialling	-dBm x 0.5	Function 08 (parameter 21). See Note 6.
807F55 to 807F58	Not used		Do not change the settings.
807F59	Grounding time (ground start mode)	20 ms	The Gs relay is closed for this interval.
807F5A	Break time (flash start mode)	1 ms	The OHDI relay is open for this interval.
807F5B	International dial access code	BCD	For a code of 100:
807F5C			807F5B - F1 807F5C - 00
807F5D	PSTN access pause time	20 ms	This time is waited for each pause input after the PSTN access code. Up to 7 of these can be input. If this address contains FF[H], the pause time stored in address 807F4F is used.
807F5E	Progress tone detection level, and cadence detection enable flags	Bit 7 Bit 6 I 0 0 0 0 1 1 1 0 1 1 Bits 2, 0 -	Bit 5 dBm 0 -25.0 1 -35.0 0 -30.0 0 -40.0 0 -49.0 See Note 3.
807F5F	Polarity detection		nable: Tx Polarity detection nable: Rx Polarity detection
807F60 to 807F64	Not used		Do not change the settings.
807F65	Intercity dial prefix (HIGH)	BCD	For a code of 0:
807F66	Intercity dial prefix (LOW)	BCD	807F65 - FF 807F66 - F0
807F67 to 807F71	Not used		Do not change the settings.

Address	Function	Unit	Remarks
807F72	Acceptable ringing signal frequency: range 1, upper limit	1000/ N (Hz).	Function 08 (parameter 02).
807F73	Acceptable ringing signal frequency: range 1, lower limit		Function 08 (parameter 03).
807F74	Acceptable ringing signal frequency: range 2, upper limit	Function 08 (parameter 04).	
807F75	Acceptable ringing signal frequency: range 2, lower limit		Function 08 (parameter 05).
807F76	Number or rings until a call is detected	1	Function 08 (parameter 06).
807F77	Minimum required length of the first ring	20 ms	See Note 5. Function 09 (parameter 07).
807F78	Minimum required length of the second and subsequent rings	20 ms	Function 08 (parameter 08).
807F79	Ringing signal detection reset time (LOW)	20 ms	Function 08 (parameter 09).
807F7A	Ringing signal detection reset time (HIGH)		Function 08 (parameter 10).
807F7B to 807F80	Not used		Do not change the settings.
807F81	Interval between dialing the last digit and switching the Oh relay over to the external telephone when dialing from the operation panel in handset mode.	20 ms	Factory setting: 500 ms
807F82	Bits 0 and 1 - Handset off-hook dete Bit 1 0 Setting 0 0 200 ms 0 1 800 ms Other Not used Bits 2 and 3 - Handset on-hook dete Bit 3 2 Setting 0 0 200 ms 0 1 800 ms Other Not used Bits 4 to 7 - Not used		
807FA1	Acceptable CED detection range (high byte)	BCD (Hz)	See Note 2.
807FA2	Acceptable CED detection range (low byte)		
807FA3	Not used		Do not change the factory setting.
807FA4 807FA5	CED detection time	20 ms ± 20 ms	Factory setting: 200 ms

Address	Function	Unit	Remarks
807FA6	Not used		Do not change the factory
807FA7			setting.
807FA8			
807FA9			
807FAA	CNG detection time	20 ms ± 20 ms	Factory setting: 200 ms
807FAB	CNG on time	20 ms	Factory setting: 500 ms
807FAC	CNG off time	20 ms	Factory setting: 200 ms
807FAD	Number of CNG cycles required for detection		The data is coded in the same way as address 807F33. Factory setting: 23(H)
807FAE	Not used		Do not change the settings.
807FAF			
807FB0			
807FB1			
807FB2			
807FB3	Detection time for 800 Hz AI short protocol tone	20 ms	Factory setting: 360 ms
807FB4	PSTN: Tx level from the modem	- dBm	Function 08 (parameter 01).
807FB5	PSTN: 1100 Hz tone transmission level	- N 807FB4	- 0.5N <sub>807FB5</sub> (dB)
807FB6	PSTN: 2100 Hz tone transmission level	- N 807FB4	- 0.5N <sub>807FB6</sub> (dB)
807FB7	PABX: Tx level from the modem	- dBm	
807FB8	PABX: 1100 Hz tone transmission level	- N 807FB7	- 0.5N <sub>807FB8</sub> (dB)
807FB9	PABX: 2100 Hz tone transmission level	- N 807FB7	- 0.5N <sub>807FB9</sub> (dB)
807FBA to 807FBC	Not used		Do not change the settings.
807FBD	Modem turn-on level (incoming signal detection level)	-37-0.5N (dBm)	
807FDA	T.30 T1 timer	1 s	

### Notes

- 1. If a setting is not required, store FF in the address.
- Tone frequencies are stored as look-up tables in hex code. For each parameter, there is a look-up table for each country that uses it. The tables are given following this page. For each parameter, do not input a RAM value that is not included in the table. FF(H) = disabled.
- 3. Italy and Belgium only

RAM address 807F5E: the lower four bits have the following meaning. Bit 2 1: International dial tone cadence detection enabled (Belgium) Bit 1 Not used

Bit 0 1: PSTN dial tone cadence detection enabled (Italy)

If bit 0 or bit 2 is set to 1, the functions of the following RAM addresses are changed.

807F08 (if bit 0 = 1) or 807F38 (if bit 2 = 1): tolerance for on or off state duration (%), and number of cycles required for detection, coded as in address 807F33.

807F0B (if bit 0 = 1) or 807F3B (if bit 2 = 1): on time, hex code (unit = 20 ms)

807F0C (if bit 0 = 1) or 807F3C(if bit 2 = 1): off time, hex code (unit = 20 ms)

- 4. Pulse dial parameters (addresses 807F4A to 807F4F) are the values for 10 pps. If 20 pps is used, the machine automatically compensates.
- 5. The first ring may not be detected until 1 to 2.5 wavelengths after the time specified by this parameter.
- 6. The calculated level must be between 0 and 10. The attenuation levels calculated from RAM data are: High frequency tone: - 0.5 x N807F52/807F54 dBm Low frequency tone: - 0.5 x (N807F52/807F54 + N807F53) dBm Note: N807F52, for example, means the value stored in address 807F52(H)
- 807F4A: Europe Between Ds opening and Di opening, France Between Ds closing and Di opening 807F4D: Europe - Between Ds closing and Di closing, France - Between Ds opening and Di closing

### **Tone Detection Frequency Ranges**

- PSTN Dial Tone (807F04 - 807F05) -

France		Germany		Italy	
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
040	415 - 465	060	400 - 480	030 (Default)	410 - 440
050	410 - 470	070	390 - 485	040	400 - 450
060 (Default)	400 - 475	080	385 - 490	050	395 - 455
070	395 - 480	090 (Default)	380 - 495	060	385 - 460
080	390 - 485	0A0	370 - 500	070	380 - 465
090	380 - 490	0B0	365 - 505	080	375 - 470
0A0	375 - 495	0C0	360 - 510	090	365 - 475
0B0	465 - 500	0D0	350 - 515		
		0E0	345 - 520		

Austria, Belgium		Denmark		Finland	
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
0A8	380 - 505	0B0	360 - 505	0C8	340 - 520
0B8	370 - 515	0C0	350 - 515	0D8	330 - 525
0C8 (Default)	365 - 520	0D0 (Default)	340 - 520	0E8	325 - 535
0D8	355 - 530	0E0	335 - 525	0F8 (Default)	315 - 540
0E8	345 - 535	0F0	325 - 530	108	310 - 545
0F8	340 - 540	100	320 - 540	118	300 - 550
108	335 - 545	110	310 - 545	128	295 - 555
118	320 - 550	120	305 - 550	138	285 - 560
				148	275 - 565

Ireland		Norway		Sweden	
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
098	255 - 425	0A0	355 - 475	070	380 - 465
0A8	245 - 430	0B0	345 - 490	080	375 - 470
0B8	235 - 440	0C0	335 - 500	090	365 - 475
0C8	225 - 445	0D0	325 - 505	0A0 (Default)	360 - 480
0D8	210 - 450	0E0 (Default)	320 - 510	0B0	355 - 485
0E8 (Default)	200 - 455	0F0	310 - 515	0C0	345 - 490
		100	305 - 520	0D0	335 - 500
		110	290 - 525	0E0	330 - 505
				0F0	320 - 510

Switzerland		Portugal		Holland	
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
0F0	385 - 560	090	315 - 440	120	290 - 580
100	380 - 565	0A0	305 - 450	130	280 - 585
110	370 - 570	0B0 (Default)	295 - 455	140 (Default)	270 - 590
120 (Default)	365 - 575	0C0	285 - 465	150	265 - 595
130	355 - 580	0D0	275 - 470	160	255 - 600
140	350 - 585	0E0	270 - 475		
150	340 - 590	0F0	260 - 480		
160	330 - 595	100	250 - 490		
170	325 - 600				

Spain		Israel		Australia	
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
0B0	320 - 480	0AA	350 - 490	FFFF (Default)	Tone not detected
0C0	310 - 490	0BA (Default)	340 - 500	0C0	190 - 425
0D0	305 - 495	0CA	335 - 510	0D0	170 - 435
0E0 (Default)	295 - 500	0DA	325 - 515	0E0	160 - 440
0F0	285 - 510	0EA	320 - 520	0F0	135 - 435
100	275 - 515	0FA	310 - 525	100	130 - 430
110	265 - 520	10A	300 - 530		
120	255 - 525				
130	245 - 530				

## - PABX Dial Tone (807F17 - 807F18) -

Italy		Belgium		Denmark	
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
098	405 - 495	0A8	370 - 505	0B0	360 - 505
0A8	395 - 505	0B8	380 - 515	0C0	350 - 515
0B8 (Default)	375 - 515	0C8 (Default)	365 - 520	0D0 (Default)	340 - 520
0C8	370 - 520	0D8	355 - 530	0E0	335 - 525
0D8	360 - 525	0E8	345 - 535	0F0	325 - 530
0E8	355 - 530	0F8	340 - 540	100	320 - 540
0F8	345 - 540	108	335 - 545	110	310 - 545
108	340 - 545	118	320 - 550	120	305 - 550

Swe	Sweden		Switzerland		tralia
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
070	380 - 465	0F0	385 - 560	FFFF (Default)	Tone not detected
080	375 - 470	100	380 - 565	030	405 - 445
090	365 - 475	110	370 - 570	040	415 - 455
0A0 (Default)	360 - 480	120 (Default)	365 - 575	050	400 - 460
0B0	355 - 485	130	355 - 580	060	390 - 465
0C0	345 - 490	140	350 - 585	070	385 - 470
0D0	335 - 500	150	340 - 590	080	380 - 475
0E0	330 - 505	160	330 - 595	090	370 - 480
0F0	320 - 510	170	325 - 600	0A0	365 - 485

Holl	Holland		Israel		
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
120	290 - 580	040	380 - 430		
130	280 - 585	050 (Default)	365 - 435		
140 (Default)	270 - 590	060	355 - 440		
150	265 - 595	070	350 - 445		
160	255 - 600	080	340 - 550		
		090	335 - 555		
		0A0	325 - 565		

- International Dial Tone (807F34 - 807F35) -

Belg	Jium	Holl	land	Sp	ain
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
08A	1110 - 1160	FFFF (Default)	Tone not detected	0C0	550 - 645
0AA (Default)	1105 - 1165	112	305 - 590	0D0	545 - 650
0CA	1100 - 1170	122	315 - 595	0E0	540 - 655
0EA	1095 - 1175	132	320 - 600	0F0	535 - 660
10A	1090 - 1180	142	300 - 605	100	525 - 665
12A	1085 - 1185	152	290 - 610	110	520 - 670
14A	1080 - 1190	162	285 - 615	120	515 - 675
		188	270 - 620	130	510 - 680
		198	260 - 625	140	505 - 685
		1A8	250 - 630		

- PSTN Busy Tone (807F13 - 807F14)

#### France Germany U. K. **RAM Value RAM Value RAM Value** Range (Hz) Range (Hz) Range (Hz) [H] [H] [H] 042 415 - 465 058 400 - 480 330 - 470 0A0 052 410 - 470 068 390 - 485 0B0 320 - 460 400 - 475 062 078 385 - 490 0C0 (Default) 300 - 480 072 (Default) 395 - 480 088 (Default) 380 - 495 0D0 290 - 485 082 390 - 485 098 370 - 500 0E0 285 - 490 092 380 - 490 0A8 365 - 505 0F0 275 - 495 0A2 375 - 495 0B8 360 - 510 100 265 - 500 0B2 365 - 500 0C8 350 - 515 110 255 - 505 0D8 345 - 520

Ita	Italy		Austria		jium
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
030	410 - 440	0E0	370 - 555	042	405 - 460
040 (Default)	400 - 450	0F0	360 - 560	052 (Default)	400 - 465
050	395 - 455	100	355 - 565	062	395 - 475
060	385 - 460	110	345 - 570	072	390 - 480
070	380 - 465	120	340 - 575	082	380 - 485
080	375 - 470	130 (Default)	330 - 580	092	375 - 490
090	365 - 475	140	325 - 585	0A2	365 - 495
		150	315 - 590		
		160	310 - 595		

Denr	Denmark		Ireland		Norway	
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	
040	395 - 450	02E	395 - 425	0A4	355 - 475	
050	390 - 460	03E (Default)	385 - 435	0B4	345 - 490	
060	385 - 465	04E	380 - 440	0C4	335 - 500	
070 (Default)	375 - 470	05E	370 - 445	0D4	325 - 505	
080	370 - 475	06E	365 - 450	0E4	320 - 510	
090	365 - 480	07E	355 - 455	0F4 (Default)	310 - 515	
		08E	350 - 465	104	305 - 520	
				114	290 - 525	

Swe	Sweden		erland	Holl	and
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
030 (Default)	410 - 440	0F0	385 - 560	0F0	335 - 540
040	400 - 450	100	380 - 565	100	325 - 545
050	395 - 455	110	370 - 570	110	320 - 555
060	385 - 460	120 (Default)	365 - 575	120	310 - 560
070	380 - 465	130	355 - 580	130	300 - 565
080	375 - 470	140	350 - 585	140 (Default)	295 - 570
090	365 - 475	150	340 - 590	150	285 - 575
		160	330 - 595		
		170	325 - 600		

Spa	ain	Israel		Australia	
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
0A8	330 - 470	040	380 - 430	028	405 - 445
0B8	320 - 460	050 (Default)	365 - 435	038	415 - 455
0C8	300 - 480	060	355 - 440	048 (Default)	400 - 460
0D8 (Default)	290 - 485	070	350 - 445	058	390 - 465
0E8	285 - 490	080	340 - 450	068	385 - 470
0F8	275 - 495	090	335 - 455	078	380 - 475
108	265 - 500	0A0	325 - 465	088	370 - 480
118	255 - 505			098	365 - 485

Portugal			-		
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
FFFF	Tone not				
(Default)	detected				
070	415 - 515				
080	410 - 520				
090	405 - 525				
0A0	395 - 530				
0B0	390 - 535				
0C0	385 - 540				
0D0	380 - 545				

Ita	ly	Denmark		Switzerland, Israel	
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
030 (Default)	410 - 440	030	405 - 445	0F0	385 - 560
040	400 - 450	040	415 - 455	100	380 - 565
050	395 - 455	050 (Default)	400 - 460	110	370 - 570
060	385 - 460	060	390 - 465	120 (Default)	365 - 575
070	380 - 465	070	385 - 470	130	355 - 580
080	375 - 470	080	380 - 475	140	350 - 585
090	365 - 475	090	370 - 480	150	340 - 590
		0A0	365 - 485	160	330 - 595

### - PABX Busy Tone (807F26 - 807F27)

Australia					
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
038 (Default)	395 - 450				
048	390 - 460				
058	385 - 465				
068	375 - 470				
078	370 - 475				
088	365 - 480				

### - CED [2100 Hz] (807FA1 - 807FA2) -

All Areas					
RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)	RAM Value [H]	Range (Hz)
1F0	$2100 \pm 45$				
200 (Default)	$2100\pm50$				
230	$2100\pm60$				
270	$2100\pm70$				
2E0	$2100\pm80$				
320	$2100\pm90$				
380	$2100\pm100$				

### Default Settings \*

The factory settings are quoted either in hexadecimal code (the actual contents of the RAM address) if there is a H after the value in the table, or in decimal (converted from the actual hex contents of the RAM address) if there is no H after the value.

Some RAMs must be stored using BCD; see the NCU Parameter definition table for details.

Country	807F01	807F02	807F03	807F04	807F05
France	FFH	FFH	FFH	0H	60H
Germany	FFH	FFH	FFH	0H	90H
UK	FFH	FFH	FFH	FFH	FFH
Italy	FFH	FFH	FFH	0H	30H
Austria	FFH	FFH	FFH	0H	C8H
Belgium	FFH	FFH	FFH	0H	C8H
Denmark	FFH	FFH	FFH	0H	D0H
Finland	FFH	FFH	FFH	0H	F8H
Ireland	FFH	FFH	FFH	0H	E8H
Norway	FFH	FFH	FFH	0H	E0H
Sweden	FFH	FFH	FFH	0H	A0H
Switzerland	FFH	FFH	FFH	1H	20H
Portugal	FFH	FFH	FFH	0H	B0H
Holland	FFH	FFH	FFH	1H	40H
Spain	FFH	FFH	FFH	0H	E0H
Israel	FFH	FFH	FFH	0H	BAH
USA	FFH	FFH	FFH	FFH	FFH
Asia	FFH	FFH	FFH	FFH	FFH
Hong Kong	FFH	FFH	FFH	FFH	FFH
South Africa	FFH	FFH	FFH	FFH	FFH
Australia	FFH	FFH	FFH	FFH	FFH
New Zealand	FFH	FFH	FFH	FFH	FFH
Singapore	FFH	FFH	FFH	FFH	FFH
Malaysia	FFH	FFH	FFH	FFH	FFH

Country	807F06	807F07	807F08	807F09	807F0A
France	4H	00H	75	F4H	1H
Germany	4H	00H	105	CFH	ЗH
UK	FFH	FFH	FFH	FFH	FFH
Italy	4H	00H	21H	21H	2H
Austria	4H	00H	40	F4H	1H
Belgium	4H	00H	35	20H	03H
Denmark	4H	00H	65	C2H	1H
Finland	4H	00H	125	F4H	1H
Ireland	4H	00H	105	C2H	1H
Norway	4H	00H	55	B6H	ЗH
Sweden	4H	00H	40	00H	1H
Switzerland	4H	00H	40	21H	2H
Portugal	4H	00H	105	C2H	1H
Holland	04H	00H	75	EEH	2H
Spain	4H	00H	75	3FH	2H
Israel	4H	00H	105	E8H	3H
USA	FFH	FFH	FFH	FFH	FFH
Asia	FFH	FFH	FFH	FFH	FFH
Hong Kong	FFH	FFH	FFH	FFH	FFH
South Africa	FFH	FFH	FFH	FFH	FFH
Australia	4H	00H	150	2CH	1H
New Zealand	FFH	FFH	FFH	FFH	FFH
Singapore	FFH	FFH	FFH	FFH	FFH
Malaysia	FFH	FFH	FFH	FFH	FFH

Country	807F0B	807F0C	807F0D	807F0E	807F0F
France	75	2	100	0	FFH
Germany	105	4	200	0	FFH
UK	FFH	FFH	250	0	FFH
Italy	30	50	200	0	FFH
Austria	39	3	200	0	FFH
Belgium	30	4	200	0	FFH
Denmark	65	4	200	0	FFH
Finland	64H	4	200	0	FFH
Ireland	105	4	200	0	FFH
Norway	55	4	175	0	FFH
Sweden	35	4	200	0	FFH
Switzerland	38	2	200	0	5
Portugal	105	4	200	0	FFH
Holland	55	4	200	0	FFH
Spain	50	5	150	0	FFH
Israel	105	4	200	0	FFH
USA	FFH	FFH	100	0	FFH
Asia	FFH	FFH	200	0	FFH
Hong Kong	FFH	FFH	100	0	FFH
South Africa	FFH	FFH	100	0	FFH
Australia	100	8	150	0	FFH
New Zealand	FFH	FFH	200	0	FFH
Singapore	FFH	FFH	100	0	FFH
Malaysia	FFH	FFH	100	0	FFH

Country	807F10	807F11	807F12	807F13	807F14
France	FFH	FFH	FFH	0H	72H
Germany	FFH	FFH	FFH	0H	98H
UK	FFH	FFH	FFH	0H	C0H
Italy	FFH	FFH	FFH	0H	40H
Austria	FFH	FFH	FFH	1H	28H
Belgium	FFH	FFH	FFH	0H	50H
Denmark	FFH	FFH	FFH	0H	46H
Finland	FFH	FFH	FFH	FFH	FFH
Ireland	FFH	FFH	FFH	0H	3EH
Norway	FFH	FFH	FFH	0H	F9H
Sweden	FFH	FFH	FFH	0H	32H
Switzerland	50	26H	2H	1H	20H
Portugal	FFH	FFH	FFH	FFH	FFH
Holland	FFH	FFH	FFH	1H	40H
Spain	FFH	FFH	FFH	0H	D8H
Israel	FFH	FFH	FFH	0H	50H
USA	FFH	FFH	FFH	FFH	FFH
Asia	FFH	FFH	FFH	FFH	FFH
Hong Kong	FFH	FFH	FFH	FFH	FFH
South Africa	FFH	FFH	FFH	FFH	FFH
Australia	FFH	FFH	FFH	0H	38H
New Zealand	FFH	FFH	FFH	FFH	FFH
Singapore	FFH	FFH	FFH	FFH	FFH
Malaysia	FFH	FFH	FFH	FFH	FFH

Country	807F15	807F16	807F17	807F18	807F1B
France	4H	00H	FFH	FFH	100
Germany	4H	00H	FFH	FFH	FFH
UK	4H	00H	FFH	FFH	FFH
Italy	4H	00H	0H	B8H	100
Austria	4H	00H	FFH	FFH	FFH
Belgium	4H	00H	0H	C8H	30
Denmark	4H	00H	0H	D0H	65
Finland	FFH	FFH	FFH	FFH	FFH
Ireland	4H	00H	FFH	FFH	FFH
Norway	4H	00H	FFH	FFH	FFH
Sweden	4H	00H	0H	A0H	40
Switzerland	4H	00H	1H	20H	40
Portugal	FFH	FFH	FFH	FFH	FFH
Holland	4H	00H	1H	40H	55
Spain	4H	00H	FFH	FFH	FFH
Israel	4H	00H	0H	50H	105
USA	FFH	FFH	FFH	FFH	FFH
Asia	FFH	FFH	FFH	FFH	FFH
Hong Kong	FFH	FFH	FFH	FFH	FFH
South Africa	FFH	FFH	FFH	FFH	FFH
Australia	4H	00H	FFH	FFH	150
New Zealand	FFH	FFH	FFH	FFH	FFH
Singapore	FFH	FFH	FFH	FFH	FFH
Malaysia	FFH	FFH	FFH	FFH	FFH

Country	807F1C	807F1D	807F1E	807F1F	807F20
France	58H	2H	50	2H	100
Germany	FFH	FFH	FFH	FFH	200
UK	FFH	FFH	FFH	FFH	200
Italy	F9H	1H	9	4	200
Austria	FFH	FFH	FFH	FFH	200
Belgium	150	0	30	4	200
Denmark	F4H	1H	65	4	200
Finland	FFH	FFH	FFH	FFH	200
Ireland	FFH	FFH	FFH	FFH	200
Norway	FFH	FFH	FFH	FFH	200
Sweden	00H	1H	40	3	200
Switzerland	EFH	1H	40	4	200
Portugal	FFH	FFH	FFH	FFH	200
Holland	EEH	2H	55	4	200
Spain	FFH	FFH	FFH	FFH	150
Israel	E8H	ЗH	105	4	200
USA	FFH	FFH	FFH	FFH	200
Asia	FFH	FFH	FFH	FFH	200
Hong Kong	FFH	FFH	FFH	FFH	200
South Africa	FFH	FFH	FFH	FFH	200
Australia	2CH	1H	100	1	150
New Zealand	FFH	FFH	FFH	FFH	200
Singapore	FFH	FFH	FFH	FFH	200
Malaysia	FFH	FFH	FFH	FFH	200

Country	807F21	807F22	807F23	807F24	807F25
France	0	FFH	FFH	FFH	FFH
Germany	0	FFH	FFH	FFH	FFH
UK	0	FFH	FFH	FFH	FFH
Italy	0	FFH	FFH	FFH	FFH
Austria	0	FFH	FFH	FFH	FFH
Belgium	0	FFH	FFH	FFH	FFH
Denmark	0	FFH	FFH	FFH	FFH
Finland	0	FFH	FFH	FFH	FFH
Ireland	0	FFH	FFH	FFH	FFH
Norway	0	FFH	FFH	FFH	FFH
Sweden	0	FFH	FFH	FFH	FFH
Switzerland	0	FFH	FFH	FFH	FFH
Portugal	0	FFH	FFH	FFH	FFH
Holland	0	FFH	FFH	FFH	FFH
Spain	0	FFH	FFH	FFH	FFH
Israel	0	FFH	FFH	FFH	FFH
USA	0	FFH	FFH	FFH	FFH
Asia	0	FFH	FFH	FFH	FFH
Hong Kong	0	FFH	FFH	FFH	FFH
South Africa	0	FFH	FFH	FFH	FFH
Australia	0	FFH	FFH	FFH	FFH
New Zealand	0	FFH	FFH	FFH	FFH
Singapore	0	FFH	FFH	FFH	FFH
Malaysia	0	FFH	FFH	FFH	FFH

Country	807F26	807F27	807F28	807F29	807F2A
France	FFH	FFH	FFH	FFH	25
Germany	FFH	FFH	FFH	FFH	12
UK	FFH	FFH	FFH	FFH	19
Italy	0H	30H	4H	00H	13H
Austria	FFH	FFH	FFH	FFH	00H
Belgium	FFH	FFH	FFH	FFH	25
Denmark	0H	50H	4H	00H	14H
Finland	FFH	FFH	FFH	FFH	FFH
Ireland	FFH	FFH	FFH	FFH	25
Norway	FFH	FFH	FFH	FFH	10
Sweden	FFH	FFH	FFH	FFH	12
Switzerland	1H	20H	4H	00H	16H
Portugal	FFH	FFH	FFH	FFH	FFH
Holland	FFH	FFH	FFH	FFH	14H
Spain	FFH	FFH	FFH	FFH	8
Israel	0H	50H	4H	00H	12
USA	FFH	FFH	FFH	FFH	FFH
Asia	FFH	FFH	FFH	FFH	FFH
Hong Kong	FFH	FFH	FFH	FFH	FFH
South Africa	FFH	FFH	FFH	FFH	FFH
Australia	0H	38H	4H	00H	12
New Zealand	FFH	FFH	FFH	FFH	FFH
Singapore	FFH	FFH	FFH	FFH	FFH
Malaysia	FFH	FFH	FFH	FFH	FFH

Country	807F2B	807F2C	807F2D	807F2E	807F2F
France	25	FFH	FFH	FFH	FFH
Germany	12	24	24	7	24
UK	19	20	17	11	26
Italy	10H	11H	14H	FFH	FFH
Austria	0DH	10H	10H	FFH	FFH
Belgium	23	8	8	FFH	FFH
Denmark	14H	FFH	FFH	FFH	FFH
Finland	FFH	FFH	FFH	FFH	FFH
Ireland	25	37	37	18	18
Norway	0	21	0	FFH	FFH
Sweden	12	12	37	FFH	FFH
Switzerland	16H	0DH	0CM	09H	09H
Portugal	FFH	FFH	FFH	FFH	FFH
Holland	14H	FFH	FFH	FFH	FFH
Spain	8	FFH	FFH	FFH	FFH
Israel	12	24	24	FFH	FFH
USA	FFH	FFH	FFH	FFH	FFH
Asia	FFH	FFH	FFH	FFH	FFH
Hong Kong	FFH	FFH	FFH	FFH	FFH
South Africa	FFH	FFH	FFH	FFH	FFH
Australia	12	25	25	FFH	FFH
New Zealand	FFH	FFH	FFH	FFH	FFH
Singapore	FFH	FFH	FFH	FFH	FFH
Malaysia	FFH	FFH	FFH	FFH	FFH

Country	807F30	807F31	807F32	807F33	807F34
France	FFH	FFH	FFH	41H	4H
Germany	FFH	FFH	FFH	31H	FFH
UK	FFH	FFH	100	42H	FFH
Italy	FFH	FFH	FFH	40H	FFH
Austria	FFH	FFH	FFH	40H	FFH
Belgium	FFH	FFH	FFH	42H	00H
Denmark	FFH	FFH	FFH	40H	FFH
Finland	FFH	FFH	FFH	FFH	FFH
Ireland	FFH	FFH	35	43H	FFH
Norway	FFH	FFH	FFH	40H	FFH
Sweden	FFH	FFH	FFH	42H	FFH
Switzerland	FFH	FFH	FFH	40H	FFH
Portugal	FFH	FFH	FFH	FFH	FFH
Holland	FFH	FFH	FFH	40H	FFH
Spain	FFH	FFH	FFH	41H	0H
Israel	FFH	FFH	FFH	41H	FFH
USA	FFH	FFH	FFH	FFH	FFH
Asia	FFH	FFH	FFH	FFH	FFH
Hong Kong	FFH	FFH	FFH	FFH	FFH
South Africa	FFH	FFH	FFH	FFH	FFH
Australia	FFH	FFH	FFH	41H	FFH
New Zealand	FFH	FFH	FFH	FFH	FFH
Singapore	FFH	FFH	FFH	FFH	FFH
Malaysia	FFH	FFH	FFH	FFH	FFH

Country	807F35	807F36	807F37	807F38	807F39
France	74H	4H	06H	57	58H
Germany	FFH	FFH	FFH	FFH	FFH
UK	FFH	FFH	FFH	FFH	FFH
Italy	FFH	FFH	FFH	FFH	FFH
Austria	FFH	FFH	FFH	FFH	FFH
Belgium	AAH	04H	00H	42H	E8H
Denmark	FFH	FFH	FFH	FFH	FFH
Finland	FFH	FFH	FFH	FFH	FFH
Ireland	FFH	FFH	FFH	FFH	FFH
Norway	FFH	FFH	FFH	FFH	FFH
Sweden	FFH	FFH	FFH	FFH	FFH
Switzerland	FFH	FFH	FFH	FFH	FFH
Portugal	FFH	FFH	FFH	FFH	FFH
Holland	FFH	04H	00H	55	EEH
Spain	F0H	4H	00H	75	3FH
Israel	FFH	FFH	FFH	FFH	FFH
USA	FFH	FFH	FFH	FFH	FFH
Asia	FFH	FFH	FFH	FFH	FFH
Hong Kong	FFH	FFH	FFH	FFH	FFH
South Africa	FFH	FFH	FFH	FFH	FFH
Australia	FFH	FFH	FFH	FFH	FFH
New Zealand	FFH	FFH	FFH	FFH	FFH
Singapore	FFH	FFH	FFH	FFH	FFH
Malaysia	FFH	FFH	FFH	FFH	FFH

Country	807F3A	807F3B	807F3C	807F3D	807F3E
France	2	57	6	0	0
Germany	FFH	FFH	FFH	00H	00H
UK	FFH	FFH	FFH	00H	00H
Italy	FFH	FFH	FFH	00H	00H
Austria	FFH	FFH	FFH	00H	00H
Belgium	ЗH	16	33	00H	00H
Denmark	FFH	FFH	FFH	00H	00H
Finland	FFH	FFH	FFH	00H	00H
Ireland	FFH	FFH	FFH	00H	00H
Norway	FFH	FFH	FFH	00H	00H
Sweden	FFH	FFH	FFH	00H	00H
Switzerland	FFH	FFH	FFH	00H	00H
Portugal	FFH	FFH	FFH	00H	00H
Holland	2H	55	4	00H	00H
Spain	2H	55	5	150	0
Israel	FFH	FFH	FFH	00H	00H
USA	FFH	FFH	FFH	00H	00H
Asia	FFH	FFH	FFH	00H	00H
Hong Kong	FFH	FFH	FFH	00H	00H
South Africa	FFH	FFH	FFH	00H	00H
Australia	FFH	FFH	FFH	00H	00H
New Zealand	FFH	FFH	FFH	00H	00H
Singapore	FFH	FFH	FFH	00H	00H
Malaysia	FFH	FFH	FFH	00H	00H

Country	807F3F	807F40	807F41	807F42	807F43
France	FFH	FFH	FFH	FFH	FFH
Germany	FFH	FFH	FFH	FFH	FFH
UK	FFH	FFH	FFH	FFH	FFH
Italy	FFH	FFH	FFH	FFH	FFH
Austria	FFH	FFH	FFH	FFH	FFH
Belgium	FFH	FFH	FFH	FFH	FFH
Denmark	FFH	FFH	FFH	FFH	FFH
Finland	FFH	FFH	FFH	FFH	FFH
Ireland	FFH	FFH	FFH	FFH	FFH
Norway	FFH	FFH	FFH	FFH	FFH
Sweden	0H	D0H	4H	00H	40
Switzerland	FFH	FFH	FFH	FFH	FFH
Portugal	FFH	FFH	FFH	FFH	FFH
Holland	FFH	FFH	FFH	FFH	FFH
Spain	FFH	FFH	FFH	FFH	FFH
Israel	FFH	FFH	FFH	FFH	FFH
USA	FFH	FFH	FFH	FFH	FFH
Asia	FFH	FFH	FFH	FFH	FFH
Hong Kong	FFH	FFH	FFH	FFH	FFH
South Africa	FFH	FFH	FFH	FFH	FFH
Australia	FFH	FFH	FFH	FFH	FFH
New Zealand	FFH	FFH	FFH	FFH	FFH
Singapore	FFH	FFH	FFH	FFH	FFH
Malaysia	FFH	FFH	FFH	FFH	FFH

Country	807F44	807F45	807F46	807F47	807F48
France	FFH	FFH	FFH	FFH	0
Germany	FFH	FFH	FFH	FFH	00H
UK	FFH	FFH	FFH	FFH	00H
Italy	FFH	FFH	FFH	FFH	00H
Austria	FFH	FFH	FFH	FFH	00H
Belgium	FFH	FFH	FFH	FFH	00H
Denmark	FFH	FFH	FFH	FFH	00H
Finland	FFH	FFH	FFH	FFH	00H
Ireland	FFH	FFH	FFH	FFH	00H
Norway	FFH	FFH	FFH	FFH	00H
Sweden	00H	1H	40	3	200
Switzerland	FFH	FFH	FFH	FFH	00H
Portugal	FFH	FFH	FFH	FFH	00H
Holland	FFH	FFH	FFH	FFH	00H
Spain	FFH	FFH	FFH	FFH	00H
Israel	FFH	FFH	FFH	FFH	00H
USA	FFH	FFH	FFH	FFH	00H
Asia	FFH	FFH	FFH	FFH	00H
Hong Kong	FFH	FFH	FFH	FFH	00H
South Africa	FFH	FFH	FFH	FFH	00H
Australia	FFH	FFH	FFH	FFH	00H
New Zealand	FFH	FFH	FFH	FFH	00H
Singapore	FFH	FFH	FFH	FFH	00H
Malaysia	FFH	FFH	FFH	FFH	00H

Country	807F49	807F4A	807F4B	807F4C	807F4D
France	0	67	65	35	50
Germany	00H	50	61	41	44
UK	00H	252	66	35	44
Italy	00H	58	60	40	44
Austria	00H	53	62	39	50
Belgium	00H	61	67	33	50
Denmark	00H	53	67	33	50
Finland	00H	61	60	42	50
Ireland	00H	255	67	33	50
Norway	00H	61	59	41	50
Sweden	0	100	60	40	70
Switzerland	00H	60	60	40	60
Portugal	00H	61	66	34	50
Holland	00H	58	62	40	42
Spain	00H	75	60	32	75
Israel	00H	61	62	39	50
USA	00H	77	60	41	74
Asia	00H	61	66	34	50
Hong Kong	00H	61	66	34	50
South Africa	00H	61	66	34	50
Australia	00H	255	68	32	70
New Zealand	00H	245	66	34	50
Singapore	00H	61	66	34	50
Malaysia	00H	61	66	34	50

Country	807F4E	807F4F	807F50	807F51	807F52
France	40	0	70	70	12
Germany	46	46	90	90	0CH
UK	27	33	100	100	17
Italy	40	150	70	70	11
Austria	44	46	80	80	11
Belgium	43	26	70	70	11
Denmark	26	26	90	90	17
Finland	40	60	70	75	17
Ireland	30	33	70	70	17
Norway	33	33	70	70	17
Sweden	18	26	70	70	17
Switzerland	26	00H	70	70	8
Portugal	33	33	70	70	17
Holland	33	33	70	70	17
Spain	32	100	70	140	11
Israel	46	101	90	90	17
USA	46	101	100	100	14
Asia	36	101	100	110	0EH
Hong Kong	36	101	100	110	12
South Africa	36	101	100	110	12
Australia	36	101	100	110	14
New Zealand	25	101	100	110	17
Singapore	36	101	100	110	12
Malaysia	36	101	100	110	12

Country	807F53	807F54	807F59	807F5A	807F5B
France	4	34	0	0	FFH
Germany	5	34	15	90	FFH
UK	4	34	15	90	F0H
Italy	4	34	15	90	FFH
Austria	4	34	15	100	FFH
Belgium	4	34	100	90	FFH
Denmark	4	34	15	90	F0H
Finland	4	34	15	90	F9H
Ireland	4	34	15	90	FFH
Norway	4	34	25	90	FFH
Sweden	4	34	15	90	F0H
Switzerland	4	34	10	90	FFH
Portugal	4	34	15	202	FFH
Holland	4	34	15	90	FFH
Spain	4	34	100	90	FFH
Israel	4	34	15	90	FFH
USA	4	34	00H	00H	FFH
Asia	4	34	00H	00H	FFH
Hong Kong	4	34	00H	00H	FFH
South Africa	4	34	00H	00H	FFH
Australia	4	34	00H	00H	FFH
New Zealand	4	34	00H	00H	FFH
Singapore	4	34	00H	00H	FFH
Malaysia	4	34	00H	00H	FFH

Country	807F5C	807F5D	807F5E	807F5F	807F65
France	19H	FFH	20H	10H	FFH
Germany	00H	FFH	20H	10H	FFH
UK	10H	50	C0H	10H	FFH
Italy	00H	FFH	C1H	10H	FFH
Austria	00H	FFH	80H	10H	FFH
Belgium	00H	FFH	80H	10H	FFH
Denmark	9H	FFH	80H	10H	FFH
Finland	90H	100	80H	10H	FFH
Ireland	40H	FFH	40H	10H	FFH
Norway	00H	FFH	20H	10H	FFH
Sweden	09H	FFH	20H	10H	FFH
Switzerland	00H	FFH	20H	10H	FFH
Portugal	00H	FFH	80H	10H	FFH
Holland	00H	FFH	60H	10H	FFH
Spain	07H	FFH	80H	10H	FFH
Israel	00H	FFH	C0H	10H	FFH
USA	FFH	FFH	C0H	10H	FFH
Asia	FFH	FFH	C0H	10H	FFH
Hong Kong	FFH	FFH	C0H	10H	FFH
South Africa	FFH	FFH	C0H	10H	FFH
Australia	FFH	FFH	C0H	10H	FFH
New Zealand	FFH	FFH	C0H	10H	FFH
Singapore	FFH	FFH	C0H	10H	FFH
Malaysia	FFH	FFH	C0H	10H	FFH

Country	807F66	807F72	807F73	807F74	807F75
France	16H	17	28	FFH	00H
Germany	FFH	15H	36H	FFH	00H
UK	FFH	20	84	FFH	00H
Italy	FFH	18	77	FFH	00H
Austria	FFH	13	54	FFH	00H
Belgium	FFH	21	72	FFH	00H
Denmark	FFH	11H	43H	16	24
Finland	FFH	16	56	FFH	00H
Ireland	FFH	36	53H	FFH	00H
Norway	FFH	16	43H	FFH	00H
Sweden	FFH	17	43H	FFH	00H
Switzerland	FFH	16	55	FFH	00H
Portugal	FFH	1AH	53H	16	24
Holland	FFH	16	52	FFH	00H
Spain	FFH	25	43H	FFH	00H
Israel	FFH	16	43H	FFH	00H
USA	FFH	13	83	FFH	00H
Asia	FFH	17	83	FFH	00H
Hong Kong	FFH	17	83	FFH	00H
South Africa	FFH	17	83	FFH	00H
Australia	FFH	14	83	FFH	00H
New Zealand	FFH	17	83	FFH	00H
Singapore	FFH	17	83	FFH	00H
Malaysia	FFH	17	83	FFH	00H

Country	807F76	807F77	807F78	807F79	807F7A
France	2	15	15	04H	1H
Germany	1	7	7	90H	1H
UK	1	10	10	90H	1H
Italy	3	10	10	90H	1H
Austria	1	9	10	90H	1H
Belgium	2	5	10	90H	1H
Denmark	2	10	10	90H	1H
Finland	2	25	25	90H	1H
Ireland	1	10	10	90H	1H
Norway	1	10	10	90H	1H
Sweden	1	5	5	90H	1H
Switzerland	3	10	10	90H	1H
Portugal	1	0FH	0FH	90H	1H
Holland	2	15	15	90H	1H
Spain	2	28H	28H	2CH	1H
Israel	2	14H	14H	90H	1H
USA	1	10	10	90H	1H
Asia	1	10	10	90H	1H
Hong Kong	1	10	10	90H	1H
South Africa	1	10	10	90H	1H
Australia	3	10	10	90H	1H
New Zealand	3	10	10	90H	1H
Singapore	1	10	10	90H	1H
Malaysia	1	10	10	90H	1H

Country	807F81	807F82	807FA1	807FA2	807FA3
France	25	0	02H	00H	04H
Germany	25	00H	02H	00H	04H
UK	25	00H	02H	00H	04H
Italy	25	00H	02H	00H	04H
Austria	25	00H	02H	00H	04H
Belgium	25	00H	02H	00H	04H
Denmark	25	00H	02H	00H	04H
Finland	25	00H	02H	00H	04H
Ireland	25	00H	02H	00H	04H
Norway	25	00H	02H	00H	04H
Sweden	25	00H	02H	00H	04H
Switzerland	25	00H	02H	00H	04H
Portugal	25	00H	02H	00H	04H
Holland	25	00H	02H	00H	04H
Spain	25	00H	02H	00H	04H
Israel	25	00H	02H	00H	04H
USA	25	00H	02H	00H	04H
Asia	25	00H	02H	00H	04H
Hong Kong	25	00H	03H	00H	04H
South Africa	25	00H	03H	00H	04H
Australia	25	00H	02H	00H	04H
New Zealand	25	00H	02H	00H	04H
Singapore	25	00H	03H	00H	04H
Malaysia	25	00H	03H	00H	04H

Country	807FA4	807FA5	807FA6	807FA7	807FA8
France	00H	16	00H	81H	04H
Germany	00H	10	00H	81H	04H
UK	00H	10	00H	81H	04H
Italy	00H	10	00H	81H	04H
Austria	00H	10	00H	81H	04H
Belgium	00H	10	00H	81H	04H
Denmark	00H	10	00H	81H	04H
Finland	00H	10	00H	81H	04H
Ireland	00H	10	00H	81H	04H
Norway	00H	10	00H	81H	04H
Sweden	00H	10	00H	81H	04H
Switzerland	00H	10	00H	81H	04H
Portugal	00H	10	00H	81H	04H
Holland	00H	10	00H	81H	04H
Spain	00H	10	00H	81H	04H
Israel	00H	10	00H	81H	04H
USA	00H	10	00H	81H	04H
Asia	00H	10	01H	81H	04H
Hong Kong	00H	10	01H	E0H	04H
South Africa	00H	10	01H	E0H	04H
Australia	00H	10	00H	81H	04H
New Zealand	00H	10	00H	81H	04H
Singapore	00H	10	01H	E0H	04H
Malaysia	00H	10	01H	E0H	04H

Country	807FA9	807FAA	807FAB	807FAC	807FAD
France	00H	10	23H	91H	32H
Germany	00H	10	23H	91H	32H
UK	00H	10	23H	91H	32H
Italy	00H	10	23H	91H	32H
Austria	00H	10	23H	91H	32H
Belgium	00H	10	23H	91H	32H
Denmark	00H	10	23H	91H	32H
Finland	00H	10	23H	91H	32H
Ireland	00H	10	23H	91H	32H
Norway	00H	10	23H	91H	32H
Sweden	00H	10	23H	91H	32H
Switzerland	00H	10	23H	91H	32H
Portugal	00H	10	23H	91H	32H
Holland	00H	10	23H	91H	32H
Spain	00H	10	23H	91H	32H
Israel	00H	10	23H	91H	32H
USA	00H	10	23H	91H	32H
Asia	00H	10	23H	91H	32H
Hong Kong	00H	10	19H	96H	22H
South Africa	00H	10	19H	96H	22H
Australia	00H	10	23H	91H	32H
New Zealand	00H	10	23H	91H	32H
Singapore	00H	10	19H	96H	22H
Malaysia	00H	10	19H	96H	22H

Country	807FAE	807FAF	807FB1	807FB2	807FB3
France	2FH	0H	00H	11	18
Germany	2FH	0H	00H	11	18
UK	2FH	0H	00H	11	18
Italy	2FH	0H	00H	11	18
Austria	2FH	0H	00H	11	18
Belgium	2FH	0H	00H	11	18
Denmark	2FH	0H	00H	11	18
Finland	2FH	0H	00H	11	18
Ireland	2FH	0H	00H	11	18
Norway	2FH	0H	00H	11	18
Sweden	2FH	0H	00H	11	18
Switzerland	2FH	0H	00H	11	18
Portugal	2FH	0H	00H	11	18
Holland	2FH	0H	00H	11	18
Spain	2FH	0H	00H	11	18
Israel	2FH	0H	00H	11	18
USA	2FH	0H	00H	11	18
Asia	2FH	0H	00H	11	18
Hong Kong	2FH	0H	00H	11	10
South Africa	2FH	0H	00H	11	10
Australia	2FH	0H	00H	11	18
New Zealand	2FH	0H	00H	11	18
Singapore	2FH	OH	00H	11	10
Malaysia	2FH	OH	00H	11	10

Country	807FB4	807FB5	807FB6	807FB7	807FB8
France	9	0	0	10	0
Germany	9	2	00H	6	3
UK	9	02H	00H	8	2
Italy	5	00H	00H	6	0
Austria	8	00H	00H	6	0
Belgium	5	00H	00H	6	0
Denmark	9	00H	00H	10	0
Finland	9	00H	00H	10	0
Ireland	9	00H	00H	10	0
Norway	9	00H	00H	9	2H
Sweden	9	00H	00H	10	0
Switzerland	3	00H	01H	5	1
Portugal	5	00H	00H	6	0
Holland	0BH	00H	00H	7	0
Spain	9	00H	00H	10	0
Israel	12	00H	00H	6	0
USA	9	0	0	9	0
Asia	8	00H	00H	6	0
Hong Kong	6	0	0	6	0
South Africa	6	0	0	6	0
Australia	7	0	01H	11	2
New Zealand	12	0	00H	8	0
Singapore	6	0	0	6	0
Malaysia	6	0	0	6	0

Country	807FB9	807FBD	807FDA	
France	0	11H	53	
Germany	FEH	15H	53	
UK	0	12H	53	
Italy	0	11H	53	
Austria	0	11H	59	
Belgium	0	11H	59	
Denmark	0	11H	53	
Finland	0	11H	53	
Ireland	0	11H	53	
Norway	0	12H	53	
Sweden	0	11H	53	
Switzerland	FFH	11H	92	
Portugal	0	11H	53	
Holland	0	11H	53	
Spain	0	11H	80	
Israel	0	11H	59	
USA	0	16H	53	
Asia	0	16H	47	
Hong Kong	0	0FH	53	
South Africa	0	0FH	53	
Australia	0	0FH	53	
New Zealand	0	12H	53	
Singapore	0	0FH	53	
Malaysia	0	0FH	53	

### 4.4. DEDICATED TRANSMISSION PARAMETERS

Each Quick Dial Key and Speed Dial Code has four bytes of programmable parameters allocated to it. If transmissions to a particular machine often experience problems, store that terminal's fax number as a Quick Dial or Speed Dial, and adjust the parameters allocated to that number.

The programming procedure will be explained first. Then, the four bytes will be described.

### 4.4.1. Programming Procedure

- 1. Set bit 3 of System Bit Switch 04 to 1.
- 2. Either use Function 31 (for a Quick Dial number) or Function 32 (for a Speed Dial number)

**Example:** Change the Parameters in Quick Dial 10.

- 3. Function 3 1 Yes
- 4. Press Quick Dial key 10.

**Note:** When selecting Speed Dial 10 with Function 32, press 1 • at the ten key pad.

- 5. Press Yes four times.
- 6. The settings for byte 0 are now displayed. Press a number from 0 to 7 corresponding to the bit that you wish to change.

Example: Change bit 7 to 1: Press 7

7. To scroll through the parameter bytes, either:

Select the next byte:

Select the previous byte: until the correct byte is displayed. Then go back to step 6.

- 8. After the setting is changed, press
- 9. To finish, press
- 10. After finishing, reset bit 3 of System Bit Switch 04 to 0.

### 4.4.2. Parameters

The initial settings of the following parameters are all FF(H) - all the parameters are disabled.

#### Byte 0

#### FUNCTION AND COMMENTS

### CCITT T1 time

If the connection time to a particular terminal is longer than the NCU parameter setting , adjust this byte. The T1 time is the value stored in this byte (in hex code), multiplied by 1 second.

#### Range:

1 to 127 s (01h to 7Fh)

00h or FFh - The local NCU parameter factory setting is used.

Do not program a value between 80h and FEh.

By	Byte 1				
	FUNCTION	COMMENTS			
0 to 3	Tx level       Setting (dBm)         Bit       3       2       1       0       Setting (dBm)         0       0       0       0       0       0         0       0       0       1       -1         0       0       1       0       -2         0       0       1       1       -3         0       1       0       0       -4         :       :       :       :         1       1       1       1	If communication with a particular remote terminal often contains errors, the signal level may be inappropriate. Adjust the Tx level for communications with that terminal until the results are better.			
4	Tx level setting <b>0:</b> Enabled <b>1:</b> Disabled (bits 0 to 4 must all be at 1 to disable)	<ul> <li>0: When enabling the tx level setting, change this bit to 0, then change the settings of bits 0 through 3 above.</li> <li>1: When disabling the tx level setting, change all of the bits 0 through 4 to 1.</li> </ul>			
5	Cable equalizerBit 6Bit 5Setting00None01Low10Medium11High	Use a higher setting if there is signal loss at higher frequencies because of the length of wire between the modem and the telephone exchange when calling the number stored in this Quick/Speed Dial. Also, try using the cable equalizer if one or more of the following symptoms occurs. • Communication error with error codes such as 0-20, 0-23, etc. • Modem rate fallback occurs frequently.			
7	Cable equalizer setting <b>0:</b> Enabled <b>1:</b> Disabled (bits 5 to 7 must all be at 1 to disable)	<ul> <li>0: When enabling the cable equalizer setting, change this bit to 0, then change the settings of bits 5 and 6 above.</li> <li>1: When disabling the cable equalizer setting, change all of the bits 5, 6 and 7 to 1.</li> </ul>			

B	Byte 2						
					FL	INCTION	COMMENTS
0 to 3		<b>3</b> ) ) ) ) )	<b>2</b> 0 0 0 1	1 0 1 1 0 1	0 1 0 1 0	te Setting (bps) Not used 2,400 4,800 7,200 9,600 12,000 14,400 Setting disabled	If training with a particular remote terminal always takes too long, the initial modem rate may be too high. Reduce the initial Tx modem rate using these bits.
	Other settings: Not used				ings	Not used	
4 to 7	Not u	sed	ł				Do not change the settings.

Ву	Byte 3						
	FUNCTION	COMMENTS					
0	Not used	Do not change the settings.					
1	Not used						
2 3	DIS/NSF detection methodBit 3 Bit 2Setting00First DIS or NSF01Second DIS or NSF10First DIS or NSF11Setting disabled	(0, 1): Use this setting if echoes on the line are interfering with the set-up protocol at the start of transmission. The machine will then wait for the second DIS or NSF before sending DCS or NSS.					
4	Not used	Do not change the settings.					
5	Compression modes available in transmit mode <b>0:</b> MH only <b>1:</b> All available compression modes	This bit determines the capabilities that are informed to the other terminal during transmission.					
6 7	ECM during transmissionBit 7Bit 6Setting00Disabled01Enabled10Disabled11Setting disabled	For example, if ECM is switched on but is not wanted when sending to a particular terminal, use the setting of (0, 0).					

# 4.5. SERVICE RAM ADDRESSES

### 

Do not change the settings which are marked as "Not used" or "Read only."

#### 800000(H) - RAM Reset Level 1

Change the data at this address to 00 (H), then switch the machine off and on to reset all the system settings.

Caution: Before using this RAM, print the settings of all the system parameters (System Parameter List).

#### 800001 to 800004(H) - ROM version (Read only)

800001(H) - Revision number (BCD) 800002(H) - Year (BCD) 800003(H) - Month (BCD) 800004(H) - Day (BCD)

800006 to 800016(H) - Machine's serial number (17 digits - ASCII)

800018(H) - Total program checksum (low) 800019(H) - Total program checksum (high)

80001A(H) - Boot program checksum (low) 80001B(H) - Boot program checksum (high)

80001C(H) - Main program checksum (low) 80001D(H) - Main program checksum (high)

80001E(H) - RDS program update counter (hex)

800020 to 80003F(H) - System bit switches 800040 to 80004F(H) - Scanner bit switches 800050 to 80005F(H) - Printer bit switches 800060 to 80007F(H) - Communication bit switches 800080 to 80008F(H) - G3 bit switches

#### 8000A0(H) - User parameter switch 00

Bit 0: Stamp home position Bits 1 and 2: Scanning contrast home position

- 2 Bit 1 Setting
  - 0 0 Normal
  - 0 1 Lighten
  - 0 Darken 1

Bit 3: Do not adjust

Bits 4 and 5: Scanning resolution home position

- Bit 5 4 Setting
  - 0 Standard 0
  - 0 1 Detail
  - 0 Fine 1
- Bit 6: Transmission mode home position

Bit 7: Halftone home position

#### 8000A1(H) - User parameter switch 01

Bits 0 to 6: Not used

Bit 7: Settings return to home position after transmission

0: Disabled, 1: Enabled

4-73

0: Disabled, 1: Enabled

0: Memory tx, 1: Immediate tx

0: Disabled, 1: Enabled

#### SERVICE TABLES AND PROCEDURES SERVICE RAM ADDRESSES

8000A2(H) - User parameter switch 02 * Bit 0: Forwarding mark printing on forwarded me Bit 1: Center mark printing on received copies Bit 2: Reception time printing Bit 3: TSI included in transmitted messages Bit 4: Checkered mark printing Bits 5 to 7: Not used	essages 0: Disabled, 1: Enabled 0: Disabled, 1: Enabled 0: Disabled, 1: Enabled 0: Disabled, 1: Enabled	
8000A3(H) - User parameter switch 03 (Autom Bit 0: Transmission result report (memory transm Bit 1: Not used Bit 2: Memory storage report Bit 3: Polling reserve report (polling reception) Bit 4: Polling result report (polling reception) Bit 5: Transmission result report (immediate tran Bit 6: Polling clear report Bit 7: TCR (Journal)	nissions)	0: Off, 1: On 0: Off, 1: On
8000A4(H) - User parameter switch 04 Bit 0: Automatic confidential reception report out Bits 1 to 6: Not used Bit 7: Inclusion of a sample image on reports	tput	0: Off, 1: On 0: Off, 1: On
8000A5(H) - User parameter switch 05 * Bit 0: Substitute reception Bit 1: Memory reception if no RTI or CSI receive Bits 2 and 3: Not used Bits 4: Restricted Access Bit 5: Not used (keep this bit at 0.) Bit 6: Fusing lamp control during energy saver m		0: Off, 1: On 0: Possible, 1: Impossible 0: Off, 1: On
Bit 7: Not used (keep this bit at 0.)	0. Lamp on, 1. Standby	
8000A6(H) - User parameter switch 06 Bit 0: TTI Bit 1: Not used Bit 2: Closed network for transmission		0: Off, 1: On 0: Off, 1: On
Bit 3: Not used Bit 4: Batch transmission (memory card required Bits 5 to 7: Not used	(k	0: Off, 1: On
8000A7(H) - User parameter switch 07 * Bits 0 to 2: Not used Bit 3: Automatic reduction (B4 -> A4) before tran Bits 4 to 7: Not used	smission	0: Off, 1: On

Bit

Bit

#### 8000A8(H) - User parameter switch 08 \*

Bit 0 and 1: Multi-copy reception (optional memory card required)

- Bit 1 0 Settina
  - Х 0 Disabled
  - 0 1 Faxes from senders whose RTIs/CSIs are specified for this feature are multicopied.
  - 1 Faxes from senders whose RTIs/CSIs are not specified for this feature 1 are multicopied.

Bits 2 and 3: Authorized reception

- Setting 3 2
  - Х 0 Disabled
  - 0 1 Faxes from senders whose RTIs/CSIs are specified for this feature are accepted.
  - 1 1 Faxes from senders whose RTIs/CSIs are not specified for this feature are accepted.

Bits 4 and 5: Specified cassette selection (optional PFU required)

- Setting Bit 3 2
  - Х 0 Disabled
  - 0 1 Faxes from senders whose RTIs/CSIs are specified for this feature are printed to the paper in a specified cassette.
  - Faxes from senders whose RTIs/CSIs are not specified for this feature 1 1 are printed to the paper in a specified cassette.

Bits 6 and 7: Forwarding (optional memory card required)

- Setting 1 0
  - Х Disabled 0
  - 0 1 Faxes from senders whose RTIs/CSIs are specified for this feature are forwarded.
  - 1 1 Faxes from senders whose RTIs/CSIs are not specified for this feature are forwarded.

#### 8000A9(H) - User parameter switch 09

Bits 0 and 1: Memory lock (optional memory card required) Bit

- 1 Setting 0
- Х 0 Disabled 0
  - 1 Faxes from senders whose RTIs/CSIs are specified are kept in the memory until a memory lock ID is entered.
  - 1 Faxes from senders whose RTIs/CSIs are not specified are kept in the memory until a memory lock ID is entered.

Bits 2 to 7: Not used

1

#### 8000AA(H) - User parameter switch 10 \*

Bit 0: Reverse order printing 0: Disabled, 1: Enabled Bit 1: Into 1 (printing two half-letter (A5) messages onto one Letter (A4) paper) 0: Disabled, 1: Enabled

Bits 2 to 6: Not used Bit 7: Halftone type

0: Error diffusion, 1: Dither

### 8000AB(H) - User parameter switch 11

Bits 0 to 5: Not used Bit 6: Printout of messages received while acting as a forwarding station 0: Off, 1: On Bit 7: Polling Standby duration 0: Once, 1: No limit

#### SERVICE TABLES AND PROCEDURES SERVICE RAM ADDRESSES

#### 8000AC(H) - User parameter switch 12

Bits 0 and 1: Not used Bit 2: Toner saving mode Bits 3 and 4: Printout image density (Fax mode) Bit

- 4 3 Setting
  - 0 0 Normal
  - 0 1 Lighten
  - 0 1 Darken
  - 1 Not used 1

Bits 5 to 7: Not used

Bit

#### 8000AD(H) - User parameter switch 13

Bits 0 and 1: PSTN access method from behind PABX

- 1 0 Setting
- 0 0 PSTN
- 0 1 Loop start
- 1 0 Ground start
  - 1 Flash start

#### 8000AE - 8000AF(H) - User parameter 14 to 15 Not used

#### 8000B9(H) - User function 62 settings

Bit 0: Night timer Bits 1 to 3: Not used Bit 4: RDS operation

1

0: Disabled, 1: Enabled

0: Not acceptable 1: Acceptable for the limit specified by system switch 03

Bits 5 and 6: Not used Bit 7: Daylight saving time

0: Disabled, 1: Enabled

#### 8000BA(H) - User function 62 settings

Bit 0: Not used Bit 1: Dialing type Bits 2 to 7: Not used

0: Pulse dialing (10 pps), 1: Tone (DTMF) dialing

#### 8000BB(H) - PSTN access number for loop start

Access number	Hex value to program (BCD)
0	F0
Û	$\hat{\Omega}$
0	F0
00	00
Û	$\hat{\Omega}$
99	99

8000C8 to 8000DB(H) - RTI (Max. 20 characters - ASCII) - Note 1 8000DC to 8000EF(H) - CSI (Max. 20 characters - ASCII) 8000F0 to 80010F(H) - TTI (Max. 32 characters - ASCII) - Note 1 800110(H) - Number of CSI characters (Hex)

Note 1: If the number of characters are less than the maxumum (20 for RTI, 32 for TTI), add a stop code (FF[H]) after the last character.

800111 to 80011F(H) - Service station's fax number (Service function 13)

800120 to 80012E(H) - Own fax number (User function 61)

0: Disabled, 1: Enabled

80012F(H) - ID code (low - Hex) 800130(H) - ID code (high - Hex) 800131(H) - Confidential ID (low - BCD) 800132(H) - Confidential ID (high - BCD) 800133(H) - Memory lock ID (low - Hex) 800134(H) - Memory lock ID (high - Hex) 800140 to 800146(H) - Last power off time (Read only) 800140(H) - Year (BCD) 800141(H) - Month (BCD) 800142(H) - Day (BCD) 800143(H) - 00: Monday, 01: Tuesday, 02: Wednesday, ......, 06: Sunday 800144(H) - Hour 800145(H) - Minute 800146(H) - Second \* 800150(H) - Optional equipment (Read only) Bit 0: Memory card 0: Not installed, 1: Installed Bit 1-3: Not used

Bit 1-3: Not used0: Not installed, 1: InstalledBit 4: 100 sheet cassette0: Not installed, 1: InstalledBit 5: Paper feed unit0: Not installed, 1: InstalledBit 6-7: Not used0: Not installed, 1: Installed

#### 800151(H) - Optional equipment (Read only)

Bit 0: Not used Bit 1: Printer interface Bit 2-7: Not used

0: Not installed, 1: Installed

The following counters are listed on the System Parameter List. The names used on the system parameter list are given in brackets.

#### 800158 to 80015A(H) - Tx counter (TX)

Address	High	Low
800158(H)	Tens digit	Unit digit
800159(H)	Thousands digit	Hundrets digit
80015A(H)	Millions digit	Ten thousands digit

Note: The following counters have the same data format as above.

80015B to 80015D(H) - Rx counter (RX)

80015E to 800160(H) - Scan counter (SCN)

800161 to 800163(H) - Print counter (PRT)

800164 to 800166(H) - Printer interface output counter (PRN)

800167 to 800169(H) - Paper feed counter: standard cassette (UPPER CASSETTE)

\* 80016A to 80016C(H) - Paper feed counter: optional PFU (CASSETTE 2)

80016D to 80016F(H) - Paper feed counter: optional 100 sheet cassette (OPEN CASSETTE)

800170 to 800172(H) - Paper feed counter: bypass feed (BY-PASS)

800173 to 800175(H) - ADF counter (ADF)

#### SERVICE TABLES AND PROCEDURES SERVICE RAM ADDRESSES

800179 to 80017B(H) - Printer total jam counter (COPY JAM)

80017C to 80017E(H) - Paper jam counter: standard cassette (UPPER CST JAM)

\* 80017F to 800181(H) - Paper jam counter: optional PFU (CST 2 JAM)

800182 to 800184(H) - Paper jam counter: optional 100 sheet cassette (OPEN CST JAM)

800188 to 80018A(H) - Scanner total jam counter (DOC. JAM)

80018B to 80018D(H) - Fusing exit jam counter (EJECT JAM)

80018E to 800190(H) - Registration jam counter (PAPER JAM)

800191 to 800193(H) - PM counter (PM)

800194 to 800196(H) - PM call interval: default 60,000 (PM DEFAULT)

800197 to 800199(H) - Copy counter (COPY)

80019A to 80019C(H) - OPC (master drum) counter (PCU)

80019D to 80019F(H) - CTM counter (TONER)

8001D5 to 8001E4(H) - Excessive jam call parameters (Refer to section 2.3.2 for details.)

**8001E5 to 8001E7(H)** - OPC (master drum) replacement interval (default: 30,000 prints) The machine asks the user to replace the drum at this interval, if bit 3 of system bit switch 04 is 0.

8001F0(H) - Number of copies in multi-sort document reception (User function 83)

#### 8001F1 to 80021A(H) - Night timer period (User function 71)

8001F1 to 8001F3(H) - Setting #1 for Monday 8001F4 to 8001F6(H) - Setting #2 for Monday 8001F7 to 8001F9(H) - Setting #1 for Tuesday 8001FA to 8001FC(H) - Setting #1 for Tuesday 8001FD to 8001FF(H) - Setting #1 for Wednesday 800200 to 800202(H) - Setting #2 for Wednesday 800203 to 800205(H) - Setting #1 for Thursday 800206 to 800208(H) - Setting #2 for Thursday 800209 to 800208(H) - Setting #1 for Friday 80020C to 80020E(H) - Setting #1 for Friday 80020F to 80020E(H) - Setting #1 for Saturday 80020F to 800211(H) - Setting #1 for Saturday 800215 to 800217(H) - Setting #1 for Sunday 800218 to 80021A(H) - Setting #2 for Sunday

#### Program format

First byte - Hour (BCD) Second byte - Minute (BCD) Third byte - 00(H): Timer start time, 01(H): Timer end time

#### 800245 to 80024C(H) - Last RDS operation (Read only)

800245(H) - Year (BCD) 800246(H) - Month (BCD) 800247(H) - Day (BCD) 800248(H) - 00: Monday, 01: Tuesday, 02: Wednesday, ......, 06: Sunday 800249(H) - Hour 80024A(H) - Minute 80024B(H) - Second 80024D(H) - Daylight saving time setting (User function 62)

 800250(H) - Transmission monitor volume
 00 - 07(H)

 800251(H) - Reception monitor volume
 00 - 07(H)

 800252(H) - On-hook monitor volume
 00 - 07(H)

 800254(H) - Buzzer volume
 00 - 07(H)

800255(H) - Key acknowledgement tone volume 00 - 07(H)

800256 to 80025A(H) - Periodic service call parameters (Refer to section 2.3.2 for details)

800261 to 800263(H) - Effective term of automatic service calls (Refer to section 2.3.2 for details)

**8002A5 to 8002A6(H)** - Scanning top margin adjustment **8002A7 to 8002A8 (H)** - Scanning bottom margin adjustment Refer to section 5.12 for details.

80034D(H) - Print top margin (standard cassette)
800352(H) - Print top margin (optional 100 sheet cassette)
800353(H) - Print top margin (bypass feeder)

800357(H) - Print left margin (standard cassette)
80035C(H) - Print left margin (optional 100 sheet cassette)
80035D(H) - Print left margin (bypass feeder)
Refer to section 5.12 for details about these parameters.

#### 8003C1(H) - Initial Toner Supply

Bit 3: Initial toner supply 0: Off, 1: On

Whenever the development unit is replaced, do the following procedure.

1. Make sure that a new development unit, drum, and CTM are correctly installed.

2. Turn on the machine and change this bit to 1.

3. Turn off the machine.

4. Turn on the machine. The machine starts filling up the empty development unit hopper with new toner. (This bit is reset to zero automatically.)

5. Make test copies or test patterns to check the print quality.

#### 80033C(H) - Fusing unit failure details

01(H) - The fusing lamp temperature stayed above 175 °C while printing.

02(H) - The fusing lamp temperature did not reach 150 °C before starting printing.

03(H) - The fusing lamp temperature did not go down to 80 °C while in standby mode (when fusing lamp OFF was selected for power saver mode)

04(H) - The fusing lamp temperature did not go down to 80 °C while in standby mode (when fusing lamp Standby (80 °C) was selected for power saver mode)

05(H) - The fusing lamp temperature stayed below 80 °C while in standby mode (when fusing lamp Standby (80 °C) was selected for power saver mode)

07(H) - The fusing lamp temperature came below 140 °C during printing

08(H) - The fusing lamp temperature exceeded 250 °C

09(H) - A fusing thermistor error was detected

#### When a service call was caused by a fusing unit failure (codes 01 - 09):

After fixing the problem, reset the data at this address to 00(H), then restart the machine to clear the service call. (Refer to address 8003B5(H) for other hardware failures.)

#### SERVICE TABLES AND PROCEDURES SERVICE RAM ADDRESSES

#### 80033D(H) - Excessive jam alarm

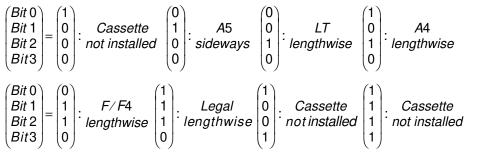
Bit 3: Scanner excessive jam alarm Bit 4: Printer excessive jam alarm 1: An alarm has occurred

alarm 1: An alarm has occurred rill change to 1 when an excessive jam alarm occurs. R

Either or both of these bits will change to 1 when an excessive jam alarm occurs. Reset each bit to 0 when you have solved the problem. The machine will not be able to detect excessive jams in future if you do not reset these bits.

#### **8003AD(H) - Sensor status (standard cassette and internal printer mechanism)** Bit 0 to 3: Paper size sensor

(Note: Available paper sizes depend on the country for which the machine is designed.)



Bit 4: Paper end sensor

Bit 5: Registration sensor

Bit 6: Fusing exit sensor

Bit 7: Standard cassette availability

1: Paper end 1: Paper present

- 1: Paper present
- 0: Available, 1: Not available
- (1: Jam, paper end, etc.)

### \* 8003AE(H) - Sensor status (optional Paper Feed Unit)

Bit 0 to 3: Paper size sensor

(Note: Available paper sizes depend on the country for which the machine is designed.)

Bit 6: Not used

#### 8003B2(H) - Sensor status (optional 100 sheet cassette) Bit 0 to 3: Paper size sensor

(Note: Available paper sizes depend on the country for which the machine is designed.)

Bit 0 0 1 A5 0 0 Bit 1 0 Cassette 1 LT A4 lengthwise sideways = not installed 0 lengthwise Bit 2 0 1 1 0 Bit3 0 0 0 Bit 0 ۲Ô 0 1 Cassette Bit 1 1 *F/F*4 Legal 1 Cassette 1 *Legar* 1 *lengthwise* Bit 2 1 not installed 1 lengthwise not installed 0 0 1 Bit3 1 Bit 4: Paper end sensor 1: Paper end Bit 5: Not used

Bit 7: Cassette availability

0: Available, 1: Not available (1: Jam, paper end, etc.)

#### 8003B3(H) - Sensor status (bypass feed)

Bit 0 to 3: Not used Bit 4: Paper in the bypass feed Bit 5: Bypass feed sensor Bit 6: Not used Bit 7: Bypass feed availability

- 1: Paper not present
- 1: Paper present
- 0: Available, 1: Not available (1: Jam, no paper, etc.)

#### 8003B5(H) - Details of the service call (hardware error)

01(H) - The fusing lamp temperature stayed above 175 °C while printing.

02(H) - The fusing lamp temperature did not reach 150 °C before starting printing.

03(H) - The fusing lamp temperature did not go down to 80 °C while in standby mode (when fusing lamp OFF was selected for power saver mode)

04(H) - The fusing lamp temperature did not go down to 80 °C while in standby mode (when fusing lamp Standby (80 °C) was selected for power saver mode)

05(H) - The fusing lamp temperature stayed below 80 °C while in standby mode (when fusing lamp Standby (80 °C) was selected for power saver mode)

07(H) - The fusing lamp temperature came below 140 °C while printing

08(H) - The fusing lamp temperature exceeded 250 °C

- 09(H) A fusing thermistor error was detected
- 11(H) Charge leak current was detected while the charge corona unit was activated
- 12(H) Charge leak current was detected while the charge corona unit was not activated
- 21(H) The laser synchronization signal was not detected during printing
- 31(H) Polygonal mirror motor startup error
- 32(H) Polygonal mirror motor error during printing
- 41(H) Main motor startup error
- 42(H) Main motor error during printing

#### When a service call was caused by a fusing lamp failure (codes 01 - 09):

The same code is stored at address 80033C(H).

After fixing the problem, reset the data at address 80033C(H) to 00(H), then restart the machine to clear the service call.

#### When a service call was caused by another hardware failure (codes 11 - 42):

If the problem remains after restarting the machine (power off/on), fix the hardware problem. The service call condition is cleared after power up.

		Bit no.	7	6	5	4	3	2	1	0
Mode	Resolution	Address		The functions of each b described below this ta						
	Standard (Memory tx)	8003FD(H)	1	0	0	0	0	0	0	0
Text	Standard (Immediate tx)	8003FE(H)	1	0	0	0	0	0	0	0
	Detail	8003FF(H)	1	0	0	0	0	0	0	0
	Fine	800400(H)	1	0	0	0	0	0	0	0
	Standard (Memory tx)	800401(H)	1	0	0	0	0	0	0	0
Halftone	Standard (Immediate tx)	800402(H)	1	0	0	0	0	0	0	0
	Detail	800403(H)	1	0	0	0	0	0	0	0
	Fine	800404(H)	1	0	0	0	0	0	0	0

Bit 0: Not used; do not adjust the factory settingBit 1: Not used; do not adjust the factory settingBit 2: Threshold value for edge detectionBit 3: Background detection thresholdBit 4: Edge detectionBit 5: MTF algorithmBit 6: Not used; do not adjust the factory settingBit 7: MTF0: Off, 1: On

#### 803382 to 803502(H) - Latest 64 error codes (Read only)

One error record consists of 6 bytes of data.

First error record start address - 803382(H) Second error record start address - 803388(H) Third error record start address - 80338E(H)

: : : : 64th error record start address - 80349D(H)

The format is as follows: 1st byte - Minute (BCD) 2nd byte - Hour (BCD) 3rd byte - Day (BCD) 4th byte - Month (BCD) 5th byte - Error code (low) [If the error code is 1-23, 23 is stored here.] 6th byte - Error code (high) [If the error code is 1-23, 01 is stored here.]

#### SERVICE TABLES AND PROCEDURES SERVICE RAM ADDRESSES

#### 803B88 to 803D9A(H) - Latest 10 error communication records

One error communication record consists of 53 bytes. The format is as follows:

1st byte - Header Bit 0: Communication result 0: OK, 1: NG 1: Occurred Bit 1: Document jam Bits 2 - 3: Not used Bit 4: Technical data printout instead of personal codes 0: No, 1: Yes Bit 5: Type of technical data 0: Rx level, 1: Measure of error rate Bit 6: Error report 0: Not printed, 1: Printed Bit 7: Data validity 0: Not valid, 1: Valid 2nd to 5th bytes - Date and time when the communication started 2nd byte - Month (BCD) 3rd byte - Day (BCD) 4th byte - Hour (BCD) 5th byte - Minute (BCD) 6th and 7th bytes - Communication time 6th byte - Minutes (BCD) 7th byte - Seconds (BCD) 8th byte - Number of pages transmitted or received (Hex) 9th and 10th bytes - Personal code or number of total/burst error lines If bit 4 of the 1st byte is 0: 9th byte - Personal code (low - BCD) 10th byte - Personal code (high - BCD) If bit 4 of the 1st byte is 1: 9th byte - Number of total error lines (Hex) 10th byte - Number of burst error lines (Hex) 11th byte - File number (low - Hex) 12th byte - File number (high - Hex) 13th and 14th bytes - Rx level or measure of error rate If bit 5 of the 1st byte is 0: 13th byte - Rx level (low - Hex) 14th byte - Rx level (high - Hex) If bit 4 of the 1st byte is 1: 13th byte - Measure of error rate (low - Hex) 14th byte - Measure of error rate (high - Hex) 15th byte - Final modem rate Bits 0 to 2: Final modem speed Bit 0 (1)Bit 1 0 Bit 2 0 Bit 3: Not used Bits 4 to 6: Final modem type  $\begin{pmatrix} 1 \\ 0 \\ 0 \end{pmatrix}: V.27ter \begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix}: V.29 \begin{pmatrix} 1 \\ 1 \\ 0 \end{pmatrix}: V.33$ ´Bit 4` Bit 5 Bit 6 Bit 7: Not used

16th byte to 35th byte - Remote terminal's ID (RTI, TSI or CSI) (ASCII)

36th byte - Communication mode #1 Bits 0 - 1: Resolution used  $= \begin{pmatrix} 1 \\ 0 \end{pmatrix}$ : Standard,  $\begin{pmatrix} 0 \\ 1 \end{pmatrix}$ : Detail,  $\begin{pmatrix} 1 \\ 1 \end{pmatrix}$ : Fine (Bit 0) Bit 1 Bit 2: Not used Bit 3: ECM 0: Off, 1: On Bits 4 to 7: Communication mode used Bit 4` 0 Bit 5 0 0 1 : Transfer : Normal : Confidential : Polling Bit 6 0 0 0 0 0 0 0 Bit 7 Bit 4 (0) Automatic Service Call 0 0 Bit 5 : Forwarding Bit 6 1 1 0 0 Bit 7 37th byte - Communication mode #2 Bit 0: Tx or Rx 0: Tx, 1: Rx Bit 1: Reduction in Tx 0: Not reduced, 1: Reduced Bit 2: Batch transmission 0: Not used, 1: Used Bit 3: Send later transmission 0: Not used, 1: Used Bit 4: Transmission from 0: ADF, 1: Memory Bits 5 to 7: Not used

38th byte - Number of errors duing communication (Hex)

39th to 41st byte - 1st error code and page number where the error occurred 39th byte - Page number where the error occurred (Hex) 40th byte - Error code (low - BCD) 41st byte - Error code (high - BCD)
42th to 44th byte - 2nd error code and page number where the error occurred 45th to 47th byte - 3rd error code and page number where the error occurred 48th to 50th byte - 4th error code and page number where the error occurred 51tst to 53rd byte - 5th error code and page number where the error occurred

#### F80006 to F8000E(H) - ROM part number and suffix (ASCII)

# 4.6. SPECIAL TOOLS AND LUBRICANTS

• Flash/SRAM data copy harness (P/N: H5159100)

# 4.7. PM TABLE

#### Scanner

Item	30K	60K	90K	1 year	Notes
Exposure Glass	C (user)	C (user)	C (user)	C (user)	Soft cloth and water
R1 and R2 Rollers	C (user)	C (user)	C (user)	C (user)	Soft cloth and water
White Plate	C (user)	C (user)	C (user)	C (user)	Soft cloth and water
ADF Roller Assy	R (user)	R (user)	R (user)	C (user)	Soft cloth and water
Separation Pad	R (user)	R (user)	R (user)	C (user)	Soft cloth and water

#### Printer

Item	30K	60K	90K	1 year	Notes
Paper Feed Roller		С			Soft cloth and water
Registration Roller		C (user)		C (user)	Soft cloth and water
Thermistor		R			
Hot Roller Strippers		R			
Hot Roller		R			
Pressure Roller (Fusing)		R			
Cleaning Pad		R (u	iser)		A cleaning pad is
	Replaced	when a new CTM (toner cassette) is installed.		enclosed in the CTM.	
Transfer Roller		R			Dry paper
Development Unit		R			

#### 100 Sheet Cassette (Optional)

Item	10K	30K	60K	1 year	Notes
Feed Roller				C (user)	Soft cloth and water

#### Paper Feed Unit (Optional)

Item	10K	30K	60K	1 year	Notes
Feed Roller				C (user)	Soft cloth and water

### C: Clean, R: Replace

SUBJECT: History of Software Changes

DATE: 15,JAN.1997

# PREPARED BY: Y.Okunishi

RIGOH

FROM: Quality Assurance Center

FX6, FX6CD, FX6MII

MODEL:

CHECKED BY: S.Fujii CLASSIFICATION:

- Action Required
- Troubleshooting

Retrofit Information

Revision of service manual Information only

Other

(1)	FX6 US	H516 7220
(2)	FX6 Europe	H516 7240
(3)	FX6 Asia	H516 7251
(4)	FX6 CD	H524 7220

#	Reason / Problem	(1)	(2)	(3)	(4)
1	The machine transmits the scanned part of the document, even if a document jam happens during scanning.	G (Suffix)	F (Suffix)	C (Suffix)	 (Suffix)
2	Manual transmission cannot be done while an automatic report is printing. (e.g. TCR)	G	F	С	
3	Correction for Italian (Requested by EFDC)		F		
4	The display on the LCD was not changed even if the ON-HOOK Key was pressed after the handset was picked up in ON-HOOK mode. (Europe, Asia only)		F	С	
5	The machine stopped dialing if it is the first time after the previous dialing was stopped by the operator. (Europe only)		F		
6	The time for Send Later was not programmed correctly in a few cases.	G	F	С	
7	Spelling correction (requested by EFDC)	G	F	С	

SUBJECT: History of Software Changes

RIGOH

#	Reason / Problem	(1)	(2)	(3)	(4)
8	Incorrect display of CHECK PRINTER	G	<u>(2)</u> F	( <u></u> ) C	<u>(</u> ד)
9	Incorrect display when Groups are programmed.	G	F	С	
10	Set data for Memory Transfer is cleared if a message is received while setting up the Memory Transfer.	G	F	С	
11	Incorrect software procedure after STOP is pressed during image data transmission when the German country code is set.	G	F	С	
12	Incorrect software procedure after CFR is received when the French country code is set.	G	F	С	
13	CED is sent without any interval soon after detecting the next ringing signal if STOP is pressed just before sending CED when the European country code is set.	G	F	С	
14	Spanish has been added.		F		
15	The word "March" on the TTI and reports in German was incorrect.		G		
16	The user can switch Auto Reduction for transmission ON in the User parameter List even if it is not available.	G	G	С	
17	The spelling on the LCD is incorrect when the number of copies is input.	G	G	С	В

SUBJECT: History of Software Changes

#	Reason / Problem	(1)	(2)	(3)	(4)
18	Priority of the paper cassette can be switched to either the paper cassette or the 100-sheet cassette option by printer SW02 Bit0. 0: PFU > 100-sheet cassette > Standard. cassette 1: PFU > Standard cassette > 100-sheet cassette Priority of the paper cassette is changed. The sheets are fed from the standard paper cassette first with the default setting.	G	G	С	В
19	Change of the paper feed priority Option PFU > 100-sheet Cassette > Regular Cassette Option PFU >Regular Cassette > 100-sheet Cassette	G	G	С	В
20	Change of the flash ROM from Intel to Fujitsu.	Н		D	В
21	Change in the FDU (MFPD problem).	Н	Н	D	В
22	Change in the dial pulse signal for Portugal.		Н	D	
23	Change in the re-dial time and interval for Australia.		Н	D	
24	Change for Malaysia regulations.		Н	D	
25	When the designated Tx time is programmed into a quick number, the transmission using the programmed quick number is done one day later than the designated time.	J	J	E	В

SUBJECT: History of Software Changes

RIGOH

(1)	FX6 US	H516 7220
(2)	FX6 Europe	H516 7240
(3)	FX6 Asia	H516 7251
(4)	FX6 CD	H527 7220
(5)	FX6 MII US	H526 7220
(6)	FX6 MII Europe	H516 7240
(7)	FX6 MII Asia	H526 7251
(8)	FX6 MII Taiwan	H526 7253

n		-							
#	Reason / Problem	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
26	A programmed time in PM for the night timer is changed to the same time but in AM if the night timer is programmed in AM for another day of the week.	J			С	С			
27	<ul> <li>The transmitted page numbers are printed as P1/2, P2/2, P3/2 at the top of the received pages when,</li> <li>A) The documents are transmitted with an auto document that is stored in the memory . And ,</li> <li>B) The user inputs the number of pages which are set on the ADF And ,</li> <li>C) The SAF memory is not used for the transmission.</li> <li>With the new software, the user does not need to count the number of auto documents. The machine automatically adds the number of auto documents to the number which the user input.</li> </ul>	J	J	Ш	С	C	D	D	A
28	An error is printed on the reports for ROM data transfer using RDS or RRW.	J	J	Е	С	С	D	D	A

SUBJECT: History of Software Changes

RIGOH

1									
#	Reason / Problem	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
29	The machine did not receive the RAM and ROM data that was sent from RDS in high speed transmission mode if the machine was not ready to print (Paper End for example).	J	J	E	С	С	D	D	A
30	Factory settings for Italy will be changed to meet regulations.						D		
31	A part of the image on the previous page was printed on the next page in a few cases when more than one original of B4 size was copied.					D	E	E	В
32	To upgrade the software for NEST AUTOROUTE, which is an option.	К	К	F	D	D	Е	Е	В
33	No Rx in V17 mode from a modem Integra XJ2144 (Card type) which is installed in a note book size PC COMPAQ Contura with WINFAX LIGHT 3.0J This problem was reported in Japan.					D	E	Ш	С
34	No beep sound at the end of some receptions.					D	Е	Е	С
35	To upgrade the software for the new printer interface Type 200.	L	к	F	E	E	E	E	С
36	An ERROR is displayed after TI Time.		L				F		
37	Wording correction for the Power Failure Report (FAILUER $\rightarrow$ FAILURE)	М	L	G	F	F	F	F	D

SUBJECT: History of Software Changes

#	Reason / Problem	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
38	No dial tone detection when the country code for the Netherlands was set.						F		
39	Mis-prints on the Quick Dial List.	М	L	G	F	F	G	F	D
40	1) Change for Spanish regulation 2) Change to the initial settings Dialing Type: Pulse $\rightarrow$ Tone (DTMF) Acceptable Total Error Lines: 5% $\rightarrow$ 10% Print of Transmission Result Report for Immediate Tx: OFF $\rightarrow$ ON (only for France ) ON-HOOK Mode: Disabled $\rightarrow$ Enabled (only for Germany)						I		

RIGOH	Technical E	Bulletin	No.	F/L Series-012
SUBJECT:Switch for RDS				<b>DATE:</b> Oct. 31, 1995
PREPARED BY: Y. Okunishi CHECKED BY: M. Iwasa		FROM: 2nd	T.S. S	ection

CLASSIFICATION:		MODEL:
Action Required	Revision of service manual	FX6, FX6MII,
Troubleshooting	Information only	FX6CD, LSO
Retrofit Information	Other	

RDS is effective only when the RDS Switch at the remote machine is set to ON for security of the user's data.

There are 3 security levels in the machine for RDS.

Security Level 1:	The RDS Switch is always ON. The user needs to request the service technician if they need to change Level 1 to Level 2.
Security Level 2:	The RDS Switch is OFF. The user can change the RDS switch to ON for 24 hours (This time can be adjusted by a service technician.). The RDS Switch is automatically changed to OFF 24 hours later.
Security Level 3:	The RDS Switch is always OFF and it cannot be changed to ON.
[Initial settings]	
Europe:	Security Level 1 except ROM version F and before in FX6 (FX6 Products before September 1995.).
US:	Security Level 2
Asia:	Security Level 2 except LSO. (If the ROM is same as for the European version, it becomes Security Level 1.)

SUBJECT: New Model FAX	FX6MkII			DATE: 1995. 10. 31
PREPARED BY: K. Misugi CHECKED BY: M. Iwasa		FROM: 2nd	d T.S. S	ection
CLASSIFICATION:	<ul> <li>Revision of servi</li> <li>Information only</li> <li>Other</li> </ul>		G	EL: AX 3700L, Infotec3674 es9763/NasP397/R.R6490 avin3680, OmniL535

The new model FX6MkII (FAX 3700L) has been released in the line-up of the FX6 (FAX 2700L) series.

This technical bulletin contains information on differences between the FX6MkII and the FX6. They are listed in order of sections that appear in the service manual.

# **1. OVERALL MACHINE INFORMATION**

## **1.1. SPECIFICATIONS**

	FX6	FX6MkII
Maximum Scan Width	216 mm [8.5 ins] ± 0.25%	256 mm [10.0 ins] ± 0.25%
SAF	244 kbytes	512 kbytes
	(19 pages/Slerexe letter)	(38 pages/Slerexe letter)
Modulation	V.29, V27ter, V21	V.33/V.17 (TCM), V.29, V.27ter, V21
Data Rate (bps)	9600/7200/4800/2400	14,400/12,000/ 9600/7200/4800/2400
Transmission Time	9 s at 9600 bps; (Measured with G3 ECM using memory for a ITU-T #1 test document at standard resolution)	6 s at 14,400 bps; (Measured with G3 ECM using memory for a ITU-T #1 test document at standard resolution)
Paper Size and Capacity	Not Available	Paper Feed Unit (Optional): 500 sheets, available paper size USA: Letter, Legal Europe: A4, A5 sideways Asia: A4, A5 sideways, F/F4

# Technical Bulletin

SUBJECT: New Model FAX FX6MkII

DATE: 1995. 10. 31

No. F/L Series - 013

# **1.2. FEATURES**

Sub-Title	ltem	FX6	FX6MkII
Equipment	Optional paper feed unit	Not available	Available
Video Processing Features	Reduction (B4 to A4)	Not available	Available
Communication Features	AI Redial (last ten numbers)	Not available	Available
	Telephone Directory	Not available	Available
	Two in one	Not available	Available
	Continuous Polling	Not available	Available
Other User Features	Checkered mark	Not available	Available
	Reception time printing	Not available	Available

# 1.4. OVERALL MACHINE CONTROL (Please refer to page 4.)

**1.5. VIDEO DATA PATH** (Please refer to page 5 and 6.)

# 1.6. POWER DISTRIBUTION DIAGRAM (Please refer to page 7.)

# 2. DETAILED SECTION DESCRIPTIONS

# 2.1. Scanner

- 2.1.1. Mechanisms
- 3. Drive Mechanism: The actual scan width for FX6MkII is 256 mm (10.1").
- 4. Image Scanning: The number of photosensitive elements in the image sensor is 2048.

# 2.2. PRINTING

2.2.7. Paper Feed

5. Drive Mechanism

## Paper Feed Priority

If all the cassettes contain paper of the same size, the machine uses the paper in the optional paper feed unit first, the paper in the standard cassette second, and the paper in the optional 100 sheet cassette last. However, this order can be changed with printer bit switch 02 bit 0. (Please refer to the bit switch section in this bulletin.)

## SUBJECT: New Model FAX FX6MkII

DATE: 1995. 10. 31

### 2.2.8. Registration

### Jam Detection

New error codes have been added for the optional paper feed unit (500 sheets).

	Condition	Error Code
When the optional paper feed unit is used	When the relay sensor in the paper feed unit is not turned on within 2.0 seconds after the paper feed clutch is enabled.	9-50
	When the registration sensor in the fax machine is not turned on within 2.0 seconds after the paper feed motor started.	9-51

2.2.11. Fusing

Fusing (printing) temperature is 185 °C. Printing start temperature is 160 °C.

2.2.13. Paper Size Selection

Same as the previous page for the Paper Feed Priority.

## 2.4. PCBs

**2.4.1. FCE2** (Please refer to page 8.)

2.4.2. FDU (Please refer to page 9.)

# 4. SERVICE TABLES AND PROCEDURES

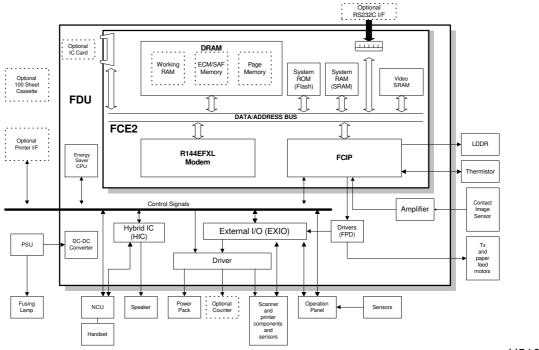
Please see the attachment for section 4.

The settings and switches that are different from the FX6 are shaded.

SUBJECT: New Model FAX FX6MkII

DATE: 1995. 10. 31

# **1.4.OVERALL MACHINE CONTROL**



H516V506.wmf

# The FCE2 (Facsimile Control Engine) contains the FCIP (Facsimile Control and Image Processor), DRAM, SRAM, System ROM, R144EFXL modem, and video processing memory, and controls the entire system through the FDU (Facsimile Driver Unit).

There are two cpus in the machine: the main cpu (FCIP) on the FCE and the energy saver cpu on the FDU. In energy saver mode, the main CPU switches off and the energy saver CPU takes over.

The FCIP consists of the following component blocks:

- RU8 CPU Main CPU
- LIF- Laser Interface
- PRIF Printer Interface

- MDM Modem
- DMAC DMA Controller
- DIP Digital Image Processor
- DCR Data Compression and Reconstruction

The modem inside the FCIP is used for V.29, V27.ter, and V.21 communications. In addition, the Rockwell R144EFXL modem is used for V.17 and V.33 communications.

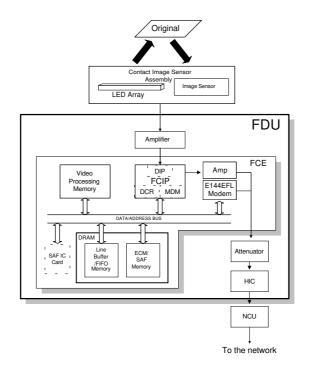
The 1.5 MB DRAM contains the SAF memory, ECM buffer memory, work area, and page memory. The SAF memory can be extended by 2 or 4 Mbytes with an IC card. A 512 kB (4 Mbit) flash ROM is used for the system ROM. Software in this ROM can be rewritten from the IC card slot or by RDS. Another 128 kB mask ROM contains LCD wording data.

SUBJECT: New Model FAX FX6MkII

DATE: 1995. 10. 31

# 1.5.VIDEO DATA PATH

# 1.5.1. Transmission



H516V507.wmf

DIP: Digital Image Processor DCR: Data Compression & Reconstruction MDM: Modem

# Immediate Transmission:

Scanned data from the contact image sensor passes to the DIP block in the FCIP. After analog/digital video processing, the DCR block compresses the data for transmission. The compressed data then passes either to the FIFO memory or to the ECM memory before it is sent to the telephone line through the modem.

If a data rate of 12,000 or 14,400 bps is used, the data passes through the E144EFL Modem.

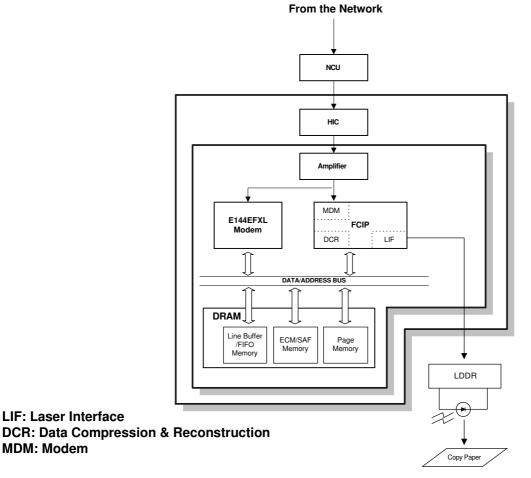
# Memory Transmission:

First, the scanned data is stored in the SAF memory after compression in the DCR block. At the time for transmission, the DCR block decompresses the data from the SAF memory, then compresses it again after handshaking with the other terminal is done. The compressed data then passes either to the FIFO memory or to the ECM memory, before it is sent to the telephone line through the modem.

SUBJECT: New Model FAX FX6MkII

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### 1.5.2. Reception



H516V508.wmf

Data from the line passes to the modem through the NCU and hybrid IC. After the modem demodulates the data, the decompressed data passes to the DCR block, through either the FIFO or the ECM memory, where the data is decompressed to raster image data. At the same time, the compressed data passes to the SAF memory as a backup in case of mechanical problems during printing (substitute reception).

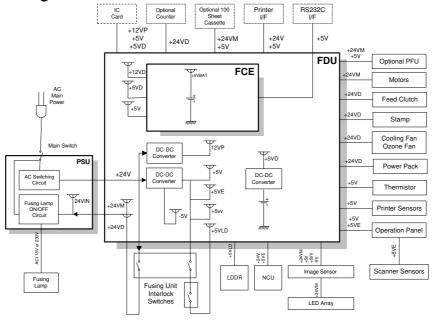
The raster image data is then passed to the page memory for printing. After a page of data has been stored in the page memory, the data is sent to the LDDR through the LIF block.

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# **1.6. POWER DISTRIBUTION**

## 1.6.1. Distribution Diagram



H516V511.wmf

The PSU supplies +24V dc power to the FDU. The FDU converts the +24V dc power supply to the following supplies.

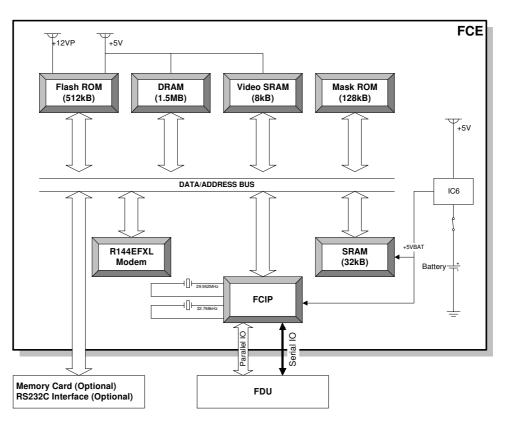
<ul> <li>+5V This is normally on when the main switch is on.</li> <li>+5VE This is used for detecting an activation signal from the NCU, document feeder, or operation panel when the machine is in energy saving mode.</li> <li>+5VLD This supplies the laser diode. It is interrupted if the fusing unit cover interlock switch opens.</li> <li>+5VV This is a more stable power supply than +5V. It is used for the Contact Image Sensor.</li> <li>+5VD This supplies back up power for the DRAM and the optional IC card on the FCE. It can back up stored data for one hour after the power is switched off. A rechargeable battery on the FDU is used to generate +5VD.</li> <li>+5VBAT This supplies back up power to the system RAM on the FCE to back up the programmed data. A lithium battery is used to generate +5VBAT.</li> <li>+24VD This is interrupted if the fusing unit cover interlock switch opens.</li> <li>+24VIN This supplies +24V to the fusing unit cover interlock switch opens.</li> <li>+24VIM This is interrupted if the machine enters energy saving mode.</li> <li>-5V This is used for the image sensor.</li> <li>+12VP This is supplied to the Flash ROMs on the FCE and the optional IC card.</li> </ul>		
operation panel when the machine is in energy saving mode.+5VLDThis supplies the laser diode. It is interrupted if the fusing unit cover interlock switch opens.+5VVThis is a more stable power supply than +5V. It is used for the Contact Image Sensor.+5VDThis supplies back up power for the DRAM and the optional IC card on the FCE. It can back up stored data for one hour after the power is switched off. A rechargeable battery on the FDU is used to generate +5VD.+5VBATThis supplies back up power to the system RAM on the FCE to back up the programmed data. A lithium battery is used to generate +5VBAT.+24VThis is normally on when the main switch is on.+24VINThis supplies +24V to the fusing unit cover interlock switch opens.+24VINThis is interrupted if the fusing unit on/off switching circuit. It is interrupted if the fusing unit cover interlock switch opens.+24VMThis is interrupted if the machine enters energy saving mode5VThis is used for the image sensor.	+5V	This is normally on when the main switch is on.
switch opens.+5VVThis is a more stable power supply than +5V. It is used for the Contact Image Sensor.+5VDThis supplies back up power for the DRAM and the optional IC card on the FCE. It can back up stored data for one hour after the power is switched off. A rechargeable battery on the FDU is used to generate +5VD.+5VBATThis supplies back up power to the system RAM on the FCE to back up the programmed data. A lithium battery is used to generate +5VBAT.+24VThis is normally on when the main switch is on.+24VDThis is interrupted if the fusing unit cover interlock switch opens.+24VINThis supplies +24V to the fusing unit on/off switching circuit. It is interrupted if the fusing unit cover interlock switch opens.+24VMThis is interrupted if the machine enters energy saving mode5VThis is used for the image sensor.	+5VE	
Sensor.+5VDThis supplies back up power for the DRAM and the optional IC card on the FCE. It can back up stored data for one hour after the power is switched off. A rechargeable battery on the FDU is used to generate +5VD.+5VBATThis supplies back up power to the system RAM on the FCE to back up the programmed data. A lithium battery is used to generate +5VBAT.+24VThis is normally on when the main switch is on.+24VDThis is interrupted if the fusing unit cover interlock switch opens.+24VINThis supplies +24V to the fusing unit on/off switching circuit. It is interrupted if the fusing unit cover interlock switch opens.+24VMThis is interrupted if the machine enters energy saving mode5VThis is used for the image sensor.	+5VLD	
It can back up stored data for one hour after the power is switched off. A rechargeable battery on the FDU is used to generate +5VD.+5VBATThis supplies back up power to the system RAM on the FCE to back up the programmed data. A lithium battery is used to generate +5VBAT.+24VThis is normally on when the main switch is on.+24VDThis is interrupted if the fusing unit cover interlock switch opens.+24VINThis supplies +24V to the fusing unit on/off switching circuit. It is interrupted if the fusing unit cover interlock switch opens.+24VMThis is interrupted if the machine enters energy saving mode5VThis is used for the image sensor.	+5VV	
programmed data. A lithium battery is used to generate +5VBAT.+24VThis is normally on when the main switch is on.+24VDThis is interrupted if the fusing unit cover interlock switch opens.+24VINThis supplies +24V to the fusing unit on/off switching circuit. It is interrupted if the fusing unit cover interlock switch opens.+24VMThis is interrupted if the machine enters energy saving mode5VThis is used for the image sensor.	+5VD	It can back up stored data for one hour after the power is switched off. A
<ul> <li>+24VD This is interrupted if the fusing unit cover interlock switch opens.</li> <li>+24VIN This supplies +24V to the fusing unit on/off switching circuit. It is interrupted if the fusing unit cover interlock switch opens.</li> <li>+24VM This is interrupted if the machine enters energy saving mode.</li> <li>-5V This is used for the image sensor.</li> </ul>	+5VBAT	
+24VIN       This supplies +24V to the fusing unit on/off switching circuit. It is interrupted if the fusing unit cover interlock switch opens.         +24VM       This is interrupted if the machine enters energy saving mode.         -5V       This is used for the image sensor.	+24V	This is normally on when the main switch is on.
fusing unit cover interlock switch opens.+24VMThis is interrupted if the machine enters energy saving mode5VThis is used for the image sensor.	+24VD	This is interrupted if the fusing unit cover interlock switch opens.
-5V This is used for the image sensor.	+24VIN	
	+24VM	This is interrupted if the machine enters energy saving mode.
+12VP This is supplied to the Flash ROMs on the FCE and the optional IC card.	-5V	This is used for the image sensor.
	+12VP	This is supplied to the Flash ROMs on the FCE and the optional IC card.

SUBJECT: New Model FAX FX6MkII

DATE: 1995. 10. 31

# 2.4. PCBs

2.4.1. FCE2



H516D530.wmf

# 1. FCIP (Facsimile Controller and Image Processor)

- CPU
- Modem (V.29, V.27, V.21)
- Data compression and reconstruction (DCR)
- Digital image processor (DIP)
- Laser interface (LIF)
- DMA controller
- Clock generation
- Stepper motor control
- · Serial interface to the FDU
- DRAM backup control
- Ringing signal/Tone detection
- · Fusing lamp control

SUBJECT: New Model FAX FX6MkII

DATE: 1995. 10. 31

# 2. Modem (Rockwell R144EFXL)

V.17, V.33 modem

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## 3. ROM

R

- 512 kB (4 Mbit) flash ROM for system software storage.
- 128 kB (1 Mbit) mask ROM for LCD wording data storage (not used in the US model)

### 4. DRAM

- 1.5 MB DRAM shared between the Line Buffer (32 kB), ECM Buffer (128 kB), Page Memory (768 kB), and SAF memory (512 kB).
- Backed up by the battery on the FDU.

### 5. SRAM

- 32 kB SRAM for system and user parameter storage.
- Backed up by the battery on the FCE.

### 6. Video SRAM

• 8 kB SRAM for video processing.

### 7. Oscillators

- 29.952 MHz oscillator for system clock generation.
- 32.768 MHz oscillator for the real time clock. This is backed up by the battery on the FCE.
- 38.00053 MHz oscillator for the R144EFXL modem.

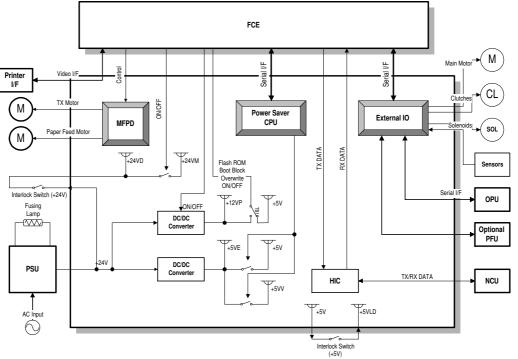
### 8. Jumpers, Switches, and Test Points

Item	Description
SW1 Switches the backup battery ON/OFF	

SUBJECT: New Model FAX FX6MkII

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DATE:
    1995. 10. 31
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# 2.4.2. FDU



H516D531.wmf

## 1. Power Saver CPU

• 4 bit CPU for controlling the machine during power saver mode.

## 2. FPD (Facsimile Power Driver)

· Stepper motor driver.

## 3. EXIO (External I/O)

- Serial interface to the FCE and OPU.
- Serial interface to an optional paper feed unit.
- Parallel interface to the main motor, clutches, and sensors.

# 4. HIC (Hybrid IC)

- · 2-4 wire switching
- · Filters and amplifiers
- · Monitor speaker driver

### 5. DC/DC Converters

- +5V generation
- +12V generation

SUBJECT: New Model FAX	<b>DATE:</b> 1995. 11. 15			
PREPARED BY: K. Misugi CHECKED BY: M. Iwasa		FROM: 2nd	d T.S. S	ection
CLASSIFICATION:	<ul> <li>Revision of servi</li> <li>Information only</li> <li>Other</li> </ul>			L: AX 3700L / AX 3700LF

The new model FX6 MkII has been released in the line-up of the FX6 series. This technical bulletin contains information on differences between the FX6 MkII and the FX6 (Parts Catalog).

The following parts for the FX6 MkII are different from the FX6.

FX6 MkII [Europe]

Index	F16	F16mkll	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166004	H5266104	PCB - FCE - FX6MkII - EUR
3-11	H5166046	H5266035	PCB - FDU - FX6MkII - EUR/Asia
3-31	H5215309	H5215339	Harness - NCU - L - EMI (15 pins)
		H5215340	Harness - NCU - EU - EMI (5 pins)
3-*	H5168601	H5268601	Operator's Manual - FX6MkII - English
	H5168602	H5268602	Operator's Manual - FX6MkII - German
	H5168603	H5268603	Operator's Manual - FX6MkII - Italian
	H5168604	H5268604	Operator's Manual - FX6MkII - Spanish
	H5168605	H5268605	Operator's Manual - FX6MkII - French
	H5168606	H5268606	Operator's Manual - FX6MkII - Swedish
7-2	H5164231	H5264292	Cover - Operation Panel - FX6 MkII - EUR
7-24	H5164253	H5264303	Quick Dial Sheet - German
	H5164257	H5264304	Quick Dial Sheet - French
	H5164261	H5264305	Quick Dial Sheet - Italian
	H5164266	H5264306	Quick Dial Sheet - Spanish
	H5164270	H5264307	Quick Dial Sheet - Swedish
	H5164274	H5264308	Quick Dial Sheet - English
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5215061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
		H5155318	PFU Harness
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin

# Technical Bulletin

No. F/L Series - 014

SUBJECT: New Model FAX FX6 MkII

RIGOH

DATE: 1995. 11. 15

The following parts for the FX6 MkII are different from the FX6.

FX6 MkII	[France]		
Index	F16	F16mkll	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166004	H5266104	PCB - FCE - FX6MkII - EUR
3-11	H5166046	H5266035	PCB - FDU - FX6MkII - EUR/Asia
3-31	H5215309	H5215339	Harness - NCU - L - EMI (15 pins)
		H5215340	Harness - NCU - EU - EMI (5 pins)
3-*	H5168608	H5268608	Operator's Manual - FX6MkII - France
7-2	H5164233	H5264294	Cover - Operation Panel - FX6 MkII - France
7-24	H5164257	H5264304	Quick Dial Sheet - French
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5215061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
		H5155318	PFU Harness
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin

# Technical Bulletin N

No. F/L Series - 014

SUBJECT: New Model FAX FX6 MkII

RIGOR

DATE: 1995. 11. 15

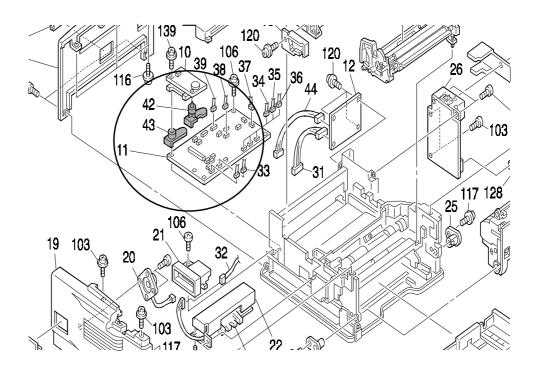
The following parts for the FX6 MkII are different from the FX6.

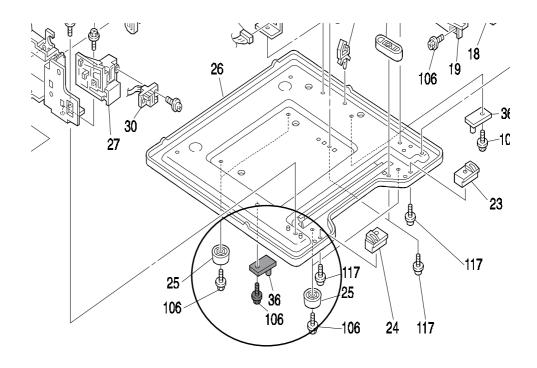
FX6 MkII [ASIA]
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Index	Flower 2	Flower2mkII	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166006	H5266106	PCB - FCE - FX6MkII - Asia
3-11	H5166046	H5266035	PCB - FDU - FX6MkII - EUR/Asia
3-31	H5215309	H5215339	Harness - NCU - L - EMI (15 pins)
		H5215340	Harness - NCU - EU - EMI (5 pins)
3-*	H5168609	H5268609	Operator's Manual - Flower 2 MkII - Asia
7-2	H5164241	H5264293	Cover - Operation Panel - FX6 MkII - Asia
7-24	H5164303	H5264309	Quick Dial Sheet - US
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5275061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
		H5155318	PFU Harness
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin

SUBJECT: New Model FAX FX6 MkII

**DATE:** 1995. 11. 15





SUBJECT: New Model FAX	<b>DATE:</b> 1995. 11. 15			
PREPARED BY: K. Misugi CHECKED BY: M. Iwasa		FROM: 2nd	d T.S. S	ection
CLASSIFICATION:	ice manual	MODE	L: estetner 9763 /	
<ul> <li>Action Required</li> <li>Troubleshooting</li> <li>Retrofit Information</li> </ul>	ice manuai	Na	ashuatec P397 / ex Rotary 6490	

The new model Flower 2 MkII has been released in the line-up of the Flower 2 series. This technical bulletin contains information on differences between the Flower 2 MkII and the Flower 2 (Parts Catalog).

The following parts for the Flower 2 MkII are different from the Flower 2.

Flower 2 MkII [USA]

Index	Flower 2	Flower2mkII	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166002	H5266102	PCB - FCE - FX6MkII - USA
3-11	H5166043	H5266033	PCB - FDU - FX6MkII - USA
3-16	H5164025	H5164048	Cover - RS232C
3-*	H5168620	H5268620	Operator's Manual - Flower 2 MkII
7-2	H5164225	H5264287	Cover - Operation Panel - Flower 2 MkII
7-24	H5164303	H5264309	Quick Dial Sheet - US
7-*	H5164308	H5264319	LCD Seal - Gestetner
7-*	H5164309	H5264320	LCD Seal - Nashuatec
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5275061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
21-5	H5163407	H5163401	Cassette Base - Universal
21-42	H5163465	H5153465	Support Plate - End Fence
		H5155318	PFU Harness
		H5163430	Paper Size Detector - LG
		H5153466	Plastic Rivet (Cassette End Fence)
		H5164088	Cassette Cover
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin

SUBJECT: New Model FAX Flower 2 MkII

DATE: 1995. 11. 15

The following parts for the Flower 2 MkII are different from the Flower 2.

	Flower 2	MkII	[ASIA]
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RIGOR

Index	Flower 2	Flower2mkII	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166006	H5266106	PCB - FCE - FX6MkII - Asia
3-11	H5166046	H5266035	PCB - FDU - FX6MkII - EUR/Asia
3-31	H5215309	H5215339	Harness - NCU - L - EMI (15 pins)
		H5215340	Harness - NCU - EU - EMI (5 pins)
3-*	H5168629	H5268629	Operator's Manual - Flower 2 MkII - Asia
7-2	H5164229	H5264290	Cover - Operation Panel - Flower 2 MkII - Asia
7-24	H5164303	H5264309	Quick Dial Sheet - US
7-*	H5164308	H5264319	LCD Seal - Gestetner
7-*	H5164309	H5264320	LCD Seal - Nashuatec
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5275061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
		H5155318	PFU Harness
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin

### **Technical Bulletin**

No. F/L Series - 015

SUBJECT: New Model FAX Flower 2 MkII

DATE: 1995. 11. 15

The following parts for the Flower 2 MkII are different from the Flower 2.

Flower 2 MkII [Europe]	
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RIGOH

Index	F16	F16mkll	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166004	H5266104	PCB - FCE - FX6MkII - EUR
3-11	H5166046	H5266035	PCB - FDU - FX6MkII - EUR/Asia
3-31	H5215309	H5215339	Harness - NCU - L - EMI (15 pins)
		H5215340	Harness - NCU - EU - EMI (5 pins)
3-*	H5168621	H5268621	Operator's Manual - FX6MkII - English
	H5168622	H5268622	Operator's Manual - FX6MkII - German
	H5168623	H5268623	Operator's Manual - FX6MkII - Italian
	H5168624	H5268624	Operator's Manual - FX6MkII - Spanish
	H5168625	H5268625	Operator's Manual - FX6MkII - French
	H5168626	H5268626	Operator's Manual - FX6MkII - Swedish
7-2	H5164237	H5264298	Cover - Operation Panel - Flower 2 MkII
7-24	H5164253	H5264303	Quick Dial Sheet - German
	H5164257	H5264304	Quick Dial Sheet - French
	H5164261	H5264305	Quick Dial Sheet - Italian
	H5164266	H5264306	Quick Dial Sheet - Spanish
	H5164270	H5264307	Quick Dial Sheet - Swedish
	H5164274	H5264308	Quick Dial Sheet - English
7-*	H5164308	H5264319	LCD Seal - Gestetner
	H5164309	H5264320	LCD Seal - Nashuatec
	H5164320	H5264321	LCD Seal - Rex Rotary
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5215061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
		H5155318	PFU Harness
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin

SUBJECT: New Model FAX Flower 2 MkII

DATE: 1995. 11. 15

The following parts for the Flower 2 MkII are different from the Flower 2.

Flower	2	MkII	[France]	
1 10 10 10	~	11111	I lance	

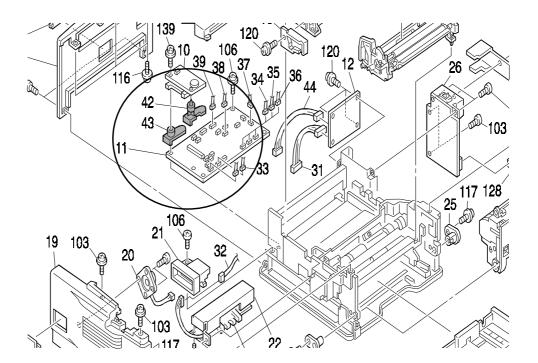
RIGOR

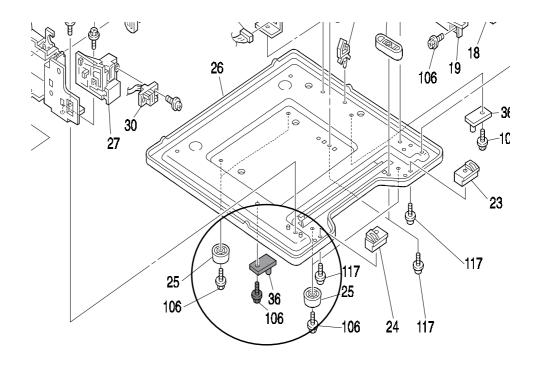
Index	F16	F16mkll	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166004	H5266104	PCB - FCE - FX6MkII - EUR
3-11	H5166046	H5266035	PCB - FDU - FX6MkII - EUR/Asia
3-31	H5215309	H5215339	Harness - NCU - L - EMI (15 pins)
		H5215340	Harness - NCU - EU - EMI (5 pins)
3-*	H5168628	H5268628	Operator's Manual - FX6MkII - France
7-2	H5164237	H5264299	Cover - Operation Panel - Flower 2 MkII
7-24	H5164257	H5264304	Quick Dial Sheet - French
7-*	H5164337	H5264322	LCD Seal - Gestetner - France
	H5164338	H5264323	LCD Seal - Nashuatec - France
	H5164339	H5264324	LCD Seal - Rex Rotary - France
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5215061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
		H5155318	PFU Harness
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin



SUBJECT: New Model FAX Flower 2 MkII

1995. 11. 15





SUBJECT: New Model FAX Flower 2 MkII			<b>DATE:</b> 1995. 11. 15
PREPARED BY: K. Misugi CHECKED BY: M. Iwasa	FROM: 2nd	d T.S. S	ection
CLASSIFICATION:		MODE S/	L: AVIN FAX 3680

The new model Flower 2 MkII has been released in the line-up of the Flower 2 series. This technical bulletin contains information on differences between the Flower 2 MkII and the Flower 2 (Parts Catalog).

The following parts for the Flower 2 MkII are different from the Flower 2.

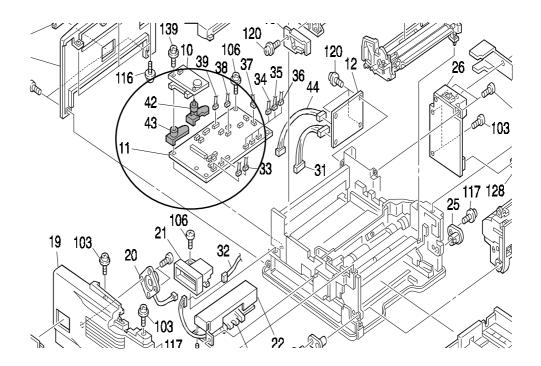
Flower 2 MkII [Savin FAX 3680]

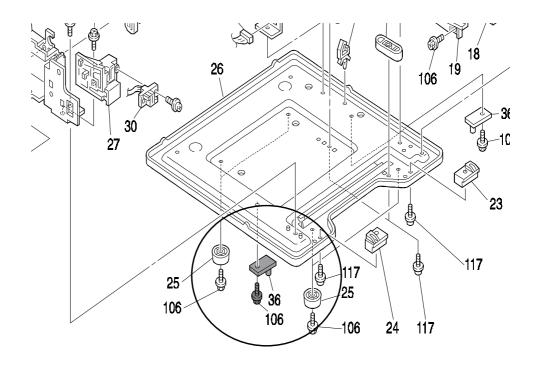
Index	Flower 2	Flower2mkII	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166002	H5266102	PCB - FCE - FX6MkII - USA
3-11	H5166043	H5266033	PCB - FDU - FX6MkII - USA
3-16	H5164025	H5164048	Cover - RS232C
3-*	H5168630	H5268630	Operator's Manual - Flower 2 MkII
7-2	H5164223	H5264288	Cover - Operation Panel - Flower 2 MkII
7-24	H5164303	H5264309	Quick Dial Sheet - US
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5275061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
21-5	H5163407	H5163401	Cassette Base - Universal
21-42	H5163465	H5153465	Support Plate - End Fence
		H5155318	PFU Harness
		H5163430	Paper Size Detector - LG
		H5153466	Plastic Rivet (Cassette End Fence)
		H5164088	Cassette Cover
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin



SUBJECT: New Model FAX Flower 2 MkII

1995. 11. 15





SUBJECT: New Model FAX F	Flower 2 MkII			<b>DATE:</b> 1995. 11. 15
PREPARED BY: K. Misugi CHECKED BY: M. Iwasa		FROM: 2nd	d T.S. S	ection
CLASSIFICATION:	<ul> <li>Revision of servi</li> <li>Information only</li> <li>Other</li> </ul>		MODE O	L: MNIFAX L535

The new model Flower 2 MkII has been released in the line-up of the Flower 2 series. This technical bulletin contains information on differences between the Flower 2 MkII and the Flower 2 (Parts Catalog).

The following parts for the Flower 2 MkII are different from the Flower 2.

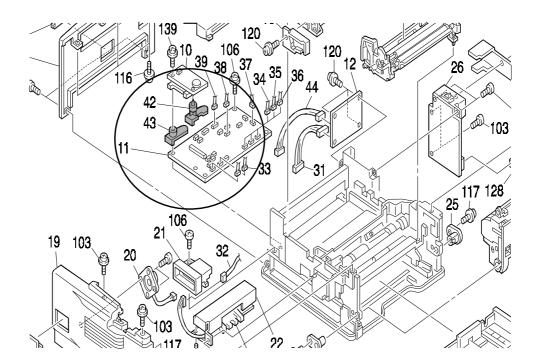
Flower 2 MkII [OMNIFAX L535]

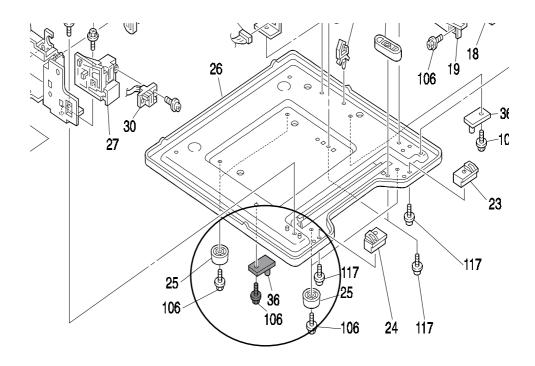
Index	Flower 2	Flower2mkll	Description
3-2	H5164055	H5264054	Cover - PIF
3-3	H5164060	H5264055	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166002	H5266102	PCB - FCE - FX6MkII - USA
3-11	H5166043	H5266033	PCB - FDU - FX6MkII - USA
3-*	H5168635	H5268635	Operator's Manual - Flower 2 MkII
7-2	H5164227	H5264291	Cover - Operation Panel - Flower 2 MkII
7-24	H5164315	H5264309	Quick Dial Sheet - US
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5275061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
21-5	H5163408	H5153422	Cassette Base - Universal
21-42	H5163465	H5153465	Support Plate - End Fence
		H5155318	PFU Harness
		H5153427	Paper Size Detector - LG
		H5153466	Plastic Rivet (Cassette End Fence)
		H5164088	Cassette Cover
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin



SUBJECT: New Model FAX Flower 2 MkII

1995. 11. 15





SUBJECT: New Model FAX	<b>DATE:</b> 1995. 11. 15			
PREPARED BY: K. Misugi CHECKED BY: M. Iwasa		FROM: 2nd	d T.S. S	ection
CLASSIFICATION:	<ul> <li>Revision of servi</li> <li>Information only</li> <li>Other</li> </ul>		MODE In	L: fotec 3674/3674F

The new model Flower 2 MkII has been released in the line-up of the Flower 2 series. This technical bulletin contains information on differences between the Flower 2 MkII and the Flower 2 (Parts Catalog).

The following parts for the Flower 2 MkII are different from the Flower 2.

Flower 2 MkII [Europe: Infotec 3674]

Index	F16	F16mkll	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166004	H5266104	PCB - FCE - FX6MkII - EUR
3-11	H5166046	H5266035	PCB - FDU - FX6MkII - EUR/Asia
3-31	H5215309	H5215339	Harness - NCU - L - EMI (15 pins)
		H5215340	Harness - NCU - EU - EMI (5 pins)
3-*	H5168611	H5268611	Operator's Manual - FX6MkII - English
	H5168612	H5268612	Operator's Manual - FX6MkII - German
	H5168613	H5268613	Operator's Manual - FX6MkII - Italian
	H5168614	H5268614	Operator's Manual - FX6MkII - Spanish
	H5168615	H5268615	Operator's Manual - FX6MkII - French
	H5168616	H5268616	Operator's Manual - FX6MkII - Swedish
7-2	H5164235	H5264296	Cover - Operation Panel - Flower 2 MkII
7-24	H5164253	H5264303	Quick Dial Sheet - German
	H5164257	H5264304	Quick Dial Sheet - French
	H5164261	H5264305	Quick Dial Sheet - Italian
	H5164266	H5264306	Quick Dial Sheet - Spanish
	H5164270	H5264307	Quick Dial Sheet - Swedish
	H5164274	H5264308	Quick Dial Sheet - English
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5215061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
		H5155318	PFU Harness
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin

SUBJECT: New Model FAX Flower 2 MkII

DATE: 1995. 11. 15

The following parts for the Flower 2 MkII are different from the Flower 2.

Index	F16	F16mkll	Description
3-2	H5164040	H5264040	Cover - PIF
3-3	H5164045	H5264045	Cover - Rear - 2
3-9	H5272040	H5152040	Laser Unit
3-10	H5166004	H5266104	PCB - FCE - FX6MkII - EUR
3-11	H5166046	H5266035	PCB - FDU - FX6MkII - EUR/Asia
3-31	H5215309	H5215339	Harness - NCU - L - EMI (15 pins)
		H5215340	Harness - NCU - EU - EMI (5 pins)
3-*	H5168618	H5268618	Operator's Manual - FX6MkII - France
7-2	H5164239	H5264297	Cover - Operation Panel - Flower 2 MkII
7-24	H5164332	H5264304	Quick Dial Sheet - French
9-15	H5161066	H5261066	Contact Image Sensor - B4
9-19	H5161062	Not used	Spacer - Image Sensor
11-12	H5215061	H5155040	Polygonal Motor - DC24V; 0.35A
19-2	H5163342	H5263391	Base - Main Board
		H5155318	PFU Harness
2-42*		H5263395	Spacer - FCE - Front
2-43*		H5263396	Spacer - FCE - Rear
18-36*		H5153693	Positioning Pin

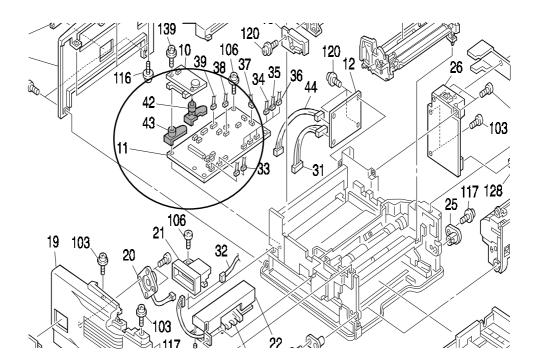
Flower 2 MkII [France: Infotec 3674F]

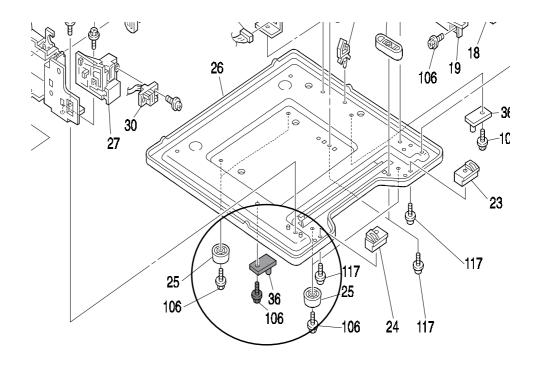
RIGOR



SUBJECT: New Model FAX Flower 2 MkII

1995. 11. 15





SUBJECT: Printer Interface (T	ype100 / 130)			DATE: Nov. 15, 1995	
PREPARED BY: T. Kimura CHECKED BY: M. Iwasa		FROM: 2nd	1 T.S. S	ection	
CLASSIFICATION:	Revision of servi Information only Other	ce manual	MODE F/	L: L Series	

When installing the printer interface, please note the following:

Menu / sub menu	Available options
INPUT AUTO LT >	AUTO*
•	STD (Standard)
	OPT ( Optional )

Note: An asterisk indicates the factory default setting.

#### When you select AUTO:

Auto tells the printer to automatically decide whether to feed paper from the standard paper cassette or the optional paper cassette (removable paper cassette), depending on the size which is set by the printer driver. If the same size of paper is installed in the standard paper cassette and the optional paper cassette, the paper will always be fed from the standard paper cassette.

If you would like to select the paper source in the above condition, please change the setting to STD or OPT.

#### When you select STD/OPT:

The paper is fed from the paper source which is set by the printer driver.

Fax170, MV74

RIGOH	Technical B	ulletin	No.	F/L Series-020
SUBJECT: PSTN BUSY TON	NE and PABX TONE			<b>DATE:</b> Nov. 15, 1995
PREPARED BY: T. Kimura CHECKED BY: M. Iwasa		FROM: 2nd	d T.S. Se	ection
CLASSIFICATION:			MODE	L:
Action Required Revision of serv		ice manual MV310, Fax2700L,		V310, Fax2700L,
Troubleshooting	Information only		Fa	ax3700L, Fax180,

Retrofit Information

Some value of the table for the PSTN BUSY TONE and the PABX BUSY TONE were changed.

Therefore we would like you to use the new table as attached.

Other

SUBJECT: PSTN BUSY TONE and PABX TONE

DATE: Nov. 15, 1995

#### PSTN BUSY TONE (807F13 - 807F14)

RIGOH

France		Germany		U.K.	
RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)
042	415-465	058	400-480	0A0	330-470
052	410-470	068	390-485	0B0	320-460
062	400-475	078	385-490	0C0(Default)	300-480
072(Default)	395-480	088(Default)	380-495	0D0	290-485
082	390-485	098	370-500	0E0	285-490
092	380-490	0A8	365-505	0F0	275-495
0A2	375-495	0B8	360-510	100	265-500
0B2	465-500	0C8	350-515	110	255-505
		0D8	345-520		

Italy		Austria		Belgium	
RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)
030	410-440	0D8	370-555	042	405-460
040(Default)	400-450	0E8	360-560	052(Default)	400-465
050	395-455	0F8	355-565	062	395-475
060	385-460	108	345-570	072	390-480
070	380-465	118	340-575	082	380-485
080	375-470	128(Default)	330-580	092	375-490
090	365-475	138	325-585	0A2	365-495
		148	315-590		
		158	310-595		

Denmark		Ire	Ireland		orway
RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)
036	395-450	02E	395-425	0A4	355-475
046(Default)	390-460	03E(Default)	385-435	0B4	345-490
056	385-465	04E	380-440	0C4	335-500
066	375-470	05E	370-445	0D4	325-505
076	370-475	06E	365-450	0E4	320-510
086	365-480	07E	355-455	0F4(Default)	310-515
		08E	350-465	104	305-520
				114	290-525

Sweden		Switzerland		Но	lland
RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)
032(Default)	410-440	0F0	385-560	0F0	335-540
042	400-450	100	380-565	100	325-545
052	395-455	110	370-570	110	320-555
062	385-460	120(Default)	365-575	120	310-560
072	380-465	130	355-580	130	300-565
082	375-470	140	350-585	140(Default)	295-570
092	365-475	150	340-590	150	285-575
		160	330-595		
		170	325-600		

SUBJECT: PSTN BUSY TONE and PABX TONE

DATE: Nov. 15, 1995

#### PSTN BUSY TONE (807F13 - 807F14)

RIGOH

Spain		Israel		Australia	
RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)
0A8	330-470	040	380-430	028	405-445
0B8	320-460	050(Default)	365-435	038(Default)	415-455
0C8	300-480	060	355-440	048	400-460
0D8(Default)	290-485	070	350-445	058	390-465
0E8	285-490	080	340-550	068	385-470
0F8	275-495	090	335-555	078	380-475
108	265-500	0A0	325-565	088	370-480
118	255-505			098	365-485

Portugal					
RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)
FFFF(Default)	NO DETECTION				
070	415-515				
080	410-520				
090	405-525				
0A0	395-530				
0B0	390-535				
0C0	385-540				
0D0	380-545				

SUBJECT: PSTN BUSY TONE and PABX TONE

DATE: Nov. 15, 1995

#### PABX BUSY TONE (807F26 - 807F27)

RIGOH

Italy		Denmark		Switzerland	
RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)
030(Default)	410-440	030	405-445	0F0	385-560
040	400-450	040	415-455	100	380-565
050	395-455	050(Default)	400-460	110	370-570
060	385-460	060	390-465	120(Default)	365-575
070	380-465	070	385-470	130	355-580
080	375-470	080	380-475	140	350-585
090	365-475	090	370-480	150	340-590
		0A0	365-485	160	330-595

Israel		Australia			
RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)	RAM Value[H]	Range(Hz)
040	380-430	038(Default)	395-450		- · ·
050(Default)	365-435	048	390-460		
060	355-440	058	385-465		
070	350-445	068	375-470		
080	340-550	078	370-475		
090	335-555	088	365-480		
0A0	325-565				

SUBJECT: Bypass Feed Sensor (Photointerruptor)			<b>DATE:</b> Dec. 15, 1995
PREPARED BY: Y. Okunishi CHECKED BY: M. Iwasa	FROM: 2nd	T.S. Se	ection
CLASSIFICATION:		MODE Fን	L: (6, FX6MII, FX4

Symptom: Paper jam at the Bypass Tray.

**Cause:** The Pressure Roller Bracket (FX6/FX6M2: Index no.17 on page 1-20 of the parts catalog, FX4: Index no.17 on page 1-28 of the parts catalog) of the paper cassette hits the Photointerruptor (Part no.AW020021, FX6/ FX6M2: Index no.34 on page 1-16, FX4: Index no.29 on page 1-24) for the bypass feed sensor and breaks it when the paper cassette is pushed back.

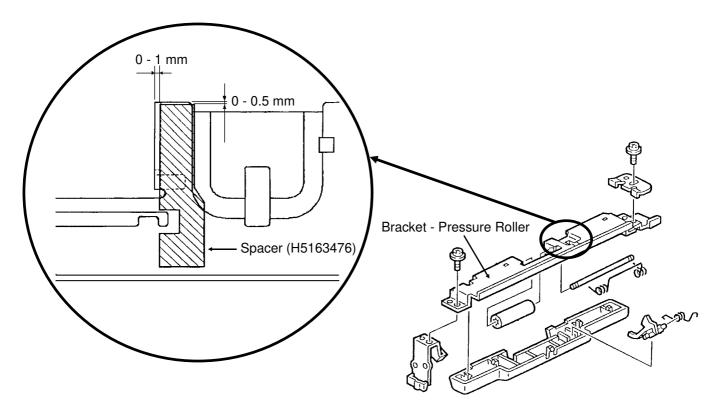
The machine detects the paper present signal from the broken sensor and tries to feed paper from the bypass tray instead of from the paper cassette even if there is no paper on the bypass tray.

This is the cause of the paper jam.

#### **Troubleshooting:**

Change the broken photointerruptor and attach the plastic spacer (Part no. H5163476).

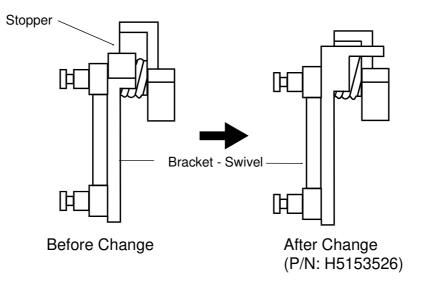
This spacer has been installed since November production in 1995.



# Image: Constraint of the second state Image: Constraint of the second state No. F/L Series-022 SUBJECT: Optional Paper Cassette DATE: Dec. 15, 1995 PREPARED BY: T. Kimura FROM: 2nd T.S. Section

CHECKED BY: M. Iwasa		FROM: 2nd	1.S. Section	
CLASSIFICATION:			MODEL:	
Action Required	Revision of servic	e manual	F/L Series	
Troubleshooting	Information only			
Retrofit Information	Other			

To prevent the stopper of the optional paper cassette from breaking , the shape of the Swivel Bracket was changed as shown below.



If you have this problem, please replace the part.

The part, Bracket-Swivel, is available as a service part.

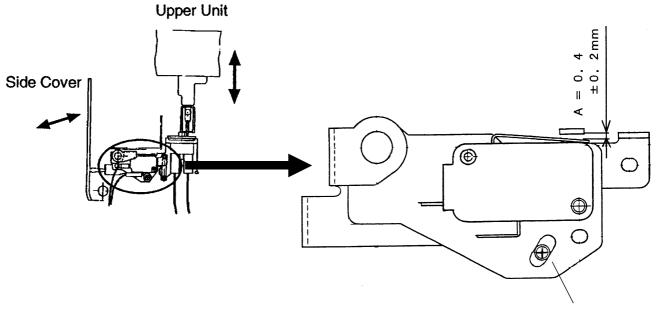
SUBJECT: Adjustment for the New Interlock Switch			DATE: Corrected on Jun,15.1996	
PREPARED BY: Y.Okunishi CHECKED BY: S.Fujii FROM:		FROM: Qu	uality Assurance Center	
CLASSIFICATION:			MODE	iL:
Action Required	Revision of service manual		L3	30,F16,F14,FX6CD,
Troubleshooting	Information only		F	X6MII,
Retrofit Information	Other			

The new interlock switch has been installed since December 1995. See MB F/L Series - 33 and 47.

When installing the new interlock switch assembly, please make the following adjustment . If the adjustment is not made securely, CLOSE COVER is not displayed, even if the cover is not closed or CLOSE COVER is displayed even if the cover is closed.

Adjustment procedure

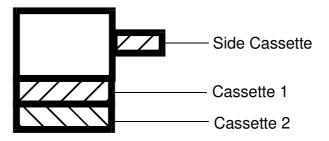
- 1. Install the new interlock switch assembly.
- 2. Loosen the adjustment screw and adjust the gap A to 0.4  $\pm\,$  0.2mm using a thickness gauge.
- 3.Open the upper unit (keep the side cover closed) and make sure that the 5V switch goes to OFF.
- 4.Close the upper unit and open the side cover. Then make sure that the 5V switch goes to OFF.
- 5. Assemble the machine.



**Adjustment Screw** 

RIGOH	Technical E	Bulletin	No.	F/L Series-024
SUBJECT: Printer Driver				<b>DATE:</b> Dec. 15, 1995
PREPARED BY: T. Kimura CHECKED BY: M. Iwasa		FROM: 2nd	d T.S. Se	ection
CLASSIFICATION:	Revision of serv		MODE F>	L: 〈4, FX6MII
Troubleshooting Retrofit Information	<ul><li>Information only</li><li>Other</li></ul>			

Up to 3 optional cassettes can be installed in the machine.



However, the printer driver cannot handle the above 3 optional cassettes at the same time in the printer mode.

Therefore, before printing, the cassette you would like to use should be chosen as an optional cassette in the user program mode.

Please select the cassette in accordance with the following procedure.

#### — Procedure —

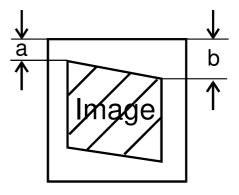
- 1. Press Function 6022226 and 2.
- 2. Press the ▼ Key until "CASSETTE FOR PRINTER SELECT" is displayed. "OPEN CST CST1 CST2" are displayed in this screen, if all cassettes are installed.
- 3. Press the Key until your choice is selected.
- 4. Press the Yes Key to confirm your choice.

# Image skew Image skew Date: March 15, 1996 March 15, 1996

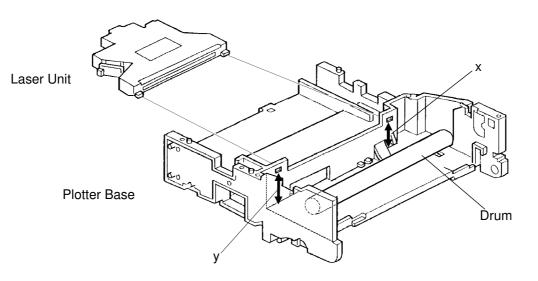
PREPARED BY: Y. Okunishi CHECKED BY: M. Iwasa		FROM: Quality Assurance Center	
CLASSIFICATION:			MODEL:
Action Required	ired 📃 Revision of service manual		FX6, FX6MII, FX6CD
Troubleshooting	Information only		=
Retrofit Information	Other		

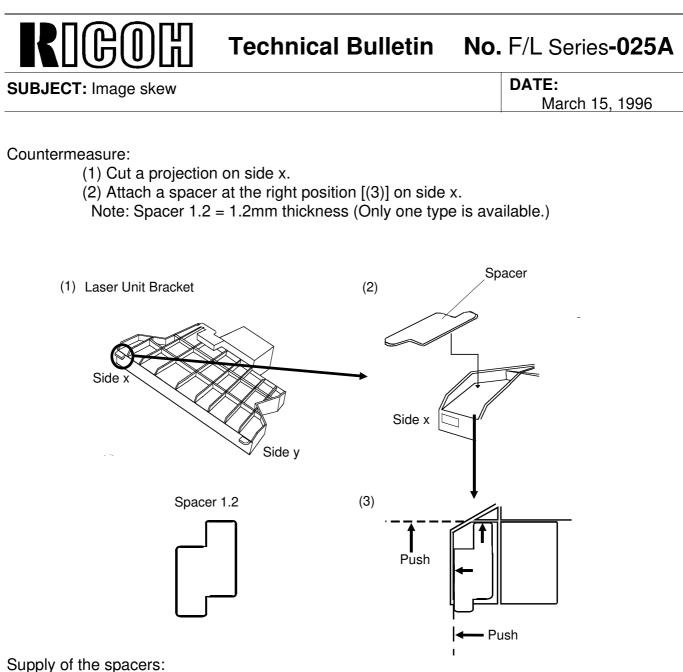
Problem: Printed image skew.

The skew happens for horizontal lines but not for vertical lines. a<b



- Cause: The heights of the fixing holes for the laser unit are not even. x < y
  - So, the laser unit is not set parallel with the drum.





Contact Mr. M.Iwasa of Ricoh Service Planning Department.

#### Production:

This problem has been solved since October production in 1995.

Reference:

If you need to adjust the top margin of the printed paper, please refer to Section **5.12** Image Adjustment in the service manual.



SUBJECT: Image skew

DATE: March 15, 1996

#### Laser Unit Replacement Procedure

- 1. Confirm that the remaining SAF memory capacity is 100%.
- 2. Turn the main switch OFF.
- 3. FX6 / FX6MII / FX6CD: Remove the Rear Cover. LSO: Remove the NCU Cover (small one on the left side) and the Left Cover.
- 4. Remove the NCU.
- 5. LSO: Lift and open the Upper Unit.
- 6. LSO: Remove the Inner Cover.
- 7. Remove the connectors to the Laser Unit on the FDU.
- 8. Remove the Fixing Spring for the Laser Unit.

Note: Attach the fixing spring properly when putting back the Laser Unit.

- 9. Remove the Laser Unit.
- Note: Check the connection of the connectors before putting back the covers when assembling the machine.

SUBJECT: Multi-sheet feeding / Paper skew		DATE: Corrected on May 31,1996
PREPARED BY: Y. Okunishi CHECKED BY: S. Fujii	FROM: 2nd T.S. S	ection
CLASSIFICATION:	MODE	L:

- Action Required Revision of service manual Paper Feed Unit Type 140F Troubleshooting Information only Retrofit Information Other
- Problem: Multi-sheet feeding and/or paper skew when the paper is fed from the paper feed unit Type140F which is a option for FX6MII and FX4. No problem happens when the paper feed unit type 140S is used.
- Leading corners of the paper in the paper feed unit move from the corner separator Cause: when the paper cassette of the paper feed unit is pushed back into the machine after the paper is set in the cassette.

#### **Countermeasure:**

RUGOH

The following change has been implemented since November production 1995.

No.	Old Part	New Part	Description	Qť'y	Note
(1)		H5152153	Spring - Corner Separator	1	Added
(2)		H5163901	Link Ass'y - Rear	1	Added
(3)		H5163907	Link Ass'y - Front	1	Added
(4)		H5163918	Cassette Rack	1	Added
(5)		H5163911	Bottom Guide	1	Added
(6)		H5163671	Side Plate Cover	$2 \rightarrow 0$	Removed
(7)		H5163912	Bottom Stopper	1	Added
(8)	H5163672	H5163913	Lock Release Guide	$1 \rightarrow 1$	Changed
(9)		H5163916	Spacer	1	Added
(10)		H5163915	Guard Plate	1	Added
(11)		H5163920	Guide Plate - Cassette	1	Added
(12)		H5163917	Oil Damper Bracket	1	Added
(13)		H5163919	Oil Damper	1	Added
(14)		09513006 <b>B</b>	Philips Screw w. Flat Washer - M3x6	2	Added
(15)	H0062383	H0203899	E-Ring - JRE4	1 →2	Changed
(16)		H5163673	Film - Bottom Plate	1	No change

Modification Kit Part no.: H5159600 Correction : (14) 09513006  $\rightarrow$  09513006B

#### RIGOH Technical Bulletin No. F/L Series-026B **DATE:** Corrected on SUBJECT: Multi-sheet feeding / Paper skew May 31,1996 **Modification Kit** for **Paper Feed Unit** Type 140F Part No. Description Qť'y H5152153 Spring - Corner Separator 1 Link Ass'y - Rear 1 H5163901 Link Ass'y - Front H5163907 1 H5163918 Cassette Rack 1 1 H5163911 Bottom Guide 1 H5163912 Bottom Stopper H5163913 Lock Release Guide 1 H5163916 Spacer 1 1 H5163915 Guard Plate Guide Plate - Cassette 1 H5163920 H5163917 Oil Damper Bracket 1 1 H5163919 Oil Damper Philips Screw w. Flat Washer - M3x6 09513006B 2 E-Ring - JRE4 2 H0203899 H516 3673A Film - Bottom Plate 1 N/A Instruction Sheet (RTB) 1

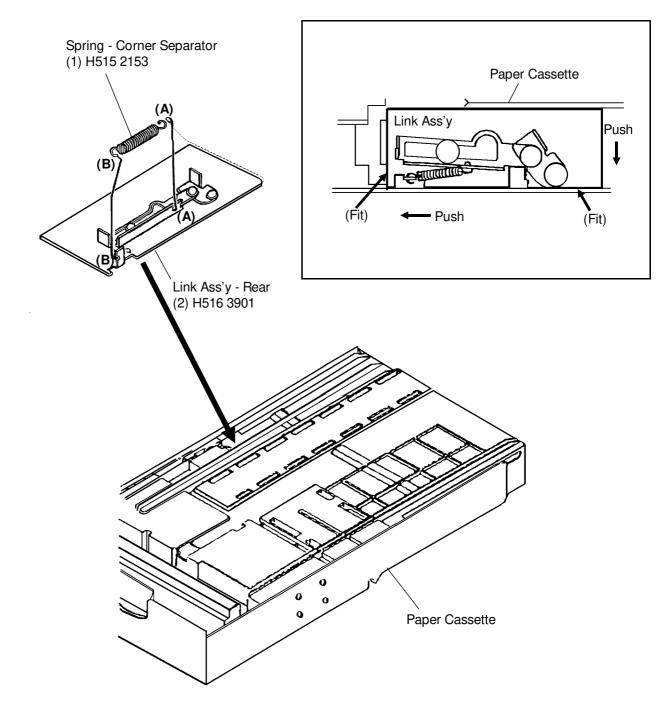
Kit Part No.

SUBJECT: Multi-sheet feeding / Paper skew

#### **Modification Procedure -1**

- 1. Assemble the spring (1) with the Rear Link Ass'y (2).
- 2. Bend the hook of the spring at side B to prevent the hook from coming off.
- 3. Attach the Rear Link Ass'y with the spring onto the back side of the paper cassette.

Note: Clean the spot where the Rear Link Ass'y is attached.



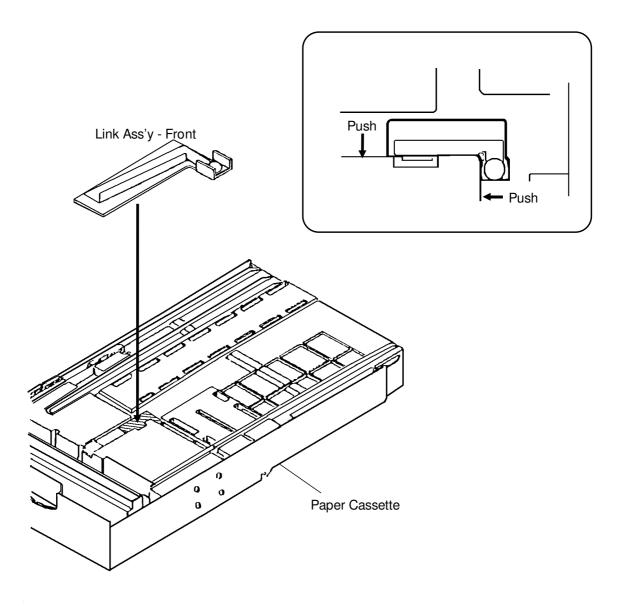
SUBJECT: Multi-sheet feeding / Paper skew

DATE: Corrected on May 31,1996

#### **Modification Procedure - 2**

1. Attach the Front Link Ass'y (3) onto the back side of the cassette.

Note: Clean the spot where the Front Link Ass'y is attached.



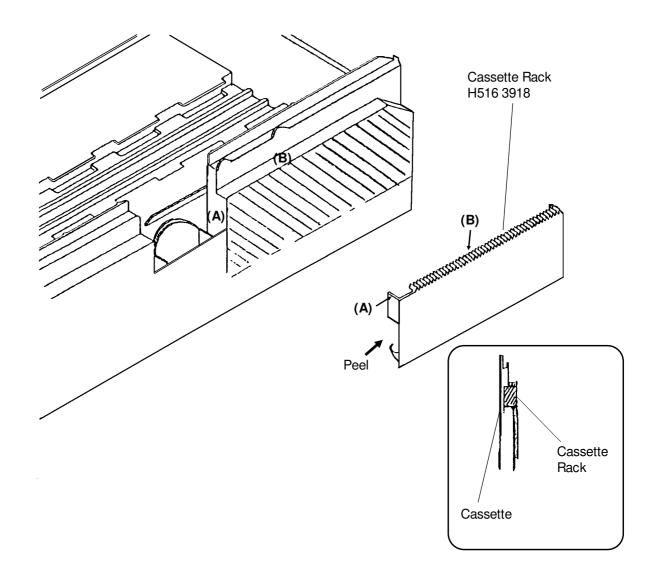
SUBJECT: Multi-sheet feeding / Paper skew

DATE: Corrected on May 31,1996

#### **Modification Procedure - 3**

1. Attach the Cassette Rack (4) onto the right side of the cassette.

Note: Clean the spot where the Cassette Rack is attached.



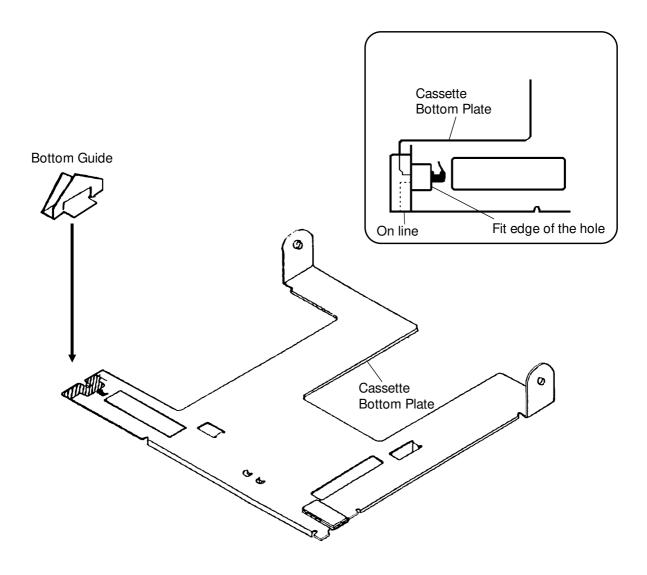
SUBJECT: Multi-sheet feeding / Paper skew

DATE: Corrected on May 31,1996

#### **Modification Procedure - 4**

1. Attach the Bottom Guide (5) onto the front/left edge of the Cassette Bottom Plate.

Note:Clean the spot where the Bottom Guide is attached.

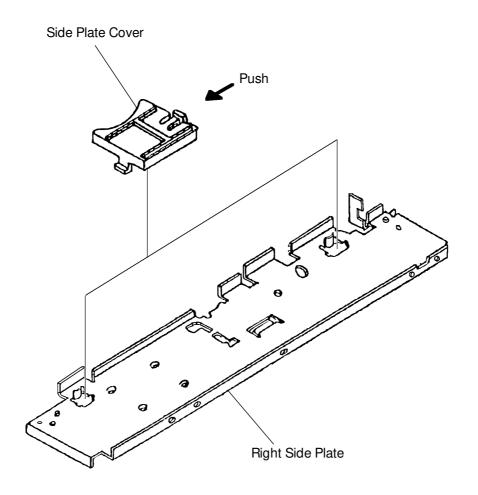


SUBJECT: Multi-sheet feeding / Paper skew

DATE: Corrected on May 31,1996

#### **Modification Procedure - 5**

1. Remove the Side Plate Cover(6), two pieces, from the Right Side Plate in the Paper Feed Unit.



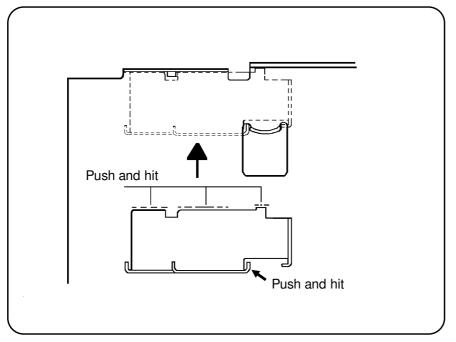
SUBJECT: Multi-sheet feeding / Paper skew

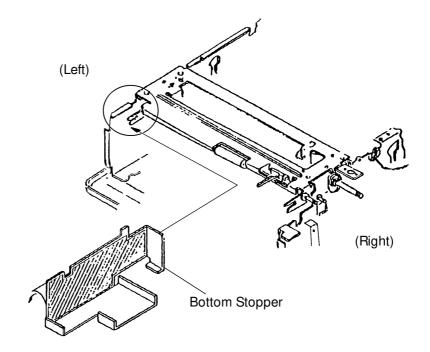
DATE: Corrected on May 31,1996

#### **Modification Procedure - 6**

1. Attach the Bottom Stopper (7) onto the front/left side of the Left Side Plate in the Paper Feed Unit.

Note: Clean the spot where the Bottom Guide is attached.



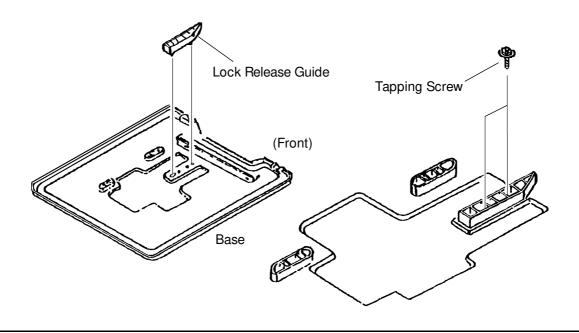


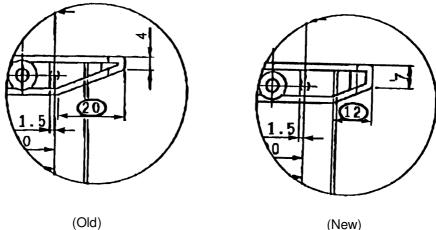
SUBJECT: Multi-sheet feeding / Paper skew

DATE: Corrected on May 31,1996

#### **Modification Procedure - 7**

- 1. Remove the Lock Release Guide (8) from the Base of the Paper Feed Unit.
- 2. Install the new Lock Release Guide on the Base.





(New)

### ☐(C) ☐ Technical Bulletin No

No. F/L Series-026B

SUBJECT: Multi-sheet feeding / Paper skew

DATE: Corrected on May 31,1996

#### **Modification Procedure - 8**

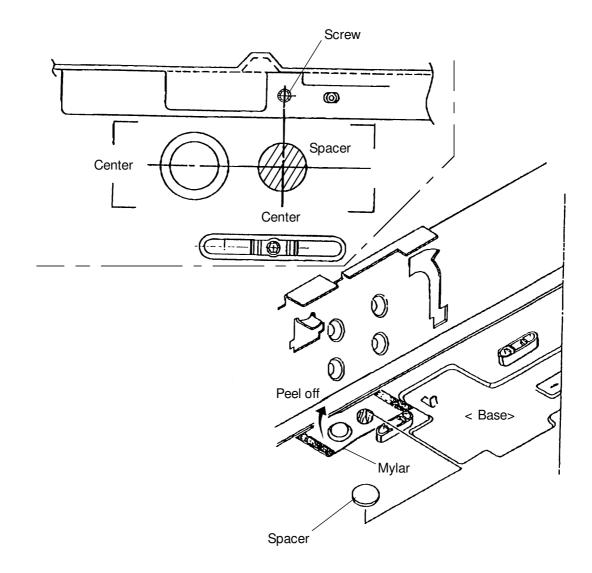
1. Peel off a film(16) at the rear/right side of the bottom plate in the paper feed unit.

Note: Peel the film (16) of carefully. It is used again.

2. Attach the Spacer (9) to the bottom plate.

Note: Clean the spot where the Spacer is attached.

3. Attach the film (16) at the original spot.



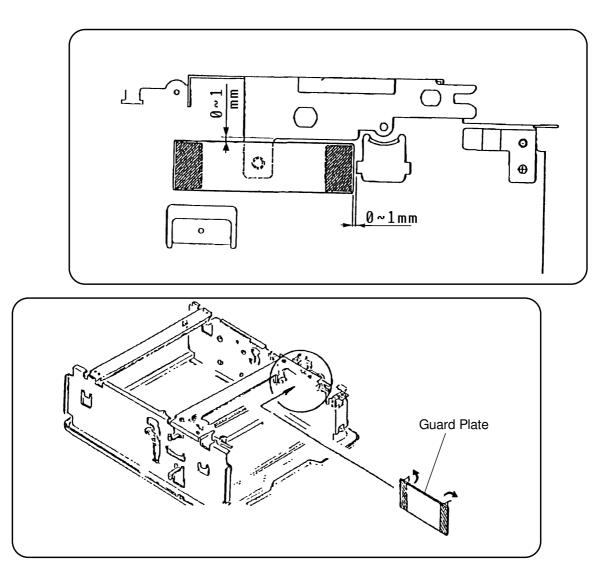
SUBJECT: Multi-sheet feeding / Paper skew

DATE: Corrected on May 31,1996

#### **Modification Procedure - 9**

1. Attach the Guard Plate (10) onto the Right Side Plate in the Paper Feed Unit.

Note: Clean the spot where the Guard Plate is attached.

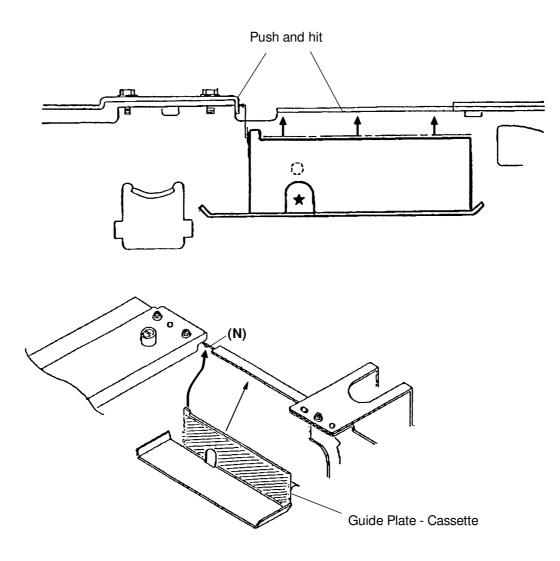


SUBJECT: Multi-sheet feeding / Paper skew

#### **Modification Procedure - 10**

1. Attach the Guide Plate (11) onto the Right Side Plate in the Paper Feed Unit.

Note: Clean the spot where the Guide Plate is attached. Insert the projection on the right side plate into the hole in the guide plate.



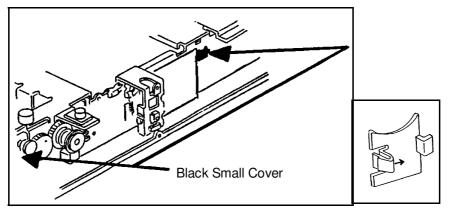
SUBJECT: Multi-sheet feeding / Paper skew

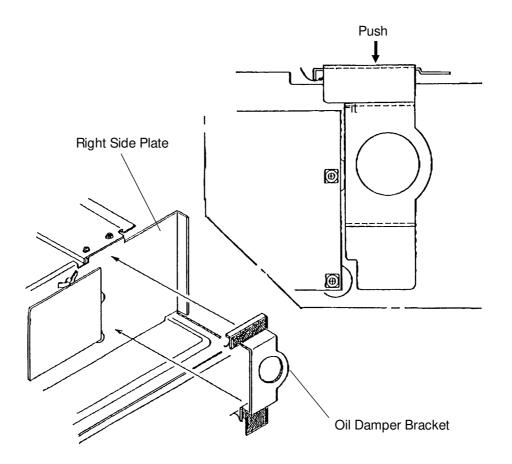
DATE: Corrected on May 31,1996

#### **Modification Procedure - 11**

- 1. Remove the right side cover of the paper feed unit.
- 2. Remove the small black covers.
- 3. Attach the Oil Damper Bracket (12) onto the Right Side Plate in the Paper Feed Unit.

Note: Clean the spot where the Oil Damper Bracket is attached.





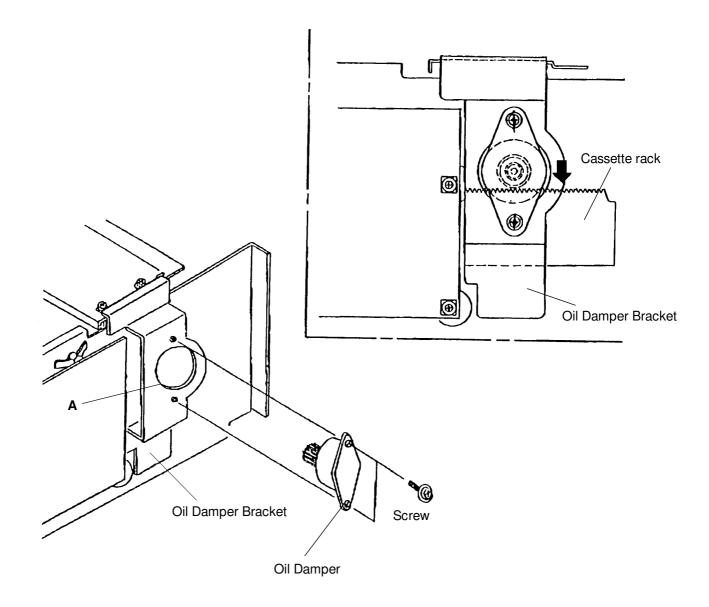
SUBJECT: Multi-sheet feeding / Paper skew

DATE: Corrected on May 31,1996

# **Modification Procedure - 12**

- 1. Set the cassette in the Paper Feed Unit and draw it out about 30cm.
- 2. Set the Oil Damper(13) at 'A' and secure it with screws (14).

Note: Fit the gear of the oil damper with the teeth of the cassette rack (4) and then fix the screws.

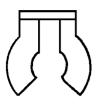


SUBJECT: Multi-sheet feeding / Paper skew

DATE: Corrected on May 31,1996

# **Modification Procedure - 13**

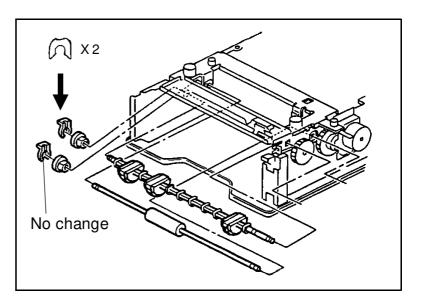
- 1. Change the E-Ring (15) to two new E-Rings.
- 2. Draw and push back the cassette several times and check the movement of the cassette.





Old E-Ring

New E-Ring x 2



 SUBJECT:Note on FDU replacement
 DATE: Dec. 28, 1995

 PREPARED BY: T. Kimura CHECKED BY: M. Iwasa
 FROM: 2nd T.S. Section

 CLASSIFICATION:
 MODEL:

 Action Required
 Revision of service manual

 Troubleshooting
 Information only

 Retrofit Information
 Other

To avoid some confusion, we would like to submit a summary of the change history for the FDU, FCE, and the firmware version. In particular, when replacing the FDU, please note the following matters.

# - When you replace the FDU

When you replace the FDU, please make sure what the part number of the FDU is that is being removed first.

# LSO(MV310)

- H5216003,H5216031,H5216033,H5216041,H5216005 and H5216045 The program must be replaced with the latest one at the same time.

- H5216061, H5216075 and H5216071

Please check the program version, and if the version is not the latest, it should be replaced it with the latest one.

# FX6

- H5166003, H5166005

The program must be replaced with the latest one at the same time.

- H5166063, H5166065, H5166073 and H5166075

Please check the program version, and if the version is not the latest, it should be replaced it with the latest one.

Note: If you try to install an old program into a Fujitsu flash ROM by using the SRAM Copy Tool, the boot area will be overwritten regardless of the setting of the system bit switch. After installation, when you turn on the main switch, the machine will not be initialized. To recover from this, you must re-install the latest program into the ROM again.

## - When you replace the FCE with a new one

There is no problem, because the new software listed below detects the Intel flash ROM or the Fujitsu flash ROM automatically.

## LSO(MV310)

US: H5217220E ~ EUROPE / ASIA: H5217240B ~

SUBJECT:Note on FDU replacement

DATE: Dec. 28, 1995

# FX6

US: H5167220H ~ EUROPE: H5167240H ~ ASIA: H5167251D ~

# FX6CD

US: H5277220B ~

### FX6M2

There is no problem, because there is no old version of the ROM in the market.

Note : If the FCE you have is an old version, the program must be replaced with a new one.

# LSO(MV310)/FX6 FDU&FCE Part Number Change History

	FD	)U		FCE		ROM	MODELS	IMPLEMENTATION	REASON FOR	I/C
	US	EUROPE	US	EUROPE	ASIA	VERSION	MODELS		CHANGE	1/0
	H5216003									
	H5216031	H5216005								
	H5216033	H5216045								
	H5216041		H5216002			H5217220D				
LSO		(H5216055)		(H5216004)	Same as	H5217240A				
(MV310)	H5216061		H5216102		Europe	H5217220E	20/21/27/28	95/10 1 ~	MFPD/FCE/ROM	X/O
· · · /			<h5216122></h5216122>			<h5217220f></h5217220f>	20/21/27/28	95/10 368 ~	FUJITU	X/O
		H5216075		(H5216104)		H5217240B	30/33/40/43/51/59/60/63	95/10 1 ~	FPD/FCE/ROM	X/O
	H5216071					_	20/21/27/27/53	After using old parts	FDU	O/O
				H5216124		-	30/33/40/43/51/59/60/63	95/10 1 ~	FUJITSU	X/O
			H5216122A			H5217220F	20/21/27/28	95/11 1 ~	ROM	X/O
				H5216124A		H5217240C	30/33/40/43/51/59/60/63	95/11 1 ~	ROM	X/O
	H5166003	H5166005								
	(H5166043)	(H5166045)	H5166002	H5166004	H5166006					
	H5166063		H5166102				20/21/27/28	95/10 256 ~	MFPD/FCE/ROM	X/O
FX6		H5166065		H5166104	H5166106	Refer	30/33/40/43/51/59/60/63	95/10 1 ~	MFPD/FCE/ROM	X/O
1 7.0			H5166122		H5166126	RTB F/L-011	20/21/27/28/51/59	95/10 US:356 ~ ASIA:881 ~	FUJITSU	X/O
				H5166114			30/33/40/43/60/63	95/10 1001 ~	INTEL	O/O
	H5166073	H5166075					20/21/27/28/30/33/40/43 51/59/60/63	After using old parts	FDU	O/O

NOTE:

"() " indicats that the part does not exist in the field. " < > " indicates that the firmware was changed from H5217220E to H5217220F.

#### 

SUBJECT:Note on FDU replacement

DATE: Dec. 28, 1995

# Firmware Change History OF MV310

1. H5217220DE

\*The firmware was changed to drive the new motor driver IC (MFPD).

\*It was changed so that the firmware can work with the Fujitsu Flash ROM. Check Sum:8239 (Boot Sum:94D2/Main Sum:E067)

2. H5217220EF

\*The acceleration duration was changed so that the motor speed remains within the margins required for operation.

# Check Sum:7052 (Boot Sum:94D2/Main Sum:0F7E)

3. H5217240AB

\*The default value of the threshould level for burst error detection was changed.

\*It was changed so that the firmware can work with the new motor driver IC (MFPD).

\*It was changed so that the firmware can work with the Fujitsu Flash ROM.

\*The default value of line choice operation for France was changed.

\*The default value of the number of rings for Austria was changed.

\*The dial pulse was added for Portugal.

# Check Sum:B75B (Boot:A7DD/Main Sum:0F7E)

4. H5217240BC

\*The acceleration duration was changed so that the motor speed remains within the margins required for operation.

Check Sum:B528 (Boot Sum:A7DD/Main Sum:0D4B)

SUBJECT: Installation for FX4 Print	nter Interface			<b>DATE:</b> Jan. 31, 1996
PREPARED BY: K. Ugaeri CHECKED BY: M. Iwasa		FROM: Qu	ality Ass	surance Center
CLASSIFICATION:			MODE	L:
	Revision of servi	ce manual	Pr	inter Interface
	nformation only		٦)	Гуре 100/ 130)
Retrofit Information	Other			

For European Model Only

For the installation of the Printer I/F Type100, note the following.

# 1. Grounding Plate (H515 3185) for FX4 Printer I/F

\* Refer to Fig.2 in the Installation Manual.

 This plate [D] is included in the machine's box, because its used for only the FX4 European Model. When the Printer I/F is not installed in the machine at installation, explain this plate and ask the user to keep it.

# 2) 2 Screws which secure this plate. The first production run of the machine does not have the 2 screws. Please use the M3 x 6 screws to secure it. \* Part no. of the screws: 09513006B From January Production '96, these screws will be included in the machine's box.

2. Grounding Wire for FX4 Printer I/F

The grounding wire in Fig.2 and Fig.5 is not needed.

**3. Function to print a status sheet** Correct the Function no. in step 11 to Function 39.

[L]

# **INSTALLATION MANUAL**

Printer Interface Type100

This option can be installed in the following model: - H515 series.

This installation must only be done by qualified service personnel.

#### CAUTION

Do the following before installing an optional unit:

1. Print out all messages stored in the memory.

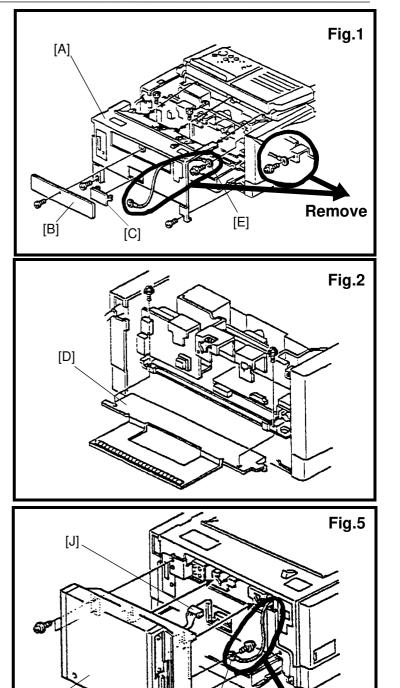
2. Print out the lists of user-programmed items and the system parameter list.

3. Turn off the main switch, and disconnect the power plug.

Installation Procedure

- 1. Remove the rear cover [A] (4 screws), and two small covers[B] (1 screw) and [C] as shown in Fig. 1.
- 2. This step is necessary only for the Europe model. Attach the grounding plate [D] which is include in the accessory in the main frame of the machine.
- Attache the grounding wire [E](1 screw) to the machine and put back the rear cover [A] (1 screw at the lower left comer).
  - 4. Install two brackets [F] (2 screws) and [G] (2 screws one of these secures the rear cover as well) as shown in Fig. 3.
  - 5. Replace brackets [H] and [I] as shown in Fig. 4 (use accessory brackets included).
  - Connect the harness [J] to the FDU through the lower window in the rear cover and
- ★ secure the grounding wire [K] to the Printer Interface Unit [L]. Then, hook the Printer Interface Unit onto the brackets [H] and [I]. (Fig.5)
  - 7. Secure the unit [L](3 screws) to the machine.
  - 8. Connect a parallel printer cable to the Printer Interface Unit.
  - 9. Plug in the machine and turn on the main switch.
  - 10.Check if the On Line indicator on the operation panel is lit. If not, check the harness connection from the Printer Interface Unit to the FDU.
- \* 11.Enter function 39 and print a status sheet.
  - 12.Apply decals 4 and 5 from the decal sheet (Fig.6) to the operation panel as shown in Fig.7.

**Note:** If installation of additional SIMM memory is desired, refer to printer Interface Service Manual (section 3.2).



For FX4

Remove

#### End of procedure

#### 

SI	JBJ	IECT	: ROM	Down	load
----	-----	------	-------	------	------

DATE: Jan. 31, 1996

PREPARED BY: K. Moriizu CHECKED BY: M. Iwasa	umi	FROM: Qu	ality Assurance Center
CLASSIFICATION:			MODEL:
Action Required	Revision of servi	ice manual	FX6
Troubleshooting	Information only		
Retrofit Information	Other		

For Europe Only

### **Problems:**

When the new software is transferred to a model FX6 fax machine using RDS, the machine will not reset and will not work.

### Cause:

The boot block is not compatible between the ROM versions H5167240F and H5167140G. Until the suffix F, when the program was changed, the check sum value of the boot block was also changed. At the suffix G, the program was changed to include the six languages and to fix the boot block program. After the suffix G, the check sum value of the boot block will not change even if the main program is changed. However, the compatibility of the boot block program between the suffix F and G has been lost. Also, it is impossible to change the boot block data using RDS. So, if only the main block data is changed from the suffix F version to the suffix G version using RDS, the machine will not work.

## - Compatibility Table -

	Boot Block			
	H5167240E	H5167240F	H5167240G	H5167240H
Main Block				
H5167240E	0	0	Х	Х
H5167240F	0	0	Х	Х
H5167240G	Х	X	0	0
H5167240H	Х	Х	0	0

### Countermeasure:

Use the Flash/SRAM Copy Tool and download the whole of the ROM data with the boot block data when the ROM data is changed from H5167240F to the newest data. Refer to section 4.1.20 (Software Download) in the Service Manual.

SUBJECT: Mirror Cleaning Too	bl			<b>DATE:</b> Feb. 15, 1996
PREPARED BY: K. Ugaeri CHECKED BY: M. Iwasa		FROM: Qu	ality Ass	surance Center
CLASSIFICATION:			MODE	L:
<ul> <li>Action Required</li> <li>Troubleshooting</li> <li>Retrofit Information</li> </ul>	Revision of servi Information only Other	ce manual	Fک	<b>〈</b> 4

The cleaning tool for the scanner mirror is now available.

# 1. Part no.

(Contents)

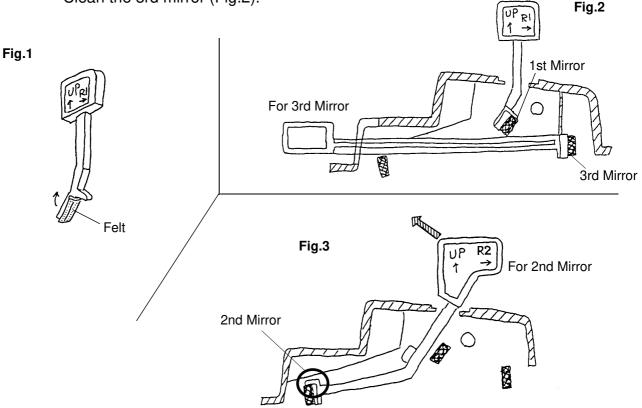
- 1) CLEANING TOOL R1: 1st Mirror
- 2) CLEANING TOOL R2: 2nd Mirror
- 3) CLEANING TOOL R3: 3rd Mirror
- 4) Felt for the cleaning tool

# 2. Cleaning Procedure

- \* Secure the felt on the cleaning tool (Fig.1)
  - (For 1st and 2nd Mirror)
    - 1) Remove the exposure glass and clean the 1st & 2nd mirrors as shown below (Fig.2 and 3).

(For 3rd Mirror)

1) Remove the lens cover and the shading plate. Clean the 3rd mirror (Fig.2).



SUBJECT: Problem of MFPD on FDU	I	<b>DATE:</b> Feb. 29, 1996	
PREPARED BY: Y. Okunishi CHECKED BY: M. Iwasa	FROM: Qua	ality Assu	rance Center
CLASSIFICATION:		MODEL	
Action Required Troubleshooting Information only Retrofit Information Other		FX6	5

## <Possible Symptoms>

- Malfunction of the cooling fan and/or the ozone fan.
- Paper jam
- Original jam
- Malfunction of the stepper motor(s) and/or the paper feed motor.
- Others

## <Cause>

Failure of the MFPD (IC-11) on the FDU

The circuit in the MFPD to Pin no.1 for the ozone fan and/or 41 for the cooling fan is broken and then in the worst case, another circuit is broken,

Objective FDU: H516 6043 for US H516 6045 for Europe / Asia

## <Action Required>

At the customer site:

- 1) Replace the failed FDU to fix the machine. (Note 1)
- 2) Update the software (ROM). (Note 2)

Note 1:	FDU modification history
	H516 6043 / 6045

$\downarrow$	Countermeasure for the MFPD problem (Interchangeability X / O) IC-4 and IC-15 are used to drive the ozone fan and the cooling fan instead of the MFPD.
H516 6063 / 6065	
$\downarrow$	PWB change (O / O)
H516 6073 / 6075	

SUBJECT: Problem of MFPD on FDU

DATE: Feb. 29, 1996

Note 2: Software (ROM) modification history US: H516 7220 F  $\rightarrow$  $G \rightarrow$ F  $\rightarrow$  G  $\rightarrow$  H Europe: H516 7240 Е  $\rightarrow$ Asia: H516 7251 В  $\rightarrow$  C  $\rightarrow$  D

For MFPD problem (X / O)

н

See RTB F/L Series-011A for the details.

The new FDU must be used with Version H (US/Europe) and D (Asia) or later version. The ozone fan and the cooling fan are not driven if an older version software than the version H (US/Europe) and D (Asia) is used with the new FDU. The new version software can be used for the old FDU.

## If the ROM version for Europe is E or F, RDS or RRW cannot be used to upgrade the ROM to version H or a later version. See RTB F/L-029.

## <Reference>

Checking the MFPD Measure the following points using a multimeter.

1) Pin no. 42 (+) and 1 (-) 2) Pin no. 42 (+) and 41 (-) 3) Pin no. 1 (+) and 3 (-) 4) Pin no. 41 (+) and 3 (-)

NG: Over 1V or under 0.1V

SUBJECT: Installation Manual of ISDN Interface Type 140 (OPTION) DATE:

Feb. 29, 1996

PREPARED BY: K. Ugaeri CHECKED BY: M. Iwasa		FROM: Qu	ality Assurance Center
CLASSIFICATION:			MODEL:
Action Required	Revision of serv	ice manual	FX4
Troubleshooting	Information only		
Retrofit Information	Other (Manual C	Correction)	

The ISDN Kit for Europe (H143-14) includes the additional parts (an inner cover, an outer cover and a grounding plate) to meet the CE Mark standard.

However the Installation Manual did not describe the procedure to install them.

The Installation Manual has been modified as shown below from January Production '96. (Suffix B)

## INSTALLATION MANUAL ISDN Interface Type 140

This option can be installed in the following model: - H515 series

This installation must only be done by qualified service personnel.

#### CAUTION

- Before installing an optional unit, do the following: 1. Print out all messages stored in the memory. 2. Print out the lists of user-programmed items and the
- system parameter list.
- Turn off the main switch, and disconnect the power plug.

#### Note

If an optional Printer Interface Unit is installed, remove it before doing the following procedure.

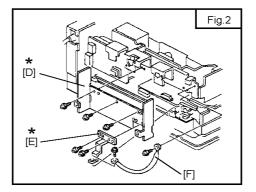
#### Installation Procedure

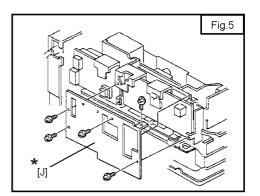
- 1. Remove the rear cover [A] (4 screws), and the left cover [B] (3 screws and the connector cover). Then, remove the small cover [C] from the rear cover as shown in Fig.1.
- 2. This step is necessary only for the Europe model. Attach the inner bracket [D] (3 screws) and the grounding plate [E] (3 screws) as shown in Fig 2.
  - Attach the grounding wire [F], and connect the ISDN board [G] to the FCE through the interface harness [H] as shown in Fig. 3. Install the ISDN board into the machine as shown in Fig.4.
  - 4. Secure the ISDN board [G] to the machine with 2 screws and the support holder [ | ] (1 screw).
- \* 5. This step is necessary only for the Europe model. Attach the outer bracket [J] (5 screws).
  - 6. Put back the rear cover and the left cover. Connect the phone line cable.
  - 7. Plug in the machine and turn on the main switch.
  - Do the initial setting with user function 61 and service function 17. Please refer to the ISDN option service manual for details.

- 1. Installation Procedure Steps 2 and 5 have been added.
- 2. Figures The cover [D] and the grounding plate [E] are

added in Fig.2.

The cover [J] is added in Fig.5.



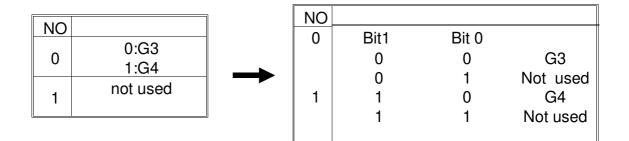


RIGOH	Technical E	Bulletin	No.	F/L series-033
SUBJECT: Service Manual (	Correction			<b>DATE:</b> MAR.15 , 1996
PREPARED BY: K.Ugaeri CHECKED BY: M. Iwasa		FROM: QU	ALITY /	ASSURANCE CENTER
CLASSIFICATION:			MODE	il •

ULAGOILIUATION.			
Action Required	Revision of service manual	FX4	
Troubleshooting	Information only		
Retrofit Information	Other		

Correct the description of the following system switch in the Service Manual.

— page4-32 — System switch 0A- Bit NO. 0 and 1.



Attached: 1page (corrected page4-32)

### SUBJECT: Service Manual Correction

RIGOH

**DATE:** MAR.15 , 1996

#### SERVICE TABLES AND PROCEDURES BIT SWITCHES

December 21st, 1995

System Switch 0A				
No	FUNCTION	COMMENTS		
0	Default communication mode Bit 1 Bit 0 Setting 0 0 G3 0 1 Not used 1 0 G4 1 1 Not used	These bits determine the machine's standby default communication mode if a G4 option has been installed.		
2	Not used	Do not change the settings.		
3	Continuous polling reception 0: Disabled 1: Enabled	This feature allows a series of stations to be polled in a continuous cycle.		
4	Dialing on the ten-key pad when the external telephone is off-hook <b>0:</b> Disabled <b>1:</b> Enabled	<ul> <li>0: Prevents dialing from the ten-key pad while the external telephone is off-hook. Use this setting when the external telephone is not by the machine or a wireless telephone is connected as an external telephone.</li> <li>1: The user can dial on the machine's ten-key pad when the handset is off-hook.</li> </ul>		
5	On hook dial <b>0:</b> Disabled <b>1:</b> Enabled	0: On hook dial is disabled.		
6	Line used for G3 transmission <b>0:</b> PSTN <b>1:</b> ISDN	If an ISDN kit has been installed, this bit determines whether G3 transmissions go out over the PSTN or the ISDN.		
7	Line used when the machine falls back to G3 from G4 if the other end is not a G4 machine <b>0:</b> PSTN <b>1:</b> ISDN	This bit switch has no effect if Communication Switch 07 bit 0 is set to 0.		

Sy	System Switch 0B				
No	FUNCTION			COMMENTS	
0	Automatic reset timer <b>Bit 1 Bit 0 Timer setting</b> 0 0 1 minute 0 1 3 minutes 1 0 5 minutes 1 1 No limit			(1, 1): Automatic reset is disabled. ( <b>Other</b> ): The machine returns to the standby mode when the timer expires after the last operation.	
2 3	Energy Bit 3 0 0 1 1		r mode timer <b>Time Limit</b> 1 minute 3 minutes 5 minutes No limit	(1, 1): Automatic Energy Saver mode is disabled. (Other): The machine goes into an Energy Saver mode when the timer expires after the last operation. Cross reference Energy Saver modes: Section 2.3.1	
4 to 7	Not used			Do not change the settings.	

### SUBJECT: White line or white spot

DATE:Corrected on July 15,1996

PREPARED BY: Y.Okunish CHECKED BY: S.Fujii	i	FROM: Qu	ality Assurance Center
CLASSIFICATION: Action Required Troubleshooting Retrofit Information	<ul> <li>Revision of servi</li> <li>Information only</li> <li>Other</li> </ul>		MODEL: FX6, FX6CD, FX6M2

[Problem]

Thin white lines or small white spots appear on halftone images.

[Cause]

Electrical noise in the Contact Image Sensor (CIS)

[Troubleshooting]

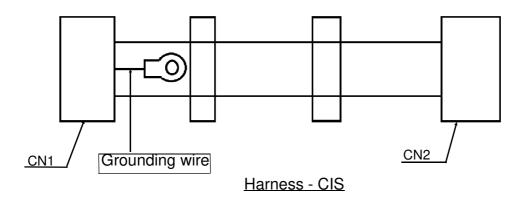
Replace the harness (Index no. 23on page 9 of the part catalog) connected to the CIS with the harness which has been changed.

 $H5165304 \rightarrow H5265310$  (FX6 for all countries, FX6CD for USA and FX6M2 for USA and Taiwan )

 $H5265302 \rightarrow H5265315$  (FX6M2 for Europe and Asia)

A grounding wire has been added to the harness. Please attach it to the original grounding wire which is secured by the screw on the CIS.

 $H5265302 \rightarrow H5265315$  (FX6M2 for Europe and Asia)



This new harness has been installed since March 1996.

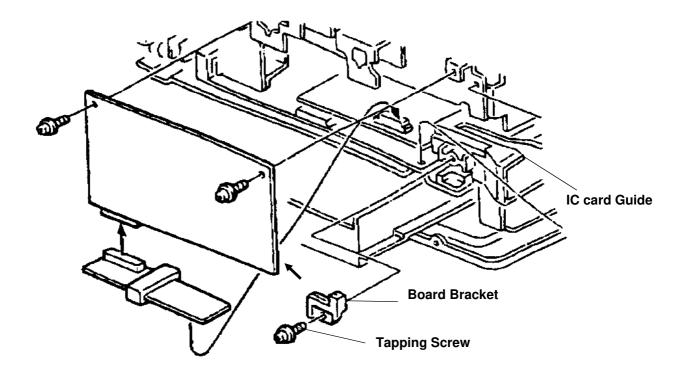
# 

SUBJECT: Screw for Board	DATE: MAR.15, 1996			
PREPARED BY: K.Ugaeri CHECKED BY: M. Iwasa		FROM: QA	center	
CLASSIFICATION:			MODE	
Action Required	Revision of servi		IS	DN Interface Type 140
Troubleshooting Retrofit Information	Information only Other			

Problem : A Screw (M3x12) for the board bracket goes through the IC card guide and contacts an IC card. Then IC card may have some problem (contact problem or difficult to insert).

Reason : The thickness of the board bracket is too thin.

Temporary Countermeasure : Use a short screw (tapping screw -M3 x 6 P/NO 08025205) at the installation.



\*The ISDN kits shipped from end of March have a short tapping screw and its carton box has a green mark.

Permanent Countermeasure : A correct board bracket with enough thickness will be used.

\*Effective date of this countermeasure will be informed later.

—				
SUBJECT: New Printer Inte	DATE: May 31, 1996			
PREPARED BY: K.Ugaeri CHECKED BY: S.Fujii		FROM: Qu	ality Ass	surance Center
CLASSIFICATION: Action Required Troubleshooting	Revision of servi		MODE Printe	EL: r Interface Type 200
Betrofit Information	Other			

The new option, Printer Interface Type 200 will be released soon. This is the successor model to PIF Type 100/130.

This technical bulletin contains the installation procedure and information on compatibility with the current PIF Type 100/130.

# (Machine's Firmware compatibiliy)

For New PIF Type 200, the machine's firmware has been modified. New fimware includes the control software for new PIF Type 200 and Type 100/130.

1. FX4 (USA) - New PIF Type 200 is available from May '96 Production.

Firmware version H5157210E

2. Other model (All areas) - New PIF Type 200 is available from Apr,'96 Production.

Firmware version

(U.S.A)		(Europe)	
FX6 FX6MKII FX6CD LSO	H5167220L H5267220E H5277220E H5217220H	FX6 FX6MKII LSO FX4	H5167240K H5267240E H5217240E H5157240C
(Asia)		(Taiwan)	
FX6 FX6MKII FX4 LSO	H5167251F H5267251E H5157240C H5217240E	LSO FX6MK2	H5217225C H5267253C

SUBJECT: New Printer Interface Type 200

# (Installation)

- 1. When the firmware version is known and when it is the new one, follow the Instruction manual attached, and install the driver software in the PC.
- 2. When the firmware version is not known, check the firmware version with RDS by printing the system report.

When it is the new one, follow the step 1.

When it is the old one, install the new firmware into the machine and follow step 1.

# (NOTES)

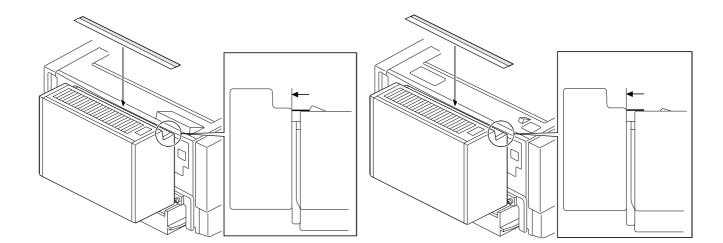
The following information is not contained in the instruction manual till June '96 production.

# NOTE 1: Only for FX6 series and FX4.

After installing the P I/F Type 200, please put the mylar which is included in the carton over the gap between the rear cover and the P I/F Type 200 unit as shown in the diagrams below.

FX6 Series

FX4



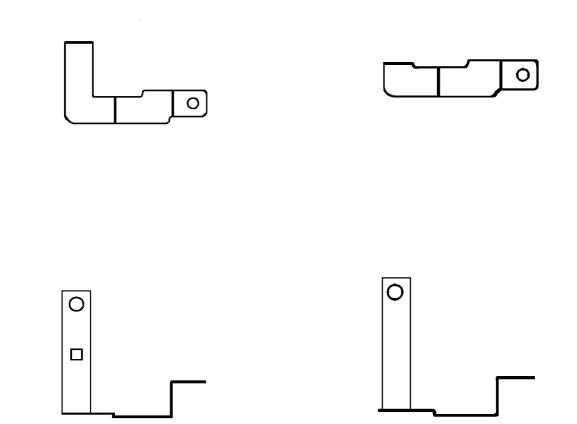
SUBJECT: New Printer Interface Type 200

DATE: May 31, 1996

# NOTE 2 : Only for FX6 (Europe & Asia)

The first shipment (April Production '96) of the PIF 200 does not include a grounding plate for FX6.

When the unit will be installed in an FX6, use a new grounding plate as shown below.



New grounding plate for FX6 (H1443818)

The grounding plate for FX6MK2 (H1443815) [ This plate is included in the carton from1st production.

SUBJECT: New Printer Interface Type 200

DATE: May 31, 1996

INSTALLATION PRINTER INTERFACE UNIT

# **3. INSTALLATION**

#### ! CAUTION

Before installing the printer interface unit and its options, do the following:

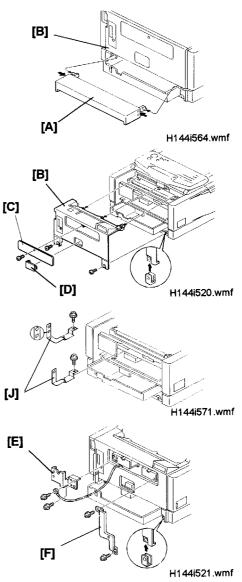
- 1. Print out all the messages stored in the memory.
- 2. Print out the list of user-programmed items and the system parameter list.
- 3. Turn off the main switch and disconnect the power plug.

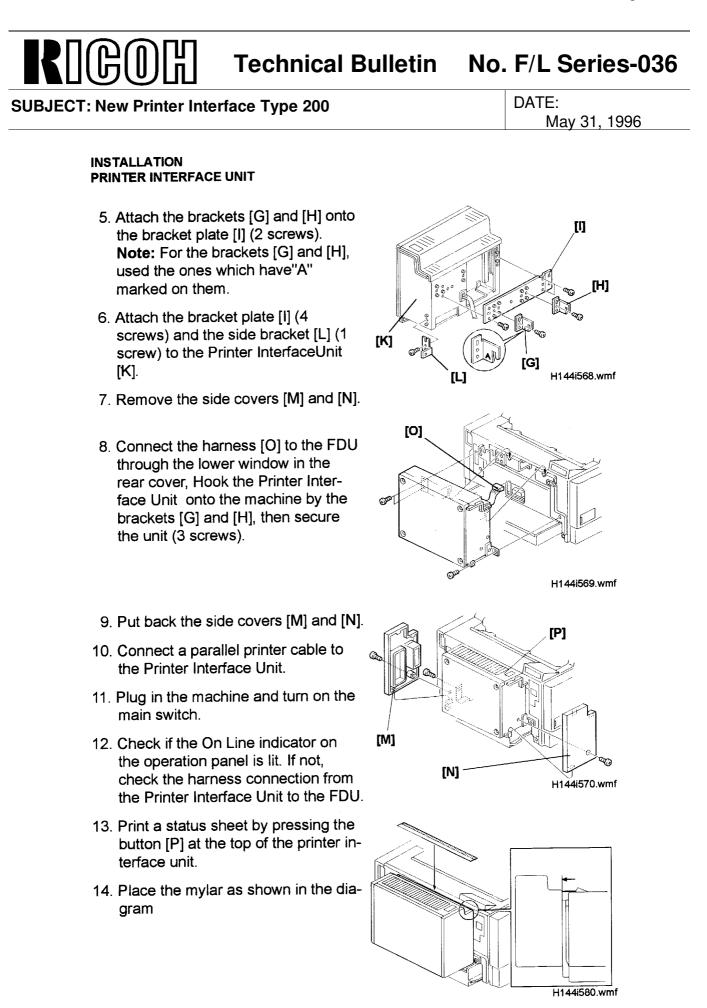
### **3.1. PRINTER INTERFACE UNIT**

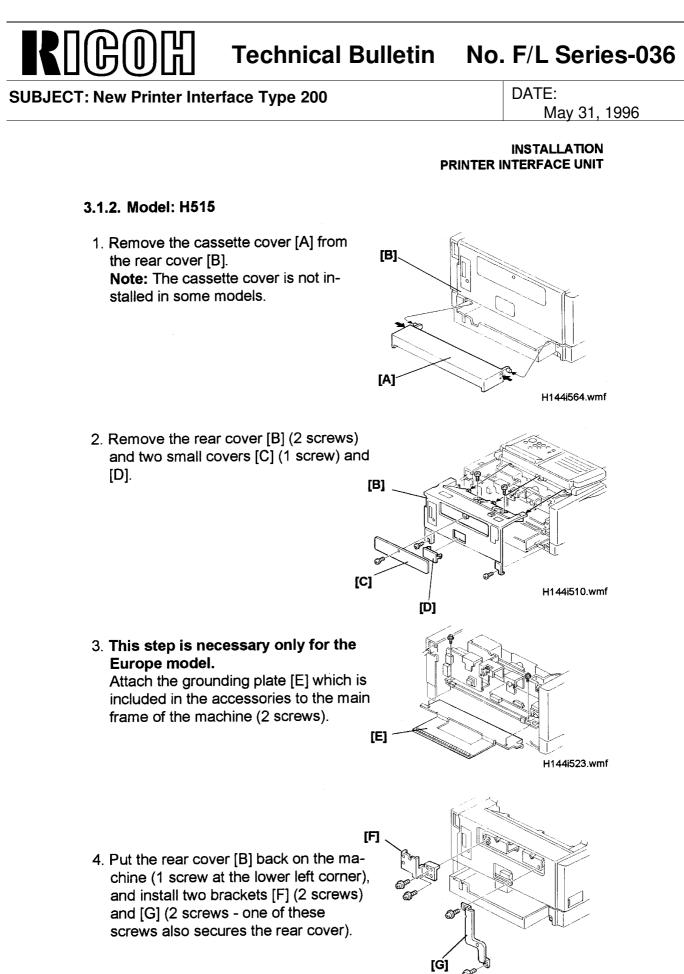
#### 3.1.1. Models: H516, H526 and H527

- Remove the cassette cover [A] from the rear cover [B].
   Note: The cassette cover is not installed in some models.
- Remove the rear cover [B] (2 screws) with the grounding plate, and two small covers [C] (1 screw) and [D].
   Note: The grounding plate is not installed in the models for the USA.
- 3. Install the grounding plate [J]. **Note:** This step is not required for the USA models. (A different grounding plate is used for H516 and H526 models. The plate with the square opening is used for H516.)
- Put the rear cover [B] back on the machine (1 screw at the lower left corner), and install two brackets [E] (2 screws, 1 grounding wire) and [F] (2 screws - one of these screws also secoures the ground plate and the rear cover).

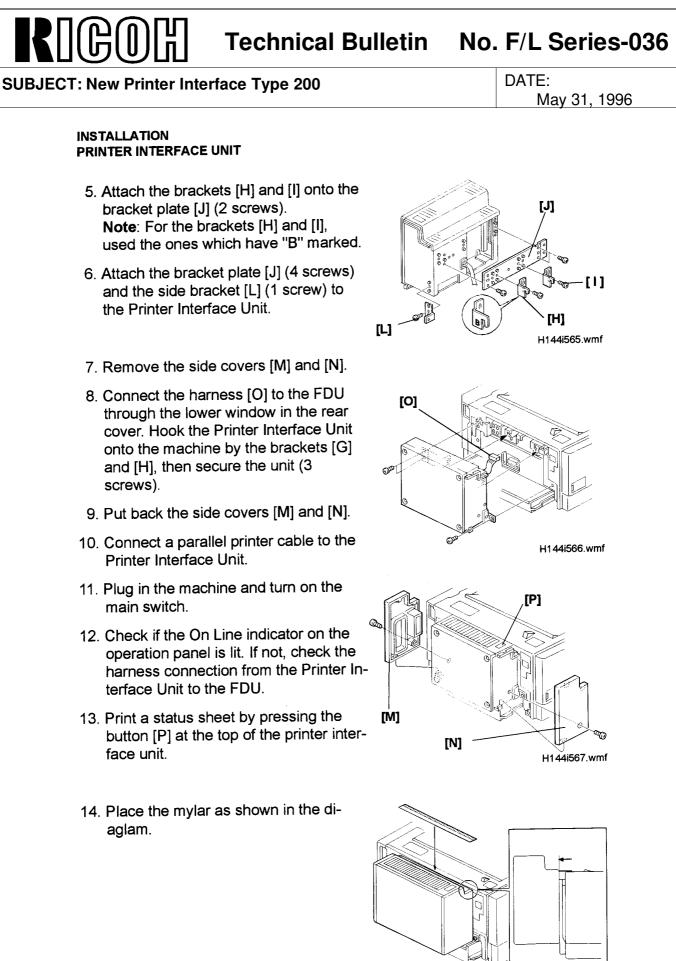
**Note:** The grounding wire and the grounding plate are not installed in the models for the USA.



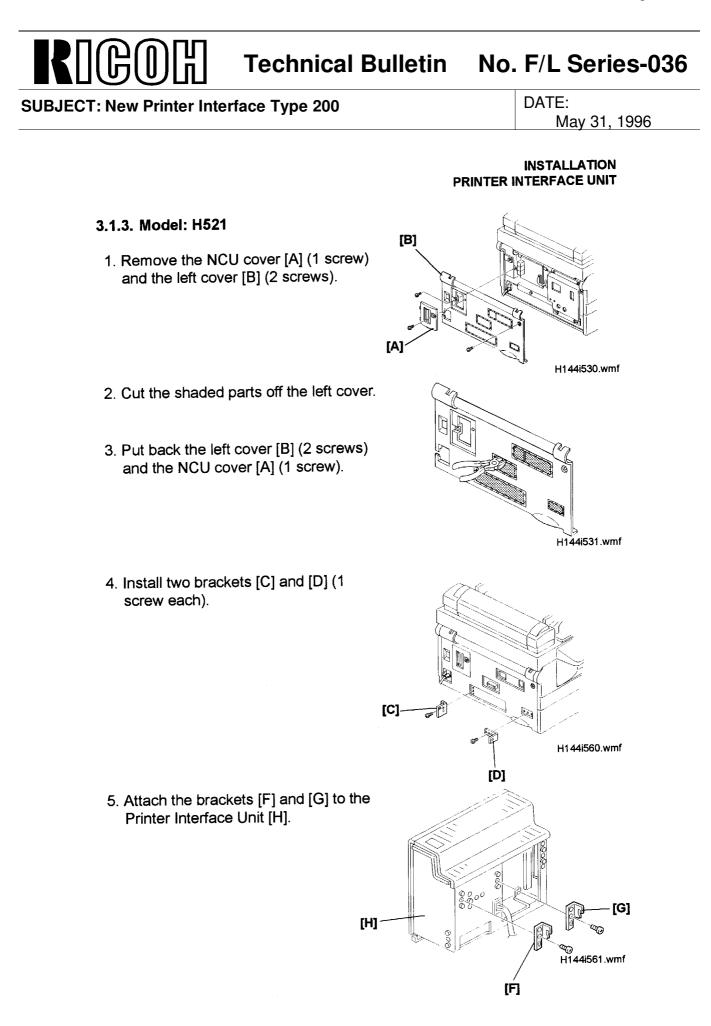




H144i513.wmf



H144i581.wmf



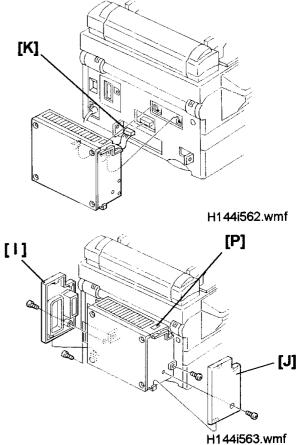
# RII(G(0) Technical Bulletin No. F/L Series-036 DATE:

SUBJECT: New Printer Interface Type 200

May 31, 1996

# INSTALLATION **PRINTER INTERFACE UNIT**

- 6 Remove the side covers [I] and [J]. Then, connect the harness [K] to the FDU, and hook up the Printer Interface Unit to the machine.
- 7. Secure the unit (2 screws) and put back the side covers.
- 8. Connect a parallel printer cable to the Printer Interface Unit.
- 9. Plug in the machine and turn on the main switch.
- 10. Check if the On Line indicator on the operation panel is lit. If not, check the harness connection from the Printer Interface Unit to the FDU.
- 11. Print a status sheet by pressing the button [P] at the top of the printer interface unit.



SUBJECT: Novell Nest Aut	DATE: May.31,1996			
PREPARED BY: K.Ugaeri CHECKED BY: S.Fujii		FROM: Qu	ality Ass	surance Center
CLASSIFICATION:			MODE	
Action Required	Revision of servi	ce manual	Fک	K6 Series
Troubleshooting	Information only		Fک	<b>K</b> 4
Betrofit Information	Other			

The NEST CARDs will be released in June'96 for the Nest Autoroute function as an F/L Series option. The NEST Autoroute function will be added to F/L Series with this card. This technical bulletin contains the technical documentation for the Novell NEST Autoroute function including the Installation Procedure.

- < Nest Card>
- 1. Function Upgrade Card Type 140<br/>Plus Novell NEST[ This card also works as a Function upgrade card<br/>for FX4.
- 2. Feature Expander Type 100 2M Plus Novell NEST
- [ This card also works as a Feature ExpanderType 100 2M for other F/L Series models.

< Machine's firmware >

These Nest cards will be available from the following firmware version.

1. U.S. version March '96 production.

FX6	H5167220K
FX6MKII	H5267220D
FX6CD	H5277220D
FX4	H5157210D

2. European version April '96 Production.

FX6	H5167240K
FX6MKII	H5267240E
FX4	H5157240C

3.Asia version April '96 Production.

FX6	H516725	1F
FX6MKII	H526725	1E
FX4	H515724	0C
FX6MK2	TAIWAN	H5267253C

# $\mathbf{Novell}^{\mathbb{B}} \mathbf{NEST} \mathbf{Autoroute}^{\mathsf{TM}}$

# Function Upgrade Card Type 140 Plus Novell<sup>®</sup> NEST<sup>TM</sup>

# Feature Expander Type 100 2M Plus Novell<sup>®</sup> NEST<sup>TM</sup>

# SERVICE MANUAL

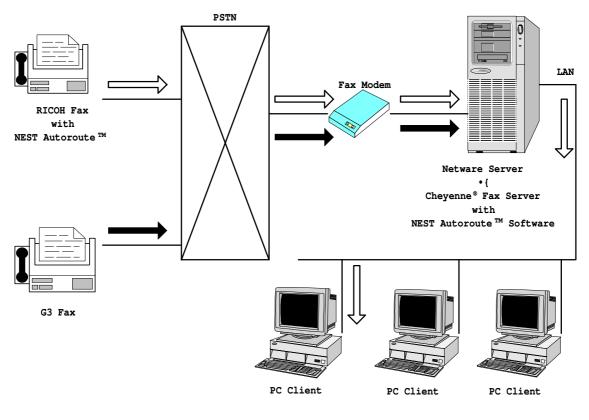
April 22th, 1996 Subject to change **Lithium Batteries** 

The danger of explosion exists if a battery of this type is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer. Discard used batteries in accordance with the manufacturer's instructions.

Novell is a registered trademark and NEST is a trademark of Novell, Inc.

# **1. OVERALL INFORMATION**

# 1.1. OVERVIEW



H130V500.wmf

Novell<sup>®</sup> Embedded System Technology (NEST) Autoroute<sup>TM</sup> is an alternative routing methodology, patented by Novell<sup>®</sup>. It allows a user to send a fax to a NetWare network and have the fax routed directly to the recipient's PC clients.

In order to take advantage of NEST Autoroute<sup>TM</sup>, the user on the receiving end must be connected to a NetWare network (Novell<sup>®</sup> NetWere 3.12 or 4.1).

Using the standerd Group 3 T.30 protocol for routing information, NEST Autoroute<sup>TM</sup> works by including an Autoroute ID code with each fax transmission. The code, which is sent in the TSI frame, provides the information required to deliver a fax to its destination.

Both the NEST cards for the fax machine, and the extra software released by Cheyenne<sup>®</sup> for the Server and PC clients, are required to perform the Autoroute function.

# 1.2. NEST CARD

The contents of both card options are as follows.

Function Upgrade Card Type 140 Plus Novell<sup>®</sup> NEST<sup>TM</sup>

IC Card Operation Manual for the NEST Autoroute<sup>TM</sup>

Battery

Operation Manual for the battery

IC Card

Feature Expander Type 100 2M Plus Novell<sup>®</sup> NEST<sup>™</sup>

Operation Manual for the NEST Autoroute<sup>TM</sup>

# 1.3. AUTOROUTE ID

The Autoroute ID code included in TSI is made of up to 20 alphanumeric codes, which start from "#" and end with "#". When the operator enters the telephone number and the Autoroute ID code, and then starts to send a message, the machine replaces the "#" and "\*" codes which are entered by the operator to "+ + " and "+ " codes, then sends them out on the line. This is because the "#" and "\*" codes are not permitted in the TSI for Group 3 T30.

User operation : #12345678\*1234\*1234# TSI sent out : + + 12345678+ 1234+ 1234 [A] [B] [C]

A : Autoroute ID (4 digits to 8 digits)B: Function ID / ArgumentC: Security Code / Document ID

B and C are optional codes for the Cheynne<sup>®</sup> FAXSERVE.

When the user TSI is already stored in the machine, the Autoroute ID replaces it, then the Autoroute ID is sent out. The TSI is made of up to 20 digits. In the following example, the user TSI "123" is replaced.

User TSI : 123+ 1234567890 Autoroute ID : # 12345678# TSI sent out : 1234567890+ + 12345678

#### Note;

Using "+ + " codes in the TSI must be avoided, because the Autoroute ID may not be recognized correctly by the NetWare Server, as shown in the following example.

User TSI : 123+ + 456 Autoroute ID : # 12345678# TSI on the line : 123+ + 456+ + 12345678 [A]

The NetWare Server may recognize "+ + " codes [A] as the start of an Autoroute ID.

# 2. INSTALLATION

# 2.1. OVERVIEW

Refer to the Operator's Manual for the installation environment and how to install and set up the machine.

"NEST" is listed as a parameter on the system parameter list while the NEST card is installed in the machine.

A sample system parameter list is given below.

```
* * * SYSTEM PARAMETER LIST (Date and Time) * * *
                                                                        TTI
SERIAL NO. - Serial number programmed by function 14)
ROM VER. [Version] [Software release no.] [Software release date]
ROM NO. [Software part no.] [Check sum values (total) (boot) (main)]
R T I
T T I
C S I
                                                CONFIDENTIAL ID
ID CODE
MEMORY LOCK ID
NUMBER
   OWN NUMBER
   OWN NUMBER(ISDN G4)
   OWN NUMBER (ISDN G3)
    SERVICE NUMBER
NCU PARAMETER
COUNTER
PARAMETER
    SCAN THRESHOLD

    2MB, 4MB or HD
    - Optional memory card or Hard Disk installed

    CASSETTE 2
    - Optional paper feed unit installed

    CASSETTE 3
    - Optional paper feed unit installed

   FUNCTION CARD or FOD - Optional function upgrade card or Fax on demand kit
   installed
PRINTER INTERFACE - Optional printer interface installed
                                      installed
   G4
                           - Optional ISDN G4 kit installed
                               - NEST Card installed
   NEST
SWITCH (UPPER:DEFAULT LOWER:CURRENT)
(SWUSR) - User Parameter Settings
```

h130i500.wmf

# 2.2. INSTALLING THE NEST CARD

### 

Before installing the NEST card, do the following:

1. Print out all messages stored in the memory.

2. Print out the lists of user-programmed items and the system parameter list.

3. Turn off the main switch.

# 2.2.1. Function Upgrade Card Type 140 Plus Novell<sup>®</sup> NEST<sup>TM</sup>

### Note

• The following installation procedure initializes (erases) all the user-programmed data stored in the card, if the Function Upgrade Card already installed in the machine is replaced with a NEST card.

### Installation Procedure

- Install the battery on the NEST card and turn on the battery switch.
- Install the NEST card in the slot in the machine.
- Turn on the main switch.
- Print the system parameter list and make sure that "NEST" is listed as an option on the list.

### When the NEST card is replaced with another NEST card, do the following so the machine can recognize the new card.

- 1. Turn off the main switch.
- 2. Remove the old card.
- 3. Turn on the machine without the card and then turn off.
- 4. Install the new card.
- 5. Turn on the main switch.

### 

The IC card contains a lithium battery.

The danger of explosion exists if a battery of this type is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer. Discard used batteries in accordance with the manufacturer's instructions.

# 2.2.2. Feature Expander Type 100 2M Plus Novell<sup>®</sup> NEST<sup>TM</sup>

#### Note

• The following installation procedure initializes (erases) all the data stored in the card, if the Feature Expander already installed in the machine is replaced with the NEST card.

#### **Installation Procedure**

- Install the NEST card in the slot in the machine.
- Turn on the main switch.
- Print the system parameter list and make sure that "NEST" is listed as an option on the list.

#### When the NEST card is replaced with another NEST card, do the following so the machine can recognize the new card.

- 1. Turn off the main switch.
- 2. Remove the old card.
- 3. Turn on the machine without the card and then turn off.
- 4. Install the new card.
- 5. Turn on the main switch.

# 3. TROUBLESHOOTING

Refer to the Service Manual of the machines for the common troubleshooting procedures.

# 3.1. "NEST" is not listed on the System Parameter List

### **Possible Cause:**

- The NEST card is not installed completely.
- The NEST card is broken.
- The software of the facsimile machine was not updated for the Autoroute function.

### Action:

- 1. Check if the software of the facsimile machine has been updated.
- 2. Re-install the NEST card. **Caution:** Turn off the machine while replacing.
- 3. Install the new card.

**Cross reference** Installing the NEST card: Section 2.

# **3.2. Communication Error**

### **Possible Cause:**

- The other terminal may be faulty.
- The Autoroute ID Code was input incorrectly.

### Action:

- 1. Check if the Autoroute ID Code are in the wrong format.
- 2. Try sending to another machine.
- 3. Call the Cheyenne<sup>®</sup> support center.

#### **Cross reference** Autoroute ID format: Section 1-3.

#### **3.3.** The Autoroute Feature is not working correctly

#### **Possible Cause:**

- The NEST card is not installed completely.
- The NEST card is broken.
- The software of the facsimile machine was not updated for the Autoroute function.
- Manual sending is not available for the NEST Autoroute function.
- The Autoroute ID Code was not input correctly.
- The other terminal may be faulty.

#### Action:

- 1. Check if the software of the facsimile machine has been updated.
- 2. Try sending from memory.
- 3. Re-install the NEST card. **Note:** Turn off the machine while replacing.
- 4. Check if the Autoroute ID code is in the wrong format.
- 5. Try sending to another machine.
- 6. Install the new card.
- 7. Call the Cheyenne $^{(\!\!R\!)}$  support center.

#### Cross reference

Installing the NEST Card: Section 2.

#### **Cross reference**

Autoroute ID format: Section 1-3.

#### **Technical Bulletin** No.F/LSeries-038A

#### SUBJECT: History of software changes

DATE: 31.Jul,1996

#### PREPARED BY: Y.Okunishi CHECKED BY: S.Fujii

RIGOH

FROM: Quality Assurance Center

MODEL:

LSO

**CLASSIFICATION:** 

- Action Required
- Troubleshooting

Retrofit Information

	-
Information	С
Othor	

Revision of service manual only

] Other

#	Reason / Problem	US H5217220	Europe/Asia H5217240	Taiwan H5217225
1	For the MFPD problem in the FCE	Е	В	
2	For Fujitsu Flash ROMs	E	В	
3	The default value of the threshold level for the burst error detection was corrected.		В	
4	The default value of the threshold level for burst error detection was corrected.		В	
5	The default value of the number of rings for Austria was changed.		В	
6	Dial pulse was added for Portugal.		В	
7	The acceleration duration was changed so that the motor speed remains within the margins required for operation.	F	С	
8	An error was printed on the reports for a ROM data transfer from an RDS.	G	D	В
9	RAM and ROM data transfer from an external FCE or EP-ROM board through the ROM/RAM Copy Tool cannot be done if the printer does not work.	G	D	В
10	The RDS does not work in the high speed mode if closed network is enabled.	G	D	В

### Technical Bulletin

No.F/LSeries-038A

#### SUBJECT: History of software changes

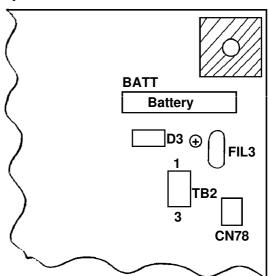
RIGOH

DATE: 31.Jul,1996

#	Reason / Problem	US H5217220	Europe/Asia H5217240	Taiwan H5217225
11	A scanner error occurred in a few cases in copy mode with 93% or 74% reduction.	G	D	В
12	A programmed time in PM for the night timer is changed to the same time but in AM for another day of the week.	G	_	
13	The operation level for PSTN line selection is changed to user level from service level.(For Italy)	_	D	
14	Problem with IT2 detection. (For France)		D	
15	Polarity change can be detected. (For Spain)		D	
16	Change for busy tone detection in the G3 table. (Australia)		D	
17	No beep sound at the end of some receptions.	н	E	С
18	To upgrade the software for the new printer interface Type 200.	н	E	С
19	ERROR was displayed after T1 time.		F	
20	Wording correction for the Power Failure Report (FAILUER $\rightarrow$ FAILURE)		F	
21	For Belgium's regulations (International dialtone)	_	F	

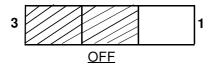
SUBJECT: Battery Switch on the FDU			DATE: 15.Jul., 1996	
PREPARED BY: Y.Okunisl CHECKED BY: S.Fujii	hi	FROM: Qu	ality Ass	surance Center
CLASSIFICATION: Action Required Troubleshooting Retrofit Information	<ul> <li>Revision of serv</li> <li>Information only</li> <li>Other</li> </ul>		MODE FX6, F LSO	EL: EX6M2, FX6CD, FX4,

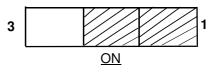
The battery switch (TB2) is located next to the battery. **PCB - FDU** 



The switch on the FDU is turned OFF when it is shipped from the Spare Parts Center. Please turn the switch ON when you install the FDU in the machine so that the battery works for the memory. Please turn the switch OFF to prevent electrical problems when the FDU is removed from the machine when it is sent for repair.

Switch (TB2):





RC	RE	ASIA	
*	*	*	

SUBJECT: SRAM Data Copy			DATE: 31.Jul,1996
PREPARED BY: Y.Okunishi CHECKED BY: S.Fujii	FROM: Qu	ality Ass	surance Center
CLASSIFICATION:		MODE FX4, F LSO	L: X6, FX6MKII, FX6CD,

When the SRAM data in an external FCE is copied to the FCE in the machine using an SRAM / ROM Data Copy Tool,

1) Program the same country code as the external FCE in the machine and then conduct the SRAM Copy

or

2) Conduct the SRAM Copy twice

If the SRAM Copy is done, but the country code is different between the external FCE and the

FCE in the machine, the copied data is reset in accordance with the country code in the

external FCE.

The NCU Parameters and the Bit Switches such as Output Level, which were specially set for the customer by the technician when the external FCE was in the machine, are copied once but they are reset automatically if the country code of the FCE in the machine is not same as the country code in the external FCE.

(The country code copied from the external FCE is kept.)

The data other than the NCU Parameters and Bit Switches is not reset in accordance with the country code.

RC	RE	ASIA	
*	*	*	

SUBJECT: New Model LSOMkII			<b>DATE:</b> 1996. 8. 18	
PREPARED BY: K. Misug CHECKED BY: S. Fujii	FROM : 2n	d Field I	nformation Group, QA Division	
CLASSIFICATION:	ice manual		COH MV310E	
<ul> <li>Troubleshooting</li> <li>Retrofit Information</li> <li>Other</li> </ul>				avin 9910DPe es 3210X

The new model LSOMkII (RICOH MV310E) has been released in the line-up of the LSO (RICOH MV310) series.

This technical bulletin contains information on differences between the LSOMkII and the LSO. They are listed in order of sections that appear in the service manual.

#### **1. OVERALL MACHINE INFORMATION**

#### **1.1. SPECIFICATIONS**

	LSO	LSOMkII
SAF	576 kbytes	640 kbytes
Standard Size	(45pages/Slerese letter)	(52pages/Slerese letter)
SAF		+1 Mbytes
with an optional		(135 pages/Slerexe letter) /
memory card	Optinal memory card	+2 Mbytes
	not available	(218 pages/Slerexe letter) /
		+4 Mbytes
		(384 pages/Slerexe letter)
Modulation	V.29, V27ter, V21	V.33,V.29, V.27ter, V21
Data Rate (bps)	9600/7200/4800/2400	14,400/12,000/
	3000/7200/4000/2400	9600/7200/4800/2400
Transmission Time	9 s at 9600 bps; (Measured with G3 ECM using memory for a ITU-T #1 test document at standard resolution)	6 s at 14,400 bps; (Measured with G3 ECM using memory for a ITU-T #1 test document at standard resolution)
Paper Size and Capacity: (for paper feed unit)	Optional paper feed unit not available	Paper Feed Unit (Optional): 500 sheets, available paper size USA: Letter, Legal Europe: A4, A5 sideways Asia: A4, A5 sideways, F/F4

# RIGOR Technical Bulletin

No. F/L Series - 041

SUBJECT: New Model LSOMkII

DATE: 1996. 8. 18

#### **1.2. FEATURES**

Sub-Title	Item	LSO	LSOMkII
Equipment	Fax Expansion Card (1MB / 2MB / 4MB)	Not available	Available
	Optional paper feed unit	Not available	Available (500 sheets)
Features	Reverse Order Printing	Not available	Available (with 1/2/4MB memory card)
	Sort Copy	Not available	Available (with 1/2/4MB memory card)

1.4. OVERALL MACHINE CONTROL (Please refer to page 7.)

- **1.5. VIDEO DATA PATH** (Please refer to page 8 and 9.)
- 1.6. POWER DISTRIBUTION DIAGRAM (Please refer to page 10.)

#### 2. DETAILED SECTION DESCRIPTIONS

#### 2.1. Scanner

2.1.1. Mechanisms

The scanning speed of LSOMkII: 2.7 s. (Slerexe Letter). (The scanning speed of LSO: 5.7 s.)

#### 2.2. PRINTING

2.2.7. Paper Feed

5. Drive Mechanism

Paper Feed Priority

If all the cassettes contain paper of the same size, the machine uses the paper in the optional paper feed unit first, the paper in the standard cassette second, and the paper in the optional 100 sheet cassette last. However, this order can be changed with printer bit switch 02 bit 0. (Please refer to section 4 of this RTB.)

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DATE: 1996. 8. 18

#### 2.2.8. Registration

Jam Detection

New error codes have been added for the optional paper feed unit (500 sheets).

	Condition	Error Code
When the optional paper feed unit is used	When the relay sensor in the paper feed unit is not turned on within 2.0 seconds after the paper feed clutch is turned on.	9-50
	When the registration sensor in the fax machine is not turned on within 2.0 seconds after the paper feed motor started.	9-51

#### 2.2.13. Paper Size Selection

Same as the previous page for the Paper Feed Priority.

#### 2.4. PCBs

- 2.4.1. FCE3 (Please refer to page 11.)
- 2.4.2. FDU2 (Please refer to page 13.)

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#### **4. SERVICE TABLES AND PROCEDURES**

The settings and the switches that are different from the LSO are shaded.

Communication	Parameters:
Mode	DCS: ITU-T standard NSS: Non-standard G3
Modem rate	144: 14400 bps
	120: 12000 bps
	96: 9600 bps
	72: 7200 bps
	48: 4800 bps
	24: 2400 bps
Communicatio	ECM: With ECM SSC: Using SSC
n mode	EFC: Using EFC NML: With no ECM, SSC, or EFC
Compression	MMR: MMR compression
mode	MR: MR compression
	MH: MH compression
Resolution	SSF: Fine, transmitted at 8 x 15.4 dots per mm
	DTL: Detail, transmitted at 8 x 7.7 dots per mm
	STD: Standard, transmitted at 8 x 3.85 dots per mm
I/O rate	0M: 0 ms/line 10M: 10 ms/line
	2/M: 2.5 ms/line 20M: 20 ms/line
	5M: 5 ms/line 40M: 40 ms/line
Width and	=A4: A4 (8.3"), no reduction
reduction	=B4: B4 (10.1") no reduction
	>A4: Reduced to A4 (8.3") before transmission

Prii	Printer Switch 02				
	FUNCTION	COMMENTS			
0	Paper Feed Priority <b>0:</b> Optional paper feed unit > 100 sheet cassette > Standard cassette <b>1:</b> Optional paper feed unit > Standard cassette > 100 sheet cassette	This bit determines which set of priorities the machine uses for feeding the paper when all the cassettes contain the same paper size.			
1	Not used	Do not change the settings.			
to					
7					

SUBJECT: New Model LSOMkII

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G3	G3 Switch 05			
	FUNCTION	COMMENTS		
0 to 3	Initial Tx modem rate Bit 3 2 1 0 Setting (bps) 0 0 0 1 2.4k 0 0 1 0 4.8k 0 0 1 1 7.2k 0 1 0 0 9.6k 0 1 0 1 12.0k 0 1 1 0 14.4k Other settings - Not used	These bits set the initial starting modem rate for transmission.		
4	Not used	Do not change the settings.		
to 7				

G3	G3 Switch 06			
	FUNCTION	COMMENTS		
0	Initial Rx modem rate Bit 3 2 1 0 Setting (bps) 0 0 0 1 2.4 k 0 0 1 0 4.8 k	The setting of these bits is used to inform the transmitting terminal of the available modem rate for the machine in receive mode.		
to 3	0 0 1 1 7.2 k 0 1 0 0 9.6 k 0 1 0 1 12.0k 0 1 1 0 14.4k Other settings - Not used	Use a lower setting if high speeds pose problems during reception.		
4 to 7	Modem types available for reception Bit 7 6 5 4 Setting 0 0 0 1 V27ter 0 0 1 0 V27ter and V29 0 0 1 1 V27ter, V29, V33 0 1 0 0 V27ter, V29, V33	The setting of these bits is used to inform the transmitting terminal of the available modem type for the machine in receive mode.		
	Other settings - Not used			

SUBJECT: New Model LSOMkII

DATE: 1996. 8. 18

#### 5. REPLACEMENT AND ADJUSTMENT

#### 5.11. IMAGE ADJUSTMENT

#### 5.11.3. Printer Parameters

New parameters have been added for the adjustment of the paper feed unit.

1. Margin (Main Scan Direction)

Parameter	RAM Address	Unit	Initial Setting
W1	Optional Paper Feed Unit 800358(H)	0.5mm	07(H) Min:0(H) / Max:64(H)

#### 2. Margin (Sub Scan Direction)

Parameter	RAM Address	Unit	Initial Setting
L1	Optional Paper Feed Unit 80034E(H)	0.5mm	06(H) Min:0(H) / Max:30(H)

#### 6. TROUBLE SHOOTING

#### 6.4. ERROR CODES

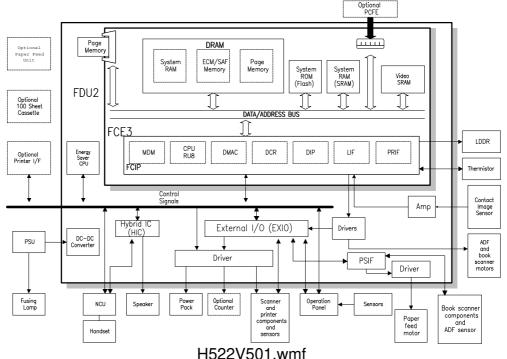
New error codes have been added for the book scanner.

Code	Meaning	Suggested Cause / Action	
9-90 Scanner home position: H.P. sensor does not go On, when the scanner returns to the home position.		Check the H.P. sensor (and its connection) Replace the FCE.	
9-91	Scanner home position: H.P. sensor does not go Off, when the scanner starts scanning	Check the H.P. sensor (and its connection) Replace the FCE.	

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#### **1.4.OVERALL MACHINE CONTROL**



The FCE3 (Facsimile Control Engine) contains the FCIP (Facsimile Control and Image Processor), DRAM, SRAM, System ROM, R144EFXL modem, and video processing memory, and controls the entire system through the FDU2 (Facsimile Driver Unit).

There are two cpus in the machine: the main cpu (FCIP) on the FCE and the energy saver cpu on the FDU. In energy saver mode, the main CPU switches off and the energy saver CPU takes over.

The FCIP consists of the following component blocks:

- RU8 CPU Main CPU
- LIF- Laser Interface

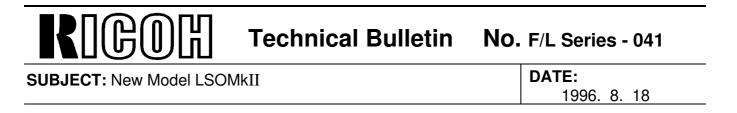
- MDM Modem (only used for V.21)
  DMAC DMA Controller
- PRIF Printer Interface
- DIP Digital Image Processor
- DCR Data Compression and Reconstruction

The modem in the FCIP is used for V.21 communications (and also as a tone generator). The Rockwell R144EFXL modem is used for V.33, V.29, and V.27ter communications.

The FCE3 contains two 2 MB DRAMs. The DRAM contains the SAF memory, ECM buffer memory, work area, and page memory. The SAF memory can be extended by 1, 2, or 4 Mbytes with an optional IC card.

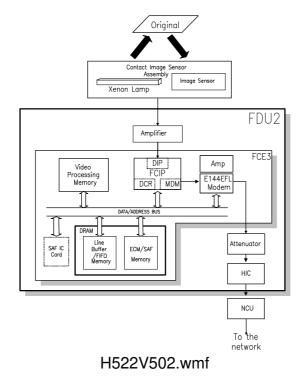
Another 2MB DRAM is used only as a page memory.

A 512 kB (4 Mbit) flash ROM is used for the system ROM. Software in this ROM can be rewritten from the IC card slot or by RDS. Another 128 kB mask ROM contains LCD wording data.



#### **1.5.VIDEO DATA PATH**

#### 1.5.1. Transmission



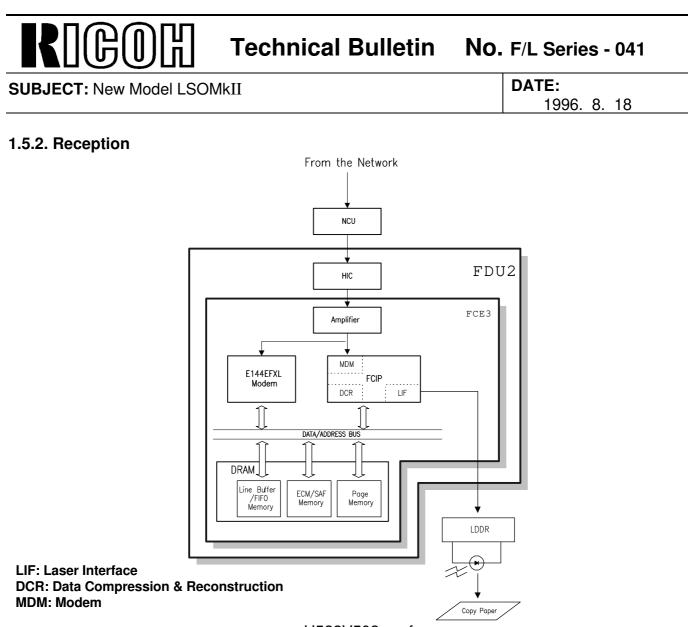
DIP: Digital Image Processor DCR: Data Compression & Reconstruction

#### Immediate Transmission:

Scanned data from the contact image sensor passes to the DIP block in the FCIP. After analog/digital video processing, the DCR block compresses the data for transmission. The compressed data then passes either to the FIFO memory or to the ECM memory before it is sent to the telephone line through the modem.

#### **Memory Transmission:**

First, the scanned data is stored in the SAF memory after compression in the DCR block. At the time for transmission, the DCR block decompresses the data from the SAF memory, then compresses it again after handshaking with the other terminal is done. The compressed data then passes either to the FIFO memory or to the ECM memory, before it is sent to the telephone line through the modem.



H522V503.wmf

Data from the line passes to the modem through the NCU and hybrid IC. After the modem demodulates the data, the decompressed data passes to the DCR block, through either the FIFO or the ECM memory, where the data is decompressed to raster image data. At the same time, the compressed data passes to the SAF memory as a backup in case of mechanical problems during printing (substitute reception).

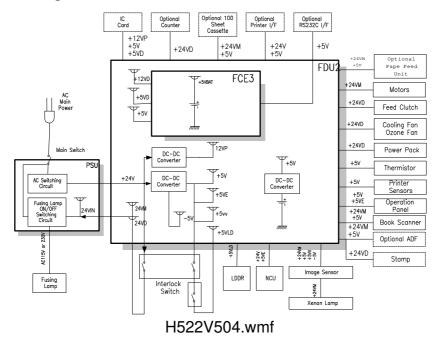
The raster image data is then passed to the page memory for printing. After a page of data has been stored in the page memory, the data is sent to the LDDR through the LIF block.

SUBJECT: New Model LSOMkII

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#### **1.6. POWER DISTRIBUTION**

#### 1.6.1. Distribution Diagram



The PSU supplies +24V dc power to the FDU. The FDU converts the +24V dc power supply to the following supplies.

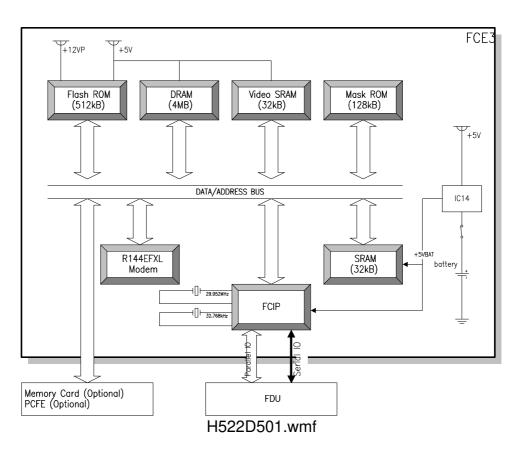
+5V	This is normally on when the main switch is on.
+5VE	This is used for detecting an activation signal from the NCU, document feeder, or operation panel when the machine is in energy saving mode.
+5VLD	This supplies the laser diode. It is interrupted if the fusing unit cover interlock switch opens.
+5VV	This is a more stable power supply than +5V. It is used for the Contact Image Sensor.
+5VD	This supplies back up power for the DRAM and the optional IC card on the FCE. It can back up stored data for one hour after the power is switched off. A rechargeable battery on the FDU is used to generate +5VD.
+5VBAT	This supplies back up power to the system RAM on the FCE to back up the programmed data. A lithium battery is used to generate +5VBAT.
+24V	This is normally on when the main switch is on.
+24VD	This is interrupted if the fusing unit cover interlock switch opens.
+24VIN	This supplies +24V to the fusing unit on/off switching circuit. It is interrupted if the fusing unit cover interlock switch opens.
+24VM	This is interrupted if the machine enters energy saving mode.
-5V	This is used for the image sensor.
+12VP	This is supplied to the Flash ROM on the FCE and the optional IC card.

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#### 2.4. PCBs

2.4.1. FCE3



#### 1. FCIP (Facsimile Controller and Image Processor)

- CPU
- Modem (V.21, tone generator)
- Data compression and reconstruction (DCR)
- Digital image processor (DIP)
- Laser interface (LIF)
- DMA controller
- Clock generation
- Stepper motor control
- · Serial interface to the FDU
- DRAM backup control
- Ringing signal/Tone detection
- Fusing lamp control

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#### 2. Modem (Rockwell R144EFXL)

• V.33 / V.29 / V27ter. modem

#### 3. ROM

- 512 kB (4 Mbit) flash ROM for system software storage.
- 128 kB (1 Mbit) mask ROM for LCD wording data storage (not used in the US model)

#### 4. DRAM

- 2x2 MB DRAM shared between the line buffer (32 KB), ECM buffer (128 KB), Page memory (3 MB), and SAF memory (640' KB).
- Backed up by the battery on the FDU.

#### 5. SRAM

- 32 kB SRAM for system and user parameter storage.
- Backed up by the battery on the FCE.

#### 6. Video SRAM

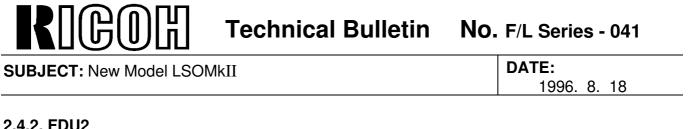
• 32 KB SRAM for video processing.

#### 7. Oscillators

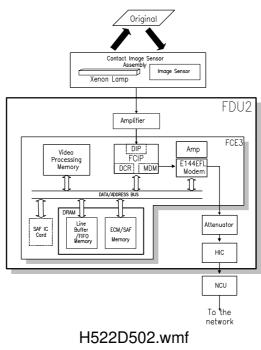
- 29.952 MHz oscillator for system clock generation.
- 32.768 MHz oscillator for the real time clock. This is backed up by the battery on the FCE.
- 38.00053 MHz oscillator for the R144EFXL modem.

#### 8. Jumpers, Switches, and Test Points

Item	Description
SW1	Switches the backup battery ON/OFF



#### 2.4.2. FDU2



#### 1. Power Saver CPU

• 4 bit CPU for controlling the machine during power saver mode.

#### 2. PSIF (Peripheral Serial I/F)

• One of the gate-array controlling the paper feed motor, and catch the ADF sensor's data, and the book-size sensor's data.

#### 3. EXIO (External I/O)

- · Serial interface to the FCE and OPU.
- Serial interface to an optional paper feed unit.
- Parallel interface to the main motor, clutches, and sensors.

#### 4.Motor Driver (SLA7024M)

• Controlling the ADF motor, and the scanner motor. (Except the paper feed motor)

#### 5. HIC (Hybrid IC)

- · 2-4 wire switching
- · Filters and amplifiers
- Monitor speaker driver

#### 6. DC/DC Converters

- +5V generation
- 12V generation

DATE: SUBJECT: New Model LSO MkII (No.2) 1996. 10. 30. PREPARED BY: K. Misugi FROM: 2nd Field Information Group, CHECKED BY: S. Fujii QA Division **CLASSIFICATION:** MODEL: Revision of service manual Action Required **RICOH MV310E** Troubleshooting Information only Savin 9110DPe **Retrofit Information** Other

Note: This RTB is a replacement for a previous RTB (F/L Series - 042).

The new model LSO MkII has been released in the line-up of the LSO series. This technical bulletin contains information on differences between the LSO MkII and the LSO (Parts Catalog).

This technical bulletin also includes some corrections from the previous one (RTB F/L Series -042) and additional information on the optional paper feed unit (Paper Feed Unit Type 140S). (The index numbers for the corrected sections are written in bold.)

The following parts for the LSO MkII are different from the LSO.

I SO MkII [Bicoh]

Index	LSO	LSO mkll	Description
3-0	H5218600	H5228600	Operator's Manual-LSOMkII-English
3-1	H5214203	H5224203	Cover-Operation-Panel-LSO MkII
3-2	H5214317		
3-3	H5214314	H5228692	Quick Dial Sheet (1 set)
3-4	H5214316	TIOLLOOUL	(Quick Dial Sheets will only be available as a set.)
3-5	H5214315		
3-6	H5214310		Operation Panel Sheets are not available.
3-7	H5214311		
3-10	H5215306	H5225301	Harness-OPU
3-18	H5213361	H5213390	By-pass Feed Table (Refer to [E] on page 4.)
[F]		H5213354	By-pass Feed Paper Guide
3-32	H5214291	H5224291	Cover Quick Dial Keys
3-34	H5216020	H5226020	PCB-OPU-LSO MkII
5-3	H5216122	H5226000	PCB-FCE-LSO MkII
5-9	54886020	54886030	PCB-NCU
5-10	H5216081	H5226010	PCB-FDU-LSO MkII
5-12	H5214020	H5224020	Cover-Front
5-17	H5214037	H5224021	Cover-Rear
5-18	H5215401	H5185400	PCB-PSU
5-22	H5213169	H5223169	Heat-Sink
9-34	H5215010	H5225010	Scanner Motor-ADF
11-11	H5215004	H5225004	Scanner Motor
11-12	H5211150	H5221150	Cushion - Scanner Motor
13-9	H5215307	H5225303	Harness-Size Sensor-Book

## Technical Bulletin

No. F/L Series - 042A

SUBJECT: New Model LSO MkII (No.2)

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**DATE:** 1996. 10. 30.

15-10	H5215302	H5225302	Harness-LDDR
19-32	H5215312	H5225305	Harness-Fusing Sensors
23-7	H5215313	H5225310	Harness-Size Sensor-Book
23-8	H5215314	H5225308	Relay Harness-Scanner Motor
23-9	H5215315	H5225311	Relay Harness-ADF Motor
25-2	H5155049	H5165032	Monitor Speaker
25-13	H5215330	H5225312	Harness - Paper Feed Motor
25-20	H5215311	H5225304	Harness - Sensor 2
25-44	H5215334	H5225307	Harness - Motor / Counter
27-16	H5153410	H5223410	Cassette Base
		H5164043	Cover - PFU Connector
*[A]		H5223111	IC Card Guide
		H5223310	Positioning Pin
		H5223311	Rubber Foot - LSO MkII
*[C]		H5223312	Bracket - Relay - PFU
*[B]		H5224023	IC Card Cover
*[D]		H5225309	Harness - PFU

Paper Feed Unit Type 140SII:

The following parts have been added for the PFU Type140SII from the PFU Type140S. Please refer to page 5 for details.

*[G]	H0334806	Allen Key
*[H]	05930120E	Hexagonal Set Screw
*[I]	07073090E	Spacer

\* Note: Please refer to page 5 for the location of the parts.

#### **R C Technical Bulletin**

No. F/L Series - 042A

SUBJECT: New Model LSO MkII (No.2)

**DATE:** 1996. 10. 30.

The following parts for the LSO MkII are different from the LSO.

LSO Mkll [Savin]

Index	LSO	LSO mkll	Description
3-0	H5218630	H5228630	Operator's Manual-LSO MkII-Savin
3-1	H5214283	H5224283	Cover-Operation-Panel-LSO MkII
3-2	H5214317		
3-3	H5214314	H5228692	Quick Dial Sheet (1 set)
3-4	H5214316	TIOLEGOOL	(Quick Dial Sheet will only be available as a set.)
3-5	H5214315		
3-6	H5214310		Operation Panel Sheets are not available.
3-7	H5214311		
3-10	H5215306	H5225301	Harness-OPU
3-18	H5213361	H5213390	By-pass Feed Table (Refer to [E] on page 5.)
[F]		H5213354	By-pass Feed Paper Guide
3-32	H5214291	H5224291	Cover Quick Dial Keys
3-34	H5216020	H5226020	PCB-OPU-LSO MkII
5-3	H5216122	H5226000	PCB-FCE-LSO MkII
5-9	54886020	54886030	PCB-NCU
5-10	H5216081	H5226010	PCB-FDU-LSO MkII
5-12	H5214020	H5224020	Cover-Front
5-17	H5214037	H5224021	Cover-Rear
5-18	H5215401	H5185400	PCB-PSU
5-22	H5213169	H5223169	Heat-Sink
9-34	H5215010	H5225010	Scanner Motor-ADF
11-11	H5215004	H5225004	Scanner Motor
11-12	H5211150	H5221150	Cushion - Scaner Motor
13-9	H5215307	H5225303	Harness-Size Sensor-Book
15-10	H5215302	H5225302	Harness-LDDR
19-32	H5215312	H5225305	Harness-Fusing Sensors
23-7	H5215313	H5225310	Harness-Size Sensor-Book
23-8	H5215314	H5225308	Relay Harness-Scanner Motor
23-9	H5215315	H5225311	Relay Harness-ADF Motor
25-2	H5155049	H5165032	Monitor Speaker
25-13	H5215330	H5225312	Harness-Paper Feed Motor
25-20	H5215311	H5225304	Harness - Sensor 2
25-44	H5215334	H5225307	Harness - Motor / Counter
27-16	H5153410	H5223410	Cassette Base
		H5164043	Cover - PFU Connector
*[A]		H5223111	IC Card Guide
		H5223310	Positioning Pin

### **Technical Bulletin**

No. F/L Series - 042A

DATE:

SUBJECT: New Model LSO MkII (No.2)

(份()

			1996. 10. 30.
	H5223311	Rubber Foot - LSO MkII	
*[C]	H5223312	Bracket - Relay - PFU	
*[B]	H5224023	IC Card Cover	
*[D]	H5225309	Harness - PFU	

Paper Feed Unit Ty[pe 140SII:

The following parts have been added for the PFU Type140SII from the PFU Type140S. Please refer to page 5 for details.

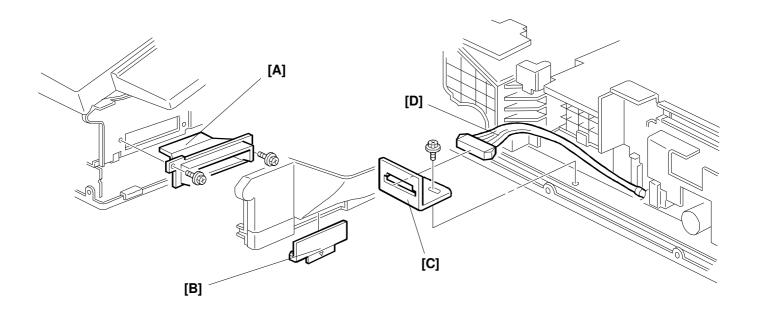
*[G]	H0334806	Allen Key
*[H]	05930120B	Hexagonal Set Screw
*[I]	07073090B	Spacer

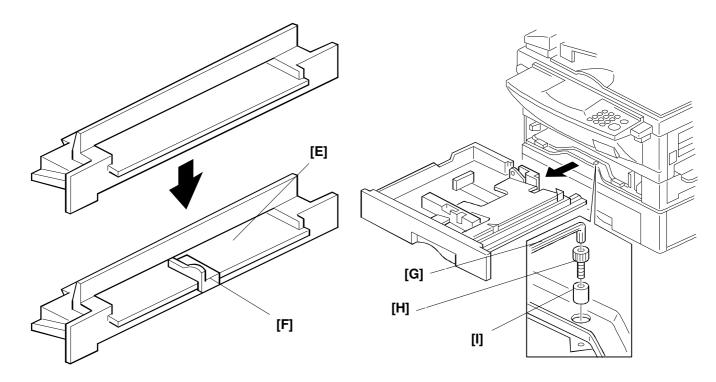
\* Note: Please refer to page 5 for the location of the parts.

SUBJECT: New Model LSO MkII (No.2)

DATE: 1996. 10. 30.

#### Location of the parts.





SUBJECT: FX7 Data Copy Tool				DATE:
				1996. 9. 27
PREPARED BY: K. Misugi		FROM: 2nd	d Field li	nformation Group,
CHECKED BY: S. Fujii			QA Division	
CLASSIFICATION:			MODE	L: FX7
Action Required	ice manual	I RICOH FAX1700L		
Troubleshooting		NRG 9765, SAVIN FAX 3650		
Retrofit Information	Other		Infoted	3671

The new data copy tool (P/N: A1939353) is to be used for the new model FX7. However, the old copy tool (P/N: H5159100) can still be used for some of the service functions. Please refer to the table below.

Data Copy Tool:

	AD	MA	FAX	FX7 / LX7	
Сору Тооі	Copier	Fax	F/L Series	ROM Software Download	ROM Software Upload / SRAM Data Download
H5159100 (old tool)		~	~	v	
A1939353 (new tool)		~	~	<b>v</b>	~

Note: 🖌 : The data copy tool can be used.

---- : The data copy tool cannot be used.

• ROM Software Download: Service Function 12-4 using the EPROM board.

 ROM Software Upload / SRAM Data Download: Service Function 12-3 and 5 using an external FCU.

#### EPROM Board:

EPROM Board	AD	AM	FAX F/L Series	
	Copier	FAX	(including FX7/LX7)	
H5159500 (old)		~	4	
A1939351 (new)	~	4	~	

Note: 🖌 : The EPROM board can be used.

---- : The EPROM board cannot be used.

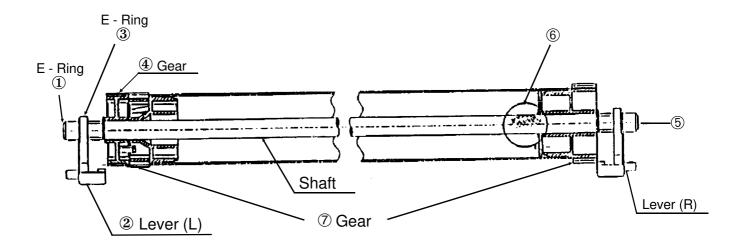
• The new EPROM board for ADAM can be used for both ADAM and other fax machines including the FX7/LX7.

SUBJECT:Horizontal white bands	DATE: Sep.15,1996	
PREPARED BY: Y.Okunishi CHECKED BY: S.Fujii	FROM: Qualit	ty Assurance Center
CLASSIFICATION:	ice manual	IODEL: FX6, FX6MKII, FX6CD, FX4

------ Preliminary -----

Problem : Horizontal white bands (at even intervals) on copies

Cause : Evaporated material from the glue which is used to fix the gear (O) to the inside of the drum attaches to the drum shaft and creates a thin layer (O) on the shaft. It causes incomplete flow of charge from the drum to the ground through the shaft and causes white bands on copies.



Action taken :

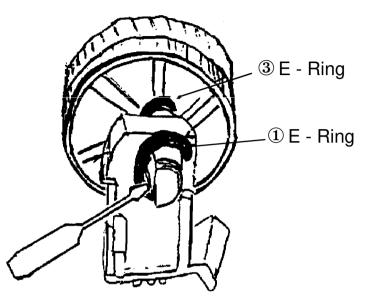
Clean the drum shaft. See the attached procedure.

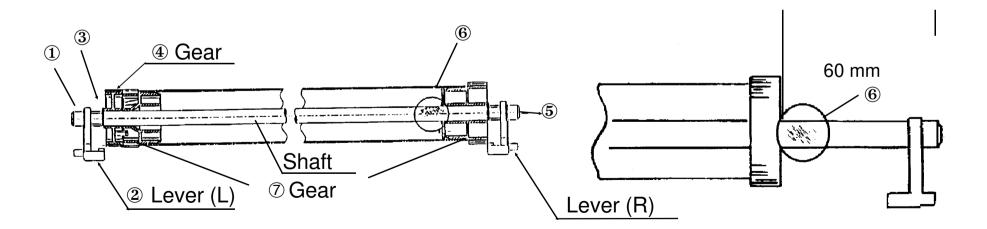
RC	RE	ASIA	
*	*	*	

#### **Repair Procedure for Defective Drums**

- 1.Cover the drum surface with packing material (or paper).
- 2.Remove E Ring 1 .
- 3.Remove Green Lever 2.
- 4.Remove E Ring 3.
- 5.Remove Gear ④
- 6.Pull the drum shaft out about 60 mm. (5)
- 7.Clean the dull-colored part (<sup>®</sup>) on the shaft with a cloth (with alcohol if available).
- 8.Assemble the drum.

#### Note : Do not touch the drum surface directly.





SUBJECT: ADF Problem (1)			DATE: Oct.15,1996
PREPARED BY: Y.Okunishi CHECKED BY: S.Fujii	FROM: Qu	ality Assu	Irance Center
CLASSIFICATION:		MODEL FX( FX4	6, FX6MKII, FX6CD,

Sympton : Document jam or no paper feed

Cause : The separation rubber plate is worn by the documents being fed and it becomes loose from the hook on the separation plate.

Action taken :

① Change the separation plate to the new type (H515 1355).

See MB No. F/L Series - 118.

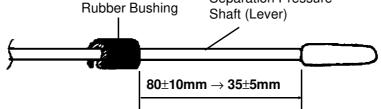


This will help extend the life of the rubber plate.

## (A) ----- NOTE: ① Move the lever back to the home position or to the strongest position if multi-paper feeding or noise occurs as a result.

- ② Please do the following before moving the separation pressure lever. This is only for FX4.
  - 1) Remove the Operation Panel Cover from the ADF Guide Plate.
  - 2) Remove the Separation Pressure Shaft and re-install it over the sensor harnesses.

3) Move the Rubber Bushing (see MB F/L Series - 097) as follows. Separation Pressure



③ The life of the rubber plate may not be extended, depending upon the type of paper used.

RC	RE	ASIA	
*	*	*	

SUBJECT: ISDN Interface of			DATE: Sep.15,1996	
PREPARED BY: K.Ugaeri CHECKED BY: S.Fujii		FROM: Qu	ality Assi	urance Center
CLASSIFICATION: Action Required Troubleshooting Retrofit Information	Revision of servi Information only Other	ce manual	MODEL FX	

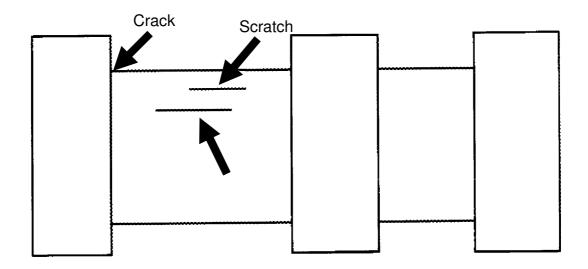
Sympton : 1 No Tx or No Rx in ISDN G3 mode.

<sup>②</sup> The interface cannot be recognized.

Reason : The interface cable was damaged.

Action : Check the interface cable.

If there is a crack or a scratch on a flexible cable, change the interface cable.



This problem has been reported in Switzerland and Germany.

Other countries may also have this problem.

Ask the technician to check the interface cable before installing an ISDN kit.

RC	RE	ASIA	
*	*	*	



Retrofit information



### Technical Rulletin

	lea	chnical <b>B</b> u	JIIE	etin	PAGE: 1/1
Model: <i>FX6, FX</i> 4	l, FR6, FR4	Ľ	Date	e: 15-May-98	No: 047 <b>B</b>
Subject: ADF Pro	oblem (2)		l	Prepared by: Y.O	kunishi
From: QAC Field	Information Dept.				
Classification:	Troubleshooting	Part infor	rmati	on 🗌 Action	required
	Mechanical	Electrical	I	Servia	e manual revision

Transmit/receive

**Problem:** 

Vertical dirty band on the back side of the document.

)

Paper path

Other (

#### Cause:

Black material (Carbon) comes off the separation pad, and this causes a dirty band if the same document is scanned several times.

#### Action taken:

Replace the separation pad with the countermeasure part (H515 9611: Separation pad – A) with less carbon.

Note:

The life of the countermeasure part is about 30% shorter than the regular part. So, the countermeasure part should be used only for a customer who complains about this problem. The shorter life of the part should be explained to the customer before installing it.

Note:

The assembled part H515 9610 will not be available at the SPC soon. Please order H515 9611 instead.

RC	RE	ASIA	
*	*	*	

SUBJECT: Paper Feed Unit Type 140S II	DATE: Oct.31, 1996		
PREPARED BY: Y.Okunishi CHECKED BY: S.Fujii	FROM: Qu	ality Ass	urance Center
CLASSIFICATION:		MODEI FX	L: (4, LSOMKII

The new Paper Feed Unit Type 140S II has been released for FX4 and LSOMKII .

The attached sheet is the installation manual. packed with the Paper Feed Unit.

Please note that Fig.2 in the installation manual is only for LSOMKII.

RC	RE	ASIA	
*	*	*	

### **INSTALLATION MANUAL**

#### Paper Feed Unit Type 140S II

This option can be installed in the following models: - H522 series

This installation must only be done by qualified service personnel.

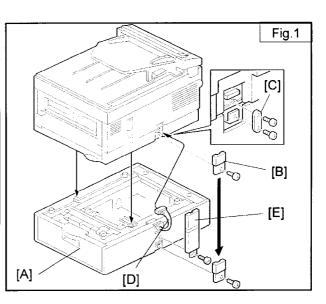
#### CAUTION

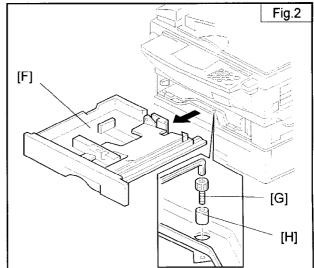
Do the following before installing an optional unit: 1. Print out all messages stored in the memory. 2. Print out the lists of user-programmed items and the system parameter list. 3. Turn off the main switch, and disconnect the power plug.

#### **Installation Procedure**

- 1. Put the machine on the paper feed unit [A], and remove the connector cover [B] (1 screw).
- 2. Secure the machine and the paper feed unit with the bracket [C] (2 screws). Then connect the harness [D] to the machine.
- 3. Install the harness cover [E] (1 screw), and replace the connector cover [B] (which was removed in step 1).
- 4. Pull out the standard paper cassette [F].
- 5. Secure the machine and the paper feed unit with the long screw [G] and the spacer [H], using an Allen key as shown in the diagram.
- 6. Put back the standard paper cassette [F].
- 7. Load the paper and turn on the machine. Make a test print using the paper feed unit.

#### **End of Procedure**





#### SUBJECT: Left Cover

RII(C)(

DATE: Nov,15. 1996

PREPARED BY: Y.Okunishi CHECKED BY: S.Fujii	FROM: Qu	ality Assurance Center
CLASSIFICATION:		MODEL:
Action Required Revision of se	rvice manual	LSO
Troubleshooting Information or	nly	
Betrofit Information Other	-	

The Left Cover (Index no.2 on page 1-5 of the parts catalog) has been changed from the following production.

The new cover was designed for LSOMK2 and does not have hooks on the bottom. So, please follow the instructions below to fix the new cover on the LSO produced before the following serial numbers.

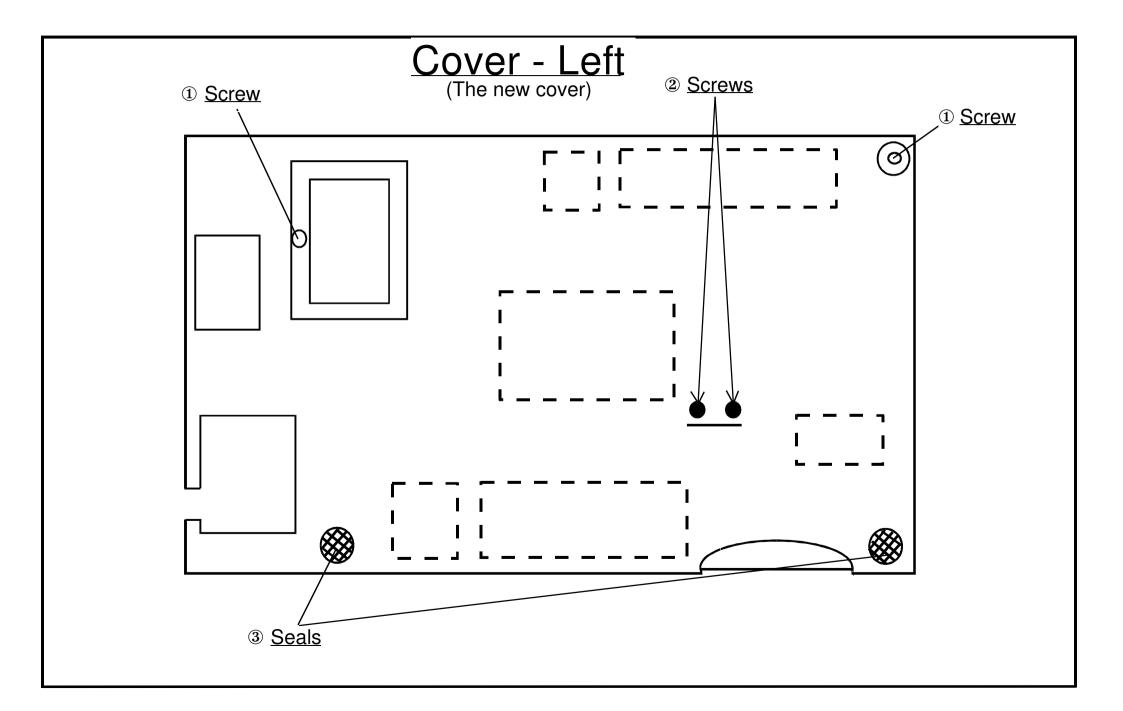
Product Codes	Brands	Area	Serial Numbers
H521 - 20	Ricoh	US	MD360900001
H521 - 21	NRG	US	X066080702
H521 - 27	Savin	US	S1660800003
H521 - 30	Infotec	Europe	Production after August 1996 (No production planned in August~October)
H521 - 33	Infotec	France	4820969001
H521 - 40	Ricoh	Europe	E0360900001
H521 - 43	Ricoh	France	Production after August 1996 (No production planned in August~October)
H521 - 51	Ricoh	Asia	A4860800001
H521 - 53	Ricoh	Taiwan	A4760800001
H521 - 59	NRG	Asia	X096080435
H521 - 60	NRG	Europe	X076092044
H521 - 63	NRG	France	Production after August 1996 (No production planned in August~October)

[Instructions]

- ① Tighten two screws as they were.
- 2 Tighten two screws (Recommendation: Philips Truss Head screw -M3X8 (03530080Z))
- ③ Attach the two seals to cover the screw hole.
  - (The screw cannot be tightened.)
- E

H521 9503: Two seals are packed. See the attached sheet.

RC	RE	ASIA	
*	*	*	



### RICOH

### Technical Bulletin

Model: FX4			Date: 30-Apr-97		No: 051A	
Subject: History of Software Change			Prepared by: Y.Tamaoka		amaoka	
From: QAC 2nd I			Checked by: S. Fujii		ujii	
Classification:	<ul> <li>Troubleshooting</li> <li>Mechanical</li> <li>Paper path</li> <li>Other (Software History)</li> </ul>	<ul> <li>Part inf</li> <li>Electric</li> <li>Transm</li> </ul>	al		] Servic	n required ce manual revision fit information

#	Reason / Problem (Improved)	USA H515 7210	EU. / Asia H515 7240
1	<ul> <li>P1/2, P2/2, P3/2, is printed at the top of the received pages when:</li> <li>A) The documents are transmitted with an auto document that is stored in the memory.</li> <li>B) The user inputs the number of pages that is set on the ADF And</li> <li>C) The SAF memory is not used for the transmission.</li> <li>With the new software, the user does not need to count the number of auto documents. The machine automatically adds the number of auto documents to the number which the user input.</li> </ul>	С	В
2	An error is printed on the reports for ROM DATA TRANSFER using RDS or RRW.	С	В
3	The machine does not receive RAM and ROM data that was sent from RDS in high speed transmission mode if the machine is not ready to print. (Paper end for example)	С	В
4	To improve DTMF detection	С	В
5	If the quick dial which is programmed for the document bank is input as the final destination for a G4 transfer request transmission, the document bank is sent in addition to the original.	С	В
6	The transfer request transmission is not possible when 13 terminals are programmed as final destinations.	С	В
7	To upgrade the software for the NEST AUTOROUTE option.	D	С
8	German Wording change (Based on a requirement from Siemens)	-	С
9	To upgrade the software for the new printer interface Type200.	E	С

RICOH

### Technical Bulletin

**PAGE:2/2** 

Model: FX4

Date: 30-Apr-97

No: 051A

#	Reason / Problem (Improved)	USA H515 7210	Eu./ Asia H515 7240
10	Specification change for Parallel Memory Transmission To be able to add part of the image on the transmission result report.	E	D
11	Wording correction for the Power Failure Report (Failure $\rightarrow$ Failure)	F	E
12	"OK" is printed on the TCR for a failed communication when the line is disconnected before the G4 protocol proceeded to CSS / RSSP after receiving CONN.	F	E
13	An error message is displayed after the T1 time.	F	E
14	The numbers of the pages are not correctly printed when there were over 100 pages in the document.	F	E
15	The stored data is not kept when the FOD card is not installed at re-power up even if Bit Sw 16 Bit $0 = 1$ .	F	E
16	Scanning the background of originals depending on the base color (e.g., orange)	G	F
17	"STANDBY" is occasionally printed as the status on the memory transmission result report after a paralel transmission.	G	F
18	The receiving speed comes down during ECM communication if the dummy data is unexpectedly long. This may happen when receiving from some PC-Faxes	G	F
19	HDD control change accompanying HDD type change. (Relevant MB: F/L series 167)	G	F

USA:H515 7210

Eu. / Asia: H515 7240

USA	Execution Date	Check Sum (Total)	USA	Execution Data	Check Sum (Total)
Suffix C	February, 1996	CFFA	Suffix B	February, 1996	37CE
D	Match, 1996	1E9A	С	April, 1996	1257
E	May, 1996	0A21	D	May, 1996	CB09
F	October, 1996	650B	E	October, 1996	EB68
G	May, 1997	3BEB	F	May, 1997	3060

RC	RE	ASIA	
*	*	*	

SUBJECT: Development Unit	ł			DATE:
	-			15,Jan 1997
PREPARED BY: Y.Okunishi CHECKED BY: S.Fujii	i	FROM: Qu	ality Ass	surance Center
CLASSIFICATION:			MODE	L:
Action Required	Revision of servi	ce manual	Fک	(4, FX6, FX6MK2, FX6CD
Troubleshooting	Information only		LS	SO, LSOMK2

The attached sheet has been packed with the Development Unit Ass'y spare part (Part no. H515 9570, H521 9070) since January 10th, 1997.

Other

Please do not rotate the motor in the Development Unit Ass'y in the clockwise direction. If the motor is rotated (a few turns), the mylar in the development unit may get caught on the toner supply roller (Toner Agitator). This will lead to black bands or background on printouts.

Note: A Caution Sheet, only in Japanese, had been packed with the Development Unit Ass'y produced before January 8th 1997.

RC	RE	ASIA	
*	*	*	

]

Retrofit Information



本現像ユニットを機械へ搭載する際、以下の事に注意願います。

Please bear in mind the following items when installing the Development Unit.

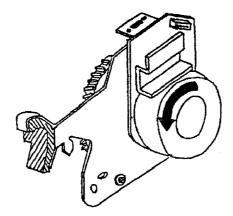
メインモーターを固定しているフィラメントテープをはがす際、<u>メイン</u> <u>モーターを時計方向に回転させない様注意下さい。</u>

メインモーターを回転させる必要がある場合は、<u>必ず反時計方向(動作時</u> の回転方向)に回転させて下さい。

When removing the filament tape that secures the main motor, **DO NOT rotate the motor in the clockwise direction.** If it becomes necessary to rotate the motor, be sure that it is done in the counterclockwise direction. Note that this is the direction that the motor moves when it is in operation.

メインモーターを時計方向に回転(2~3回転)させると、現像ユニット内 にあるマイラーがトナー補給ローラーに引っかかり受信画像の黒帯(汚れ)の 原因になります。

If the main motor is rotated in the clockwise direction, the mylar in the development unit may get caught on the toner supply roller and lead to black band or background on the image received.





【正しい回転方向:反時計方向】 〔誘 Correct: Counterclockwise

[誤った回転方向:時計方向] Incorrect: Clockwise

本文書の取り扱いについては、十分にご注意下さい。 (持ち帰って破棄して下さい)

Please dispose of this notice once the develoment unit has been properly installed.

# Technical Bulletin

Model: FX4 Da			Date	e: 15-Mar-97	No: 053
Subject: System Switch 16			Prepared by: Y.Tamaoka		
From: QAC 2nd Field Information Dept.			Checked by: S. Fujii		
Classification:	Troubleshooting	Part inference	ormat	tion 🗌 Actio	on required
	Mechanical	Electric	al	🛛 Serv	ice manual revision
	Paper path	🗌 Transm	it/rec	eive 🗌 Retr	ofit information
	☐ Other (  )				

### SYMPTOM

Bit 0 of system switch 16 does not function.

### CAUSE

Hardware restriction

### SOLUTION

Please do not power on the machine without the Fax On Demand or Function Upgrade Card if either of these optional units were previously installed.

# Technical Bulletin

Model: FX4 Da		Date: 15-Apr-97		No: 054	
Subject: Error Code Description			Prepared by: Y.Tamaoka		
From: QAC 2nd	From: QAC 2nd Field Information Dept.			Checked by: S. Fujii	
Classification:	Troubleshooting	🗌 Part informa		tion 🗌 Action	n required
	Mechanical	Electrical		🖂 Servi	ce manual revision
	Paper path	Transmit/rec		ceive 🗌 Retro	fit information
	Other ( )				

The following error codes are missing from the Field Service Manual for FX4.

Error Code	Description
9-30	Hard Disk Drive Error
9-31	Disk Controller Error
9-32	Disk Memory Error

# Technical Bulletin

### **MB** Correction

Reissue date: 30-Nov-97

The items in bold italic have been corrected or added.

Model: F/L Series Date		e: 30-Apr-97	No: 055 <b>A</b>		
Subject: Interlock Switch		Prepared by: Y.Tamaoka			
From: QAC 2nd F	From: QAC 2nd Field Information Dept.			Checked by: S. Fujii	
Classification:	<ul> <li>☐ Troubleshooting</li> <li>☐ Mechanical</li> <li>☐ Paper path</li> </ul>	Part informat		🗌 Servi	n required ce manual revision fit information
	Other ()				

### SYMPTOM

CLOSE COVER does not disappear from the display

### CAUSE

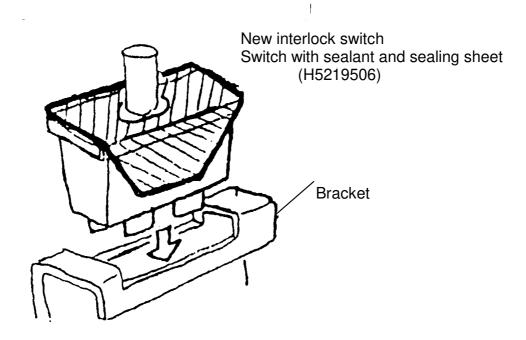
Silicon oxides in the machine cause bad contact in the interlock switch. Because of this, the machine cannot detect that the cover is closed.

### SOLUTION

Replace the Interlock Switch (12042334) with Interlock-Switch-FL Set (H5219610) The procedure for mounting the parts in this set is as follows:

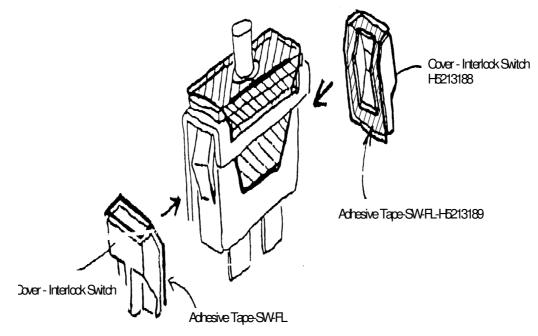
# Important notice: All parts in the kit must be installed to protect the interlock switch from silicon oxides.

1. Replace the old Interlock Switch with the new Interlock Switch (H5219506). The new Interlock Switch has been made airtight with a sealant at the terminal and a Sealing Sheet.

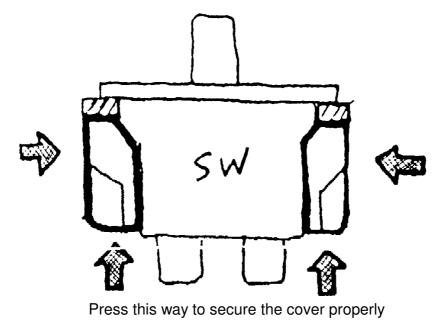


RIGOH	Technical Bulletin	PAGE: 2/2
Model: F/L Series	Date: 30-Apr-97	No: 055

2. Attach the double-sided adhesive tapes (H5213189) to the Interlock Switch Covers (H5213188) (2 pcs each)



3. Attach the Interlock Switch Cover with adhesive tapes to both sides of the new Interlock Switch.



RC	RE	ASIA	
*	*	*	

### Technical Bulletin

Model: HDD for FX4		Date: 30-Apr-97		No: 056	
Subject: HDD Change & Software Update for FX4			Prepared by: Y.Tamaoka		
From: QAC 2nd Field Information Dept.			Checked by: S. Fujii		
Classification:	<ul> <li>Troubleshooting</li> <li>Mechanical</li> <li>Paper path</li> <li>Other ()</li> </ul>	Part inf Electric	al	Ser	on required vice manual revision rofit information

- 80MB HD -

The type of HDD is changed.

Due to this change, the bracket and the spring plate need to changed.

To asssure interchangeability, the HDD kit (H1303010) is newly registered as a spare part.

Therefore, this kit should be ordered if the old type HDD is defective. This kit consists of the following parts.

	Interchangeability	Old Type	Note
H1303010: HDD Kit			
H515 7119 : New HDD	X/X	H515 7116	
H1303015 : New Spring plate	X/X	H130 4015	*1
<sup>I</sup> H515 3156B : Bracket	X/O	H515 3156A	

\*1 The old type is still available as a spare part.

- FX4 Software -

At the same time as the HDD change, the FX4 software needs to be upgraded to the following version or later

Program H515 7210G For US mode H515 7240F For Eu./A model

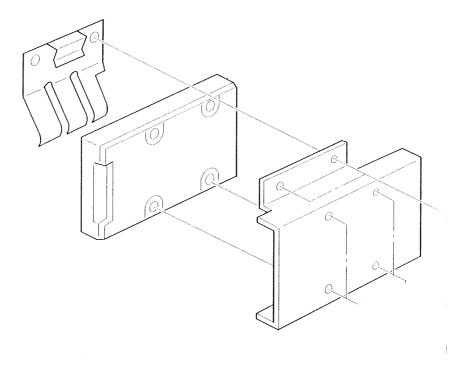
The new HDD does not function with the older software. (The old HDD does function with the new software) This new software is applied from May 1997 production

RC	RE	ASIA	
*	*	*	

RICOH	Technical Bulletin	PAGE:2/2
Model: HDD for FX4	Date: 30-Apr-97	No: 056

No: 056

H1303010



### Technical Bulletin

Model: FX4,FX6	,FX6MK2,FX6CD		Dat	<b>e</b> : 15-May-97	No: 057
Subject: ADF Problem		Prepared by: Y.Okunishi			
From: QAC 2nd Field Information Dept.					
Classification:	☑ Troubleshooting	🗌 Part inf	orma	tion 🗌 Actio	n required
	Mechanical	Electric	al	🗌 Serv	ice manual revision
	Paper path	🗌 Transm	nit/rec	ceive 🗌 Retro	ofit information
	Other ()				

This RTB is the revised version of RTB no. F/L Series - 047.

#### Problem:

Vertical dirty band on the back side of the document.

#### Cause:

Black material (Carbon) comes off the Separation Pad and causes a dirty band if the same document is scanned several times.

#### Action taken:

Replace the Separation Pad with the countermeasure part (H5159611: Separation Pad - A) with less carbon.

#### Note:

- The life of the countermeasure part is about 30% shorter than the regular part. So, the countermeasure part should be used only for customers who make a claim regarding this problem.
- 2) Separation Pad Ass'y A (H5159610), in which the countermeasure part is assembled, is not available at the spare parts center.

RC	RE	ASIA	
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# Technical Bulletin

### **PAGE:1**/1

Model: LSO Date		e: 15-May-97	No: 058		
Subject: Left Cover Seal			Prepared by: Y.Okunishi		
From: QAC 2nd I	Field Information Dept.				
Classification:	Troubleshooting	🛛 Part inf	orma	tion 🗌 Actio	n required
	🗌 Mechanical	Electric	al	🗌 Servi	ce manual revision
	Paper path	Transm	it/rec	eive 🗌 Retro	fit information
	Other ( )				

The Left Cover Seal (H5219503), mentioned in RTB no. F/L Series - 050, is now available at the spare parts center.

RC	RE	ASIA	
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### Technical Bulletin

Model: FX4 FX6 Da		Date: 15-Jul-97		7	No: 059	
Subject: Exhaust Fan		Prepared by: Y.Okunishi		Vkunishi		
From: QAC 2nd Field Information Dept.						
Classification:	☐ Troubleshooting	Part inf	orma	tion	Action	n required
	🗌 Mechanical	Electric	al		Servic	ce manual revision
	Paper path	🗌 Transm	nit/rec	eive	Retro	fit information
	Other ()					

### Problem

To replace the Interlock Switch, the Exhaust Fan must first be removed.

There have been reports indicating that the Exhaust Fan was reinstalled facing the wrong direction, which led to a rise in the temperature inside the machine, causing poor toner circulation and resulting in vertical black bands (known asKattsumari). If this problem is not rectified, the Kattsumari may reoccur even if the Development Unit is replaced.

### Action

Check the machines that are experiencing Kattsumari to see if the Interlock Switches had been replaced in the past. If so, please make sure that the Exhaust Fan has been installed correctly. The label on the Exhaust Fan (shown below) should be facing outward. After the Exhaust Fan has been installed, please confirm that the air is blowing out of the machine.



RC	RE	ASIA	
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# **T**echnical **B**ulletin

#### **PAGE: 1/2**

Model: FX6MK2		Date: 15-Aug-97		97	No: F/L Series - 60	
Subject: Vertical Black lines on the scanned image			Prepare	d by:Y.C	)kunishi	
From: QAC 2nd Field Information Dept.						
Classification:	☑ Troubleshooting	Part inf	orma	tion	Action	n required
	🗌 Mechanical	Electric	al		Servic	ce manual revision
	Paper path	🗌 Transm	nit/rec	eive	Retro	fit information
	Other ()					

### **Problem**

Vertical black lines on the scanned image.

### Cause

Toner scraped off the document by the guide plate and the leading edge of the CIS is carried by the document and Document remains on the CIS. This is because a documentpressed against the CIS surface until the middle of the CIS rises up from the CIS surface at that point, and the Guide Plate carried toner drops from the document onto the CIS. The point where the scraped-off toner remains is close to the scanning point of the CIS. So, if a lot is left on the CIS, the CIS scans the toner and this causes the vertical black lines.

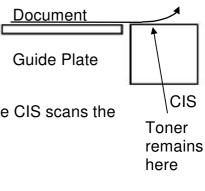
### **Action Taken**

Clean the CIS.

Attach two mylars. See the attached instructions.

Mylar - Left -Part no. **H526 9500** includes both mylars. Mylar - Right

RC	RE	ASIA	



**PAGE: 2/2** 

Model: FX6MK2

Date: 15-Aug-97

No: F/L Series - 60

# Installation of the mylars Open the ADF. Clean the white plate and the area where the mylars will be attached (use a soft cloth). Peel off the white sheets on the mylars and attach them as shown. Make sure the mylars are attached securely. Note: Please do not leave gaps between the edges of the mylar and edges of the mold. See below. 0~0.5mm 0~0.5mm Mylar - Left Mylar - Right 0~0.5mm 0~0.5mm

# Technical Bulletin No. Multi-002

SUBJECT: Toner Spillage during Transportation

DATE:

Jul. 15.1995

PREPARED BY: Y. Okunis CHECKED BY: M. Iwasa	hi	FROM: 2nd	d T.S. Section
CLASSIFICATION: Action Required Troubleshooting Retrofit Information	<ul> <li>Revision of servi</li> <li>Information only</li> <li>Preventive Actio</li> </ul>		MODEL: All laser plain paper fax machines

Background: Machines have been sent to customers after pre-installation and sent back to the service center for repair.

### Problem: Toner had spread inside the machine during transportation.

Cause: Toner leaked from the development unit, the toner cartridge, or somewhere in the toner path during transportation.

### Preparation for transportation:

- (1) Transportation without heavy vibration
  - (Example: A technician should carry the machine with care.)
  - F/L series fax machines:

The development unit can be connected to a CTM with toner. However, the toner path under the CTM must be covered by some adhesive tape. See the attached illustration.

• C series fax machines:

Follow RTB No. CSO-006

Other order machines:

Follow (2) below.

- (2) Transportation with heavy vibration
  - (If a third party handles the transportation, follow this procedure.)
  - F/L series fax machines:

Remove the development unit and the CTM from the machine if toner has been installed. They must not be delivered in the same box as the machine, because they contain toner which may spill out. The toner inside the machine must be cleaned away or the toner path under the CTM must be covered with tape.

• C series fax machines and others:

Remove the development unit and CTM (or Toner Cartridge) from the machine if toner has been installed, and clean the toner from inside the machine.

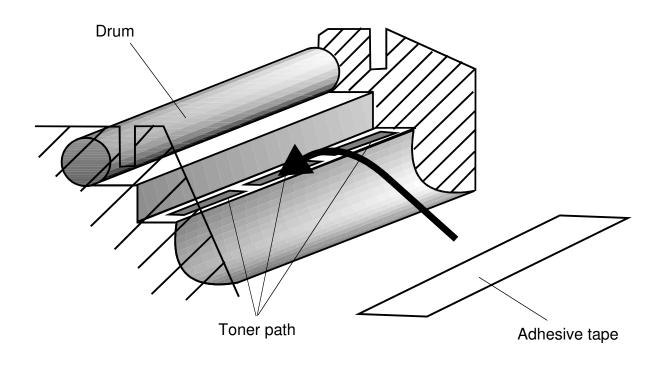
The removed development unit and CTM must not be delivered in the same box as the machine.



SUBJECT: Toner Spillage during Transportation

DATE: Jul. 15.1995

### Inside of FX6 and LSO



Note: Adhesion of the tape should not be strong. Otherwise, it may not be taken off cleanly from the machine, or the toner path may be damaged when it is taken off.

Please request tape samples for the FX6 and LSO from Ricoh.

# Technical Bulletin

**PAGE: 1/4** 

Model: FX4, FX6, FX6MK2, FX6CD, FX7, LX7, LSO, AD1 Date		e: 31-Aug-97	No: 005		
Subject: Novell Nest Autoroute Function			Prepared by: S.Y	íoshio	
From: 2nd Techn	ical Support Section				
Classification:	Troubleshooting Mechanical	Part informat		Servic	n required ce manual revision
	Paper path Other ()	Transm 🗌	iit/rec	eive 🗌 Retro	fit information

The NEST card has been released for Nest Autoroute function in fax machines and for fax units in the AD series.

This technical bulletin contains the revisions to the Nest Autoroute service manual. Procedures for reading and writing user-programmed data by RDS have been added. Only the Installation section was changed.

For details on the models that can use the NEST card, please check the product launch information for the models.

RC	RE	ASIA	
*	*	*	

**PAGE: 2/4** 

Model: FX4, FX6, FX6MK2, FX6CD, FX7, LX7, LSO, AD1 Date: 31-Aug-97

No: 005

### INSTALLATION

May 20th,1997

INSTALLING THE NEST CARD

### 2.2. INSTALLING THE NEST CARD

#### 

Before installing the NEST card, do the following:

1.Print out all messages stored in the memory.

2.Print out the lists of user – programmed items and the system parameter list.

### 2.2.1. Function Upgrade Card Type 140 Plus Novell<sup>®</sup> NEST<sup>TM</sup>

Note

• The following installation procedure initializes (erases) all the user-programmed data stored in the card, if the Function Upgrade Card already installed in the machine is replaced with a NEST card.

### Installation Procedure (Without a Function Upgrade Card)

- Turn off the main switch.
- Install the battery on the NEST card.
- Turn on the battery switch.
- Install the NEST card in the slot.
- Turn on the main switch.
- Print the system parameter list and make sure that "NEST" is listed as an option on the list.

### Installation Procedure (Replacing a Function Upgrade Card with the NEST card)

- Read and back-up the user-programmed data stored in the Function Upgrade Card with RDS.
- Turn off the main switch.
- Remove the Function Upgrade Card from the slot.
- Install the battery on the NEST card and turn on the battery switch.
- Install the NEST card in the slot.
- Turn on the main switch.
- Print the system parameter list and make sure that "NEST" is listed as an option on the list.
- Write the backed-up data to the NEST card.



**PAGE: 3/4** 

Model: FX4, FX6, FX6MK2, FX6CD, FX7, LX7, LSO, AD1 Date: 31-Aug-97

May 20th,1997

Nug-97 No: 005

INSTALLATION INSTALLING THE NEST CARD

# When the NEST card is replaced with another NEST card, do the following so the machine can recognize the new card.

- 1. Turn off the main switch
- 2. Remove the old card.
- 3. Turn on the machine without the card and turn off.
- 4. Install the new card.
- 5. Turn on the main switch.

#### 

The IC card contains a lithium battery.

The danger of explosion exists if a battery of this type is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer. Discard used batteries in accordance with the manufacturer's instructions.



**PAGE: 4/4** 

May 20th, 1997

Model: FX4, FX6, FX6MK2, FX6CD, FX7, LX7, LSO, AD1 Date: 31-Aug-97

No: 005

#### INSTALLATION INSTALLING THE NEST CARD

### 2.2.2. Feature Expander Type 100 2M Plus Novell NEST

#### Note

• The following installation procedure initializes (erases) all the data stored in the card, if the Feature Expander already installed in the machine is replaced with a NEST card.

#### Installation Procedure

- Turn off the main switch.
- Install the NEST card in the slot in the machine.
- Turn on the main switch.
- Print the system parameter list and make sure that "NEST" is listed as an option on the list.

# When the NEST card is replaced with another NEST card, do the following so the machine can recognize the new card.

- 1. Turn off the main switch.
- 2. Remove the old card.
- 3. Turn on the machine without the card and then turn off.
- 4. Install the new card.
- 5. Turn on the main switch.

# Technical Bulletin

PAGE: 1/3

Model: LSO, LSOMK2, FX4, FX6, FX6MK2, FX6CD Date		e: 15-Sep-97	No: 061		
Subject: Development Unit			Prepared by: Y.Okunishi		
From: QAC 2nd F	Field Information Dept.				
Classification:	Troubleshooting	Part inf	ormat	tion 🗌 Actio	n required
	🖂 Mechanical	Electric	al	🗌 Servi	ce manual revision
	Paper path	Transm	it/rec	eive 🗌 Retro	fit information
	Other ()				

The development units are modified to improve the flow of toner in the development unit. See Fig.1 on the attached page. This modification reduces the following problems.

- Kattsumari problem (vertical black bands on the print out) caused by blocked toner in the middle of the development unit. The blocked toner bends the toner metering blade. The toner enters the drum area through the gap made by the bent blade. Once in the drum area, the toner collects on the drum and causes black bands on the print out. (The toner flow was improved by the modification in MB F/L Series – 091B.)
- 2) Partially poor density on the print out caused by blocked toner at the entrance of the development unit.

### Modified parts:

See Fig. 2

- The Toner Hopper Film, mentioned in MB no. F/L Series 091B, was removed. A new metal plate is added to push more toner up to the CTM.
- <sup>(2)</sup> The length of the screw wire which is attached to the Toner Agitator is now longer, to send more toner from the left and right sides to the center.
- ③ A mylar is attached to prevent toner sticking to the inner wall.

See Fig. 3

④ A part of the metal base at the toner entrance is cut away and a part of the sponge is changed to a mold to prevent toner blocking which causes poor density on the print out.

### Modification schedule:

<Development Unit (B4) for LSO, LSOMK2> H521 9070 → 9071 : August 1997 production.

- < Development Unit (B4) for FX4, FX6, FX6MK2, for Taiwan and Japan> H515 **9070** → **9071** : August 1997 production.
- <Development Unit (A4) for FX4, FX6, FX6MK2, FX6CD for other countries> H515 **9570**  $\rightarrow$  ? : The modification schedule is not fixed yet.
- Interchangeability is O/O.
- Note: You can distinguish the modified Development Unit by the lot no. printed on the label. See Fig.4 on page 3.

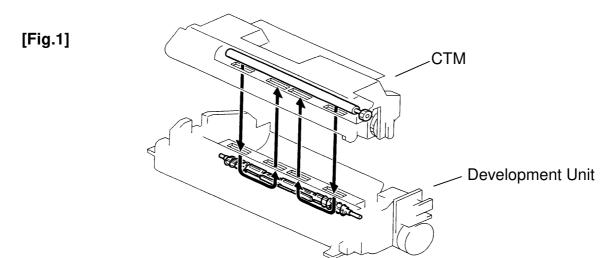
RC	RE	ASIA	
*	*	*	



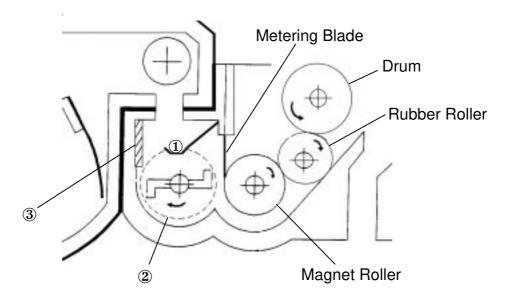
Note:: LSO, LSOMK2, FX4, FX6, FX6MK2, FX6CD

Date: 15-Sep-97

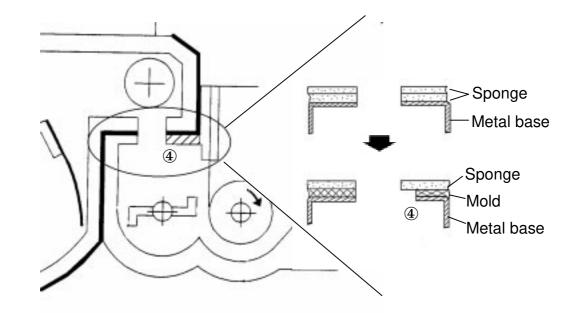
No: 061



[Fig.2]



[Fig.3]



### Technical Bulletin

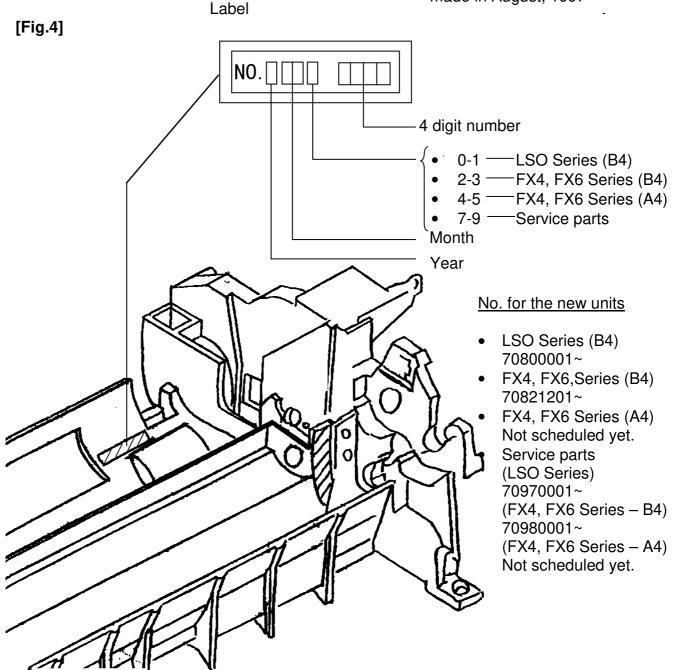
**PAGE: 3/3** 

Model: LSO, LSOMK2, FX4, FX6, FX6MK2, FX6CD

Date: 15-Sep-97

No: 061

Example: 70810012 =12th Dev. Unit for LSO Series made in August, 1997



**Development Unit** 

### **MB** Correction

RIGOH

Reissue date: 30-Sep-97

Model: FX4, FX6 Series, LSO Series Date		e: 30-Sep-97	No: 062A		
Subject: Toner End Sensor			Prepared by: `	Y.Okunishi	
From: QAC 2nd Field Information Dept.					
Classification:	Troubleshooting	Part informat		tion Ac	tion required
	🗌 Mechanical	Electric	al	🗌 Se	rvice manual revision
Paper path     Transmit/rec		eive 🗌 Re	trofit information		
	Other ( )				

### Problem

The toner end LED on the operation panel blinks even if the toner tank is not empty.

### Cause

The toner sensor (H515 5050, Index no.5 on page 17 of the FX6 parts catalog) is defective.

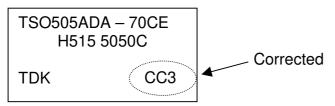
### Action taken

Replace the toner end sensor.

### Note

The defective toner sensors are concentrated in the sensors produced in between February and May 1997.

Lot no. CB3~CE1



On the back side of the toner end sensor (It is necessary to remove the development unit to see the printed numbers.)

RC	RE	ASIA	
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# Technical Bulletin

#### PAGE: 1/1

Model: FX4, FX6, LSO Date			e: 15-Sep-97	No: 063	
Subject: Rubber Roller =			Prepared by: Y.Okunishi		
From: QAC 2nd Field Information Dept.					
Classification:	Troubleshooting	Part inf	ormat	tion 🛛 🖂 Actior	n required
	🗌 Mechanical	Electric	al	Servio	ce manual revision
	Paper path	er path 🗌 Transmit/rec		eive 🗌 Retro	fit information
	Other ( )				

This is a recommendation by the engineering group.

Please wipe clean the surface of the rubber roller with a soft, clean, dry cloth before installing it in the development unit inside the machine.

Dust on the roller may cause white lines on the print out.

If the oil, which is used when the roller is made, comes out from inside the roller, it may cause black bands on the print out.

Please do not wipe with too much force. The surface of the roller can be damaged easily.

RC	RE	ASIA	
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# Technical Bulletin

**PAGE: 1/1** 

Model: K105 (FAX4000L) Date			e: 15-Sep-97	No: 015	
Subject: 14.4 Kbps Modem			Prepared by: Y.Okunishi		
From: QAC 2nd Field Information Dept.					
Classification:	Troubleshooting	Part inf			on required
	Mechanical	Electric	al	Ser Ser	vice manual revision
	Paper path     Transmit/re		it/rec	eive 🗌 Reti	rofit information
	Other ( )				

The V.33 standard for 14.4 kbps modems has not been supported by FX4 and FX6MK2 because V.33 has been deleted from the ITU (CCITT) recommendations.

So, data transfer at 14.4 kbps speed between a FAX4000L which supports only V.33 and products which support only V.17 will not be successful, and 9.6 kbps is the highest speed for data transfer between them .

See the following list.

Only V.33 is supported	V.33 and V.17 are supported	Only V.17 is supported
K105 (FAX4000L)	CFO, CS1, CGO	FX6MK2, FX4

RC	RE	ASIA	
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# Technical Bulletin

#### **PAGE: 1/1**

Model: ISDN Option Date			e: 30-Nov-97	No: Multi - 006	
Subject: US National ISDN			Prepared by: H.Kamiya		
From: IPP Busine	ess Division Technical Service [	Opt.			
Classification:	<ul> <li>Troubleshooting</li> <li>Mechanical</li> <li>Paper path</li> <li>Other ()</li> </ul>	Part info Electric	al	Servic	n required ce manual revision fit information

This technical bulletin informs of the settings required when a machine is connected to the US National ISDN network

Models: CFO, CGO, LHO, FX4, ADAM

### • Subscriber Number

Input the subscriber number given by the telephone company at :

1.G4 SUBSCRIBER NO.1 (MAIN)

2.G3 SUBSCRIBER NO.1 (MAIN)

#### • SPID Number (Service Profile Identification Number)

Input the SPID number given by the telephone company at :

1.G4 SUBSCRIBER NO.2 (Sub)

2.G3 SUBSCRIBER NO.2 (Sub)

Note: Input a "\_" (pause) before the SPID number.

#### • G4 Internal Switches

SW No.	Bit	Setting	Definition
SW11	Bit1	0: Dynamic TEI	Type of TEI used (Layer 2) (Default)
SW13	Bit2	1: Yes	Attachment of calling party number (L3 SET UP)
	Bit5	1: Yes	Attachment of channel information element (L3 CONN)
SW14	Bit0	1: Speech	ISDN G3 information transfer capability (L3)
	Bit5	1: Keypad facility	Called ID mapping (L3)
SW15	Bit7	1: On	Transmission of STAT in reply to STAT_ENQ received in the U0 state.
SW19	Bit0	1: Permanent	Permanence of the link (L2)
	Bit2	1: On	SPID procedure (L2)
	Bit3	1: On	G4 SPID procedure (L2)

Note: After completing a G4 service mode operation, turn off the machine and turn it back on to make the new settings take effect.

RC	RE	ASIA	
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# Technical Bulletin

**PAGE: 1/3** 

Model: FX4, FX6, FX6MK2, LSO, LSOMK2 Date			e: 15-Dec-97	No: 064	
Subject: Dirty Background			Prepared by: Y.Okunishi		
From: QAC Field	Information Dept.				
Classification:	Troubleshooting	Part inf	al	Servio	n required be manual revision
	Paper path Other ()	Transm	nt/rec	eive 🗌 Retro	fit information

Dirty Background – Causes and Countermeasures

Most dirty background problems in the F/L Series can be divided into two types.

- 1. Toner blocking in the development unit
- 2. Too much toner on the rubber roller. Below please find the characteristics of the two types and the methods to be employed to differentiate between the two.
- 1. Dirty background caused by toner blocking in the development unit ("kattsumari" problem.)

This appears when the toner conentration in the development hopper rises. The toner in the hopper presses against the development blade and this alters the normal contact condition between the development blade and the development roller. The amount of toner adhering to the development roller increases dramatically and leads to dirty background on the copies.

#### **Characteristics**

- a. Position of the dirty background is not consistent.
- b. In extreme cases, dirty background may be closer to black bands.
- 2. Dirty background due to toner adhesion on the rubber roller ("Filming" problem.)

This occurs when there is toner adhesion on the surface of the rubber roller. In extreme cases, creases (wrinkles) appear to exist on the surface of the roller and this may lead to dirty background.

#### **Characteristics**

- a. Position of the dirty background is consistent (60.4 mm pitch).
- b. Dirty background appears as creases or spots.
- c. Occuring more often in blank spaces.

### Technical Bulletin

**PAGE: 2/3** 

Model: FX4, FX6, FX6MK2, LSO, LSOMK2

Date: 15-Dec-97

No: 064

- 3. Differentiating between the types of dirty background
- ① Remove the CTM and the OPC so that you can view the rubber roller.
- ② Compare the copy and the rubber roller check the position of the dirty background and the surface of the rubber roller. (In most cases, the surface of the rubber roller will be exposed because for the section that comes in contact with the OPC, the toner is carried to the OPC side. If the surface of the rubber roller is not visible, gently wipe the toner off the roller with a cloth.)
- ③ If the section of the roller which corresponds with the position of the dirty background on the copy is shiny and appears wrinkled, then you are most likely dealing with Type 2 described above. If there is no filming on the rubber roller which corresponds with the position of the dirty background on the copy, then you are most like dealing with Type 1 described above.
- In the event of filming on the surface of the rubber roller,
- ④ Use a cloth to firmly wipe the section of the area of the roller on which the filming exists. (No need to use alcohol.)
- <sup>(5)</sup> If possible, print out the image 10 times. (Both types of dirty background tend to disappear if the machine is not used for a period of time.)
- <sup>(6)</sup> If the dirty background disappears at this point, then the problem was caused by too much toner on the rubber roller (Type 2).
- In some cases, Type 1 may be suspected because the rubber roller was not wiped thoroughly. Please recheck the condition of the rubber roller.

In the event of Kattsumari (Type 2)

Replace the development unit together with the CTM.

4. Remarks

Sometimes both types of dirty background appear at the same time. In these cases, the main cause is toner blocking in the development unit (Type1). Since Type 2 occurs more often if there is a lot of toner adhering to the development roller, that may cause the filming. Therefore, if filming appears on the surface of the rubber roller, please follow measures 4~7 listed in section #3 above.

Partial filming may also exist. In most cases, filming occurs over the whole circumference of the rubber roller, but instances of partial blanking may also occur. In these cases, even if the machine is opened, the area of filming may not be visible. If there is dirty background at a certain pitch on the copy even though there is no apparent filming, remove the development unit and rotate the motor by hand to check the whole surface of the rubber roller.

(The motor should not be rotated clockwise.)

RIGOH
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Model: FX4, FX6, FX6MK2, LSO, LSOMK2 Date: 15-Dec-97 No: 064

Filming may appear again several thousand copies after the rubber roller is wiped.

So, Ricoh recommends the replacement of the rubber roller if it is in stock.

RC	RE	ASIA	
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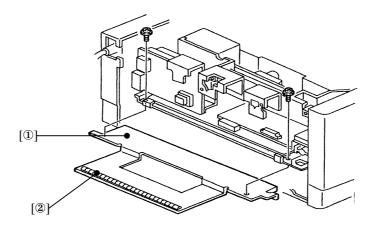
## Technical Bulletin

#### **PAGE: 1/1**

Model: F14, F16, F16MK2, LSO, LSO2, FR6 Date			e: 15-Feb-98	No: Multi - 007	
Subject: Printer I/F Type 200				Prepared by: Y.C	Dkunishi
From: QAC Field	Information Dept.				
Classification:	Troubleshooting	Part inf	orma	tion Action	n required
	Mechanical	Electric	al	🗌 Servi	ce manual revision
	Paper path	Transm	it/rec	eive 🗌 Retro	fit information
	Other ( )				

The following parts have been packed with the PIF since December 1997. They had been packed with the main frame. (No instruction change)

- 1) Grounding Plate Ass'y
  - ① H515 3185 : Grounding Plate
  - 2 H515 3188 : Gasket
- 2) Two screws



Note: This change is not applied for the Siemens FX770/790 yet.

RC	RE	ASIA	
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# Technical Bulletin

**PAGE:**1/4

Model: FX4, FX6, FX6MK2, FX6CD, FR6 Date			e: 15-May-98	No: 065 <b>A</b>		
Subject: Development Unit (A4)				Prepared by: Y.Okunishi		
From: QAC Field	Information Dept.					
Classification:	Troubleshooting	Part inf	ormat	tion 🗌 Actior	n required	
	🛛 Mechanical	Electric	al	Servic	ce manual revision	
	Paper path	Transm	it/rec	eive 🗌 Retro	fit information	
	Other ()					

The A4 development unit was modified to improve the flow of toner in the development unit. See page 2.

\*This modification prevents the Kattsumari problem (vertical gray bands on printouts) caused by blocked toner in the middle of the development unit. The blocked toner bends the toner metering blade. The toner enters the drum area through the gap made by the bent blade. Once in the drum area, the toner collects on the drum and causes gray bands on the printouts.

(The toner flow was improved by the modification in MB F/L Series - 091B.)

#### **Modified parts:** (H515 9570 $\rightarrow$ H515 9571) Development unit

- 1) The toner entrance is smaller to prevent too much toner from dropping into the development unit. [Fig.1]
- 2) The toner hopper film, mentioned in MB no. F/L Series 091B, is stronger to push more toner up to the CTM. [Fig 2]

Note:

Interchangeability is O/O.

You can distinguish the modified development unit by the lot no. printed on the label. See page 3.

#### Modification schedule:

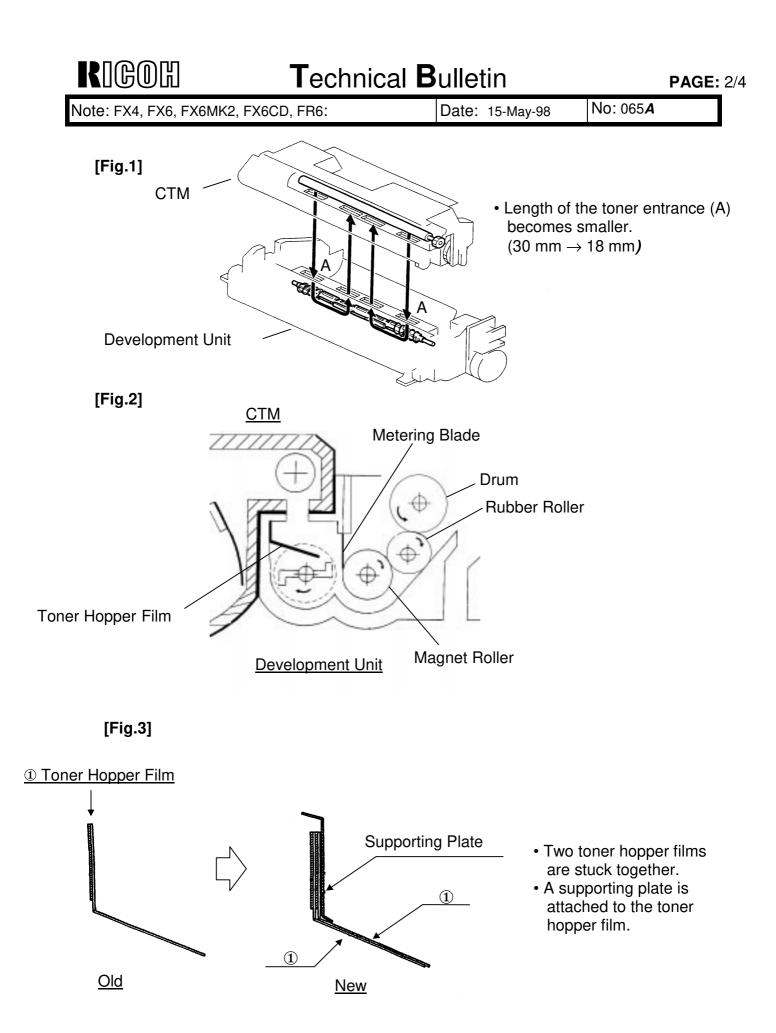
From the mid-February production run except for the FR4.

(FR4 has the new part from the first production.)

See page 4/4.

RC	RE	ASIA	
*	*	*	

Note : Except Taiwan.



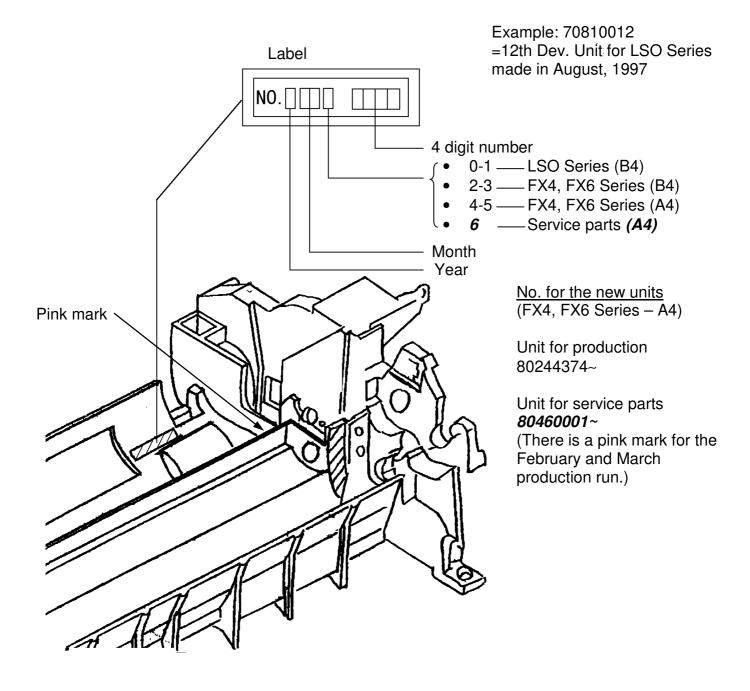


**PAGE:** 3/4

Model: FX4, FX6, FX6MK2, FX6CD, FR6

Date: 15-May-98

No: 065A



**Development Unit** 

# Technical Bulletin

**PAGE:** 4/4

Model: FX4, FX6, FX6MK2, FX6CD, FR6

Date: 15-May-98

98 No: 065**A** 

Model	Product Code	Area	Serial no.	Note
			(First machine)	
FAX 4700L	H515-20	U.S.A	M0480300001	Made in Japan
LANIER FAX 7560	H515-23	U.S.A	L7568037908	Made in Japan
SAVIN FAX 3690	H515-27	U.S.A	1880300001	Made in Japan
OMNIFAX L545	H515-28	U.S.A	L5458034128	Made in Japan
INFOTEC 3675	H515-30	Europe	4830380001	Made in Japan
FAX 4700L	H515-40	Europe	E0580300001	Made in Japan
FAX 4700LF	H515-43	Europe	F2486300001	Made in France
FAX 4700L	H515-51	Asia	A6780300001	Made in Japan
NRG 9768	H515-60	Europe	X148032194	Made in Japan
FAX 2700L	H516-40	Asia	U3380200401	Made in Japan
FAX 2700LF	H516-43	Europe	F2086300072	Made in France
FAX 2700L	H516-51	Asia	A6380200001	Made in Japan
NRG 9763	H516-59	Asia	9648024816	Made in Japan
NRG 9763	H516-60	Europe	9688028768	Made in Japan
NRG 9763F	H516-63	Europe	9638631381	Made in France
FAX 3700L	H526-20	U.S.Á	M1380200886	Made in Japan
NRG 9767	H526-21	U.S.A	X028030721	Made in Japan
SAVINFAX 3680	H526-27	U.S.A	S1580300001	Made in Japan
OMNIFAX L535	H526-28	U.S.A	L5358031267	Made in Japan
INFOTEC 3674F	H526-33	Europe	4846389001	Made in France
INFOTEC 3674	H526-39	Europe	4846380001	Made in France
FAX 3700LF	H526-43	Europe	F2186300001	Made in France
FAX 2700L	H526-49	Europe	U3486300001	Made in France
FAX 3700L	H526-51	Asia	A2080200001	Made in Japan
NRG 9767	H526-59	Asia	X058021206	Made in Japan
NRG 9767	H526-60	Europe	X038027700	Made in Japan
NRG 9767F	H526-63	Europe	X048630001	Made in France
SIEMENS FAX770	H526-80	Europe	GL/98036449	Made in Japan
FAX 3800L	H552-20	U.S.A	M2680300001	Made in Japan
	FAX 4700L         LANIER FAX 7560         SAVIN FAX 3690         OMNIFAX L545         INFOTEC 3675         FAX 4700L         FAX 4700LF         FAX 4700L         FAX 4700L         FAX 2700L         NRG 9763         NRG 9767         SAVINFAX 3680         OMNIFAX L535         INFOTEC 3674F         INFOTEC 3674         FAX 3700L         FAX 3700L         FAX 3700L         NRG 9767         NRG 9767	FAX 4700L         H515-20           LANIER FAX 7560         H515-23           SAVIN FAX 3690         H515-27           OMNIFAX L545         H515-28           INFOTEC 3675         H515-30           FAX 4700L         H515-40           FAX 4700LF         H515-43           FAX 4700L         H515-51           NRG 9768         H515-60           FAX 2700L         H516-40           FAX 2700L         H516-51           NRG 9763         H516-51           NRG 9763         H516-59           NRG 9763         H516-60           NRG 9763         H516-63           FAX 3700L         H526-20           NRG 9767         H526-21           SAVINFAX 3680         H526-27           OMNIFAX L535         H526-28           INFOTEC 3674F         H526-33           INFOTEC 3674F         H526-33           INFOTEC 3674F         H526-49           FAX 3700L         H526-51           NRG 9767         H526-59           NRG 9767         H526-59           NRG 9767         H526-60           NRG 9767         H526-63           SIEMENS FAX770         H526-80	FAX 4700L         H515-20         U.S.A           LANIER FAX 7560         H515-23         U.S.A           SAVIN FAX 3690         H515-27         U.S.A           OMNIFAX L545         H515-28         U.S.A           INFOTEC 3675         H515-30         Europe           FAX 4700L         H515-40         Europe           FAX 4700L         H515-43         Europe           FAX 4700LF         H515-51         Asia           NRG 9768         H515-60         Europe           FAX 2700L         H516-40         Asia           FAX 2700LF         H516-40         Asia           FAX 2700LF         H516-51         Asia           NRG 9763         H516-59         Asia           NRG 9763         H516-60         Europe           NRG 9763         H516-63         Europe           FAX 3700L         H526-20         U.S.A           NRG 9767         H526-21         U.S.A           NRG 9767         H526-23         U.S.A           INFOTEC 3674F         H526-33         Europe           FAX 3700L         H526-33         Europe           FAX 3700L         H526-51         Asia           NRG 9767         H52	FAX 4700L         H515-20         U.S.A         M0480300001           LANIER FAX 7560         H515-23         U.S.A         L7568037908           SAVIN FAX 3690         H515-27         U.S.A         188030001           OMNIFAX L545         H515-28         U.S.A         L5458034128           INFOTEC 3675         H515-30         Europe         4830380001           FAX 4700L         H515-40         Europe         E0580300001           FAX 4700L         H515-51         Asia         A6780300001           FAX 4700L         H515-51         Asia         A6780300001           FAX 4700L         H515-51         Asia         A6780300001           NRG 9768         H515-60         Europe         X148032194           FAX 2700L         H516-41         Asia         U3380200401           FAX 2700L         H516-51         Asia         A6380200001           FAX 2700L         H516-51         Asia         A6380200001           FAX 2700L         H516-51         Asia         A6380200001           FAX 2700L         H516-51         Asia         A638024816           NRG 9763         H516-60         Europe         9638631381           FAX 3700L         H526-20 <t< td=""></t<>

The new parts will be installed in the models not listed above from the March or later production runs.

# Technical Bulletin

Model: General Date			:e: 29-May-98		No: 015	
Subject: Polarity Detection (Additional Bit Switch)			Prepared by:	K. I	Visugi	
From: Technical Service Department.						
Classification:	☑ Troubleshooting	Part inf	orma	tion 🗌 A	ctior	n required
	🗌 Mechanical	Electric	al	$\boxtimes$ S	ervio	ce manual revision
	Paper path	Transm	it/rec	eive 🗌 R	etro	fit information
	Other ( )					

### SYMPTOM

This RTB is to clarify the symptom for the following error code. Error code 0-52: Polarity change detected during communication.

### CAUSE

Polarity change is detected during communication and the machine disconnects the line in the following conditions (error code 0-52).

- When the machine is at the Rx side (receiving a message) and when G3 bit switch 0B bit 1 (Protocol requirements: Spain) is set to 1 (Enabled). The machine immediately disconnects the line when it detects polarity change after receiving DIS/NSF.
- When the machine is at the Tx side (transmitting a message) and when G3 bit switch 03 bit 7 is set to 1.
   The machine immediately disconnects the line if it detects polarity change twice after

The machine immediately disconnects the line if it detects polarity change twice after receiving DIS/NSF.

<b>NOTE:</b> The following explanation must be added to the service manual.
(All F/L series: FX6, FX6Mk2, FX4, FX7, LX7, LSO, LSOMk2, LFO, FR6, FR4)

G3 S	G3 Switch 03							
No	FUNCTION	COMMENTS						
7	Polarity detection during communication 0: Disabled 1: Enabled	1: The machine disconnects the line when it detects polarity change twice after receiving DIS/NSF. This detection is enabled only when the machine is in Tx mode.						

RC	RE	ASIA	
$\checkmark$	$\checkmark$	$\checkmark$	

# Technical Bulletin

Model: FX4			Date	e: 30-Nov-98	No: F/L Series - 066
Subject: Drum Replacement Level Setting				Prepared by: K. I	Misugi
From: Technical Service Department.					
Classification:	Troubleshooting	Part inf	orma	tion 🗌 Actior	n required
	Mechanical	Electric	al	🖂 Servi	ce manual revision
	Paper path	🗌 Transm	nit/rec	eive 🗌 Retro	fit information
	Other ()				

This RTB is to correct information in the FX4 service manual.

System Bit Switch 04: bit 5:

Wrong	
-------	--

Syst	em Switch 04	
No	FUNCTION	COMMENTS
5	Drum replacement level 0: User 1: Service	<ul> <li>0: The machine asks the user to replace the drum at 30,000 print intervals (default interval). After the user replaces the drum, the machine asks the user if the drum has been replaced or not. If the user answers yes, the machine resets the OPC counter to zero. The drum replacement interval is programmed at addresses 480228 to 48022A(H). Refer to section 4.5 for more details.</li> <li>1: The machine will not ask the user to replace the drum.</li> </ul>

#### Correct

Drum replacement level:

0: Service (The machine will not ask the user to replace the drum.)

1: User (The machine asks the user to replace the drum.)

The descriptions of the settings for "0" and "1" are inverted.

Since the default setting is "0," the machine will not ask the user to replace the drum.

RC	RE	ASIA	
~	~	~	

# Technical Bulletin

**PAGE:1/1** 

Model: FX6, FX6Mk2, FX6CD, LSO, LSOMk2			Dat	e: 15-Mar-99	No.: 67
Subject: Corrections to SC Codes and Error Codes			Prepared by: Y. Okunishi		
From: GTSS Field	d Information Dept.				
Classification:	Troubleshooting	Part information		ion Action required	
	🗌 Mechanical	Electric	al	Servic	e manual revision
	Paper path	aper path 🗌 Transmit/rec		eive Retrofit information	
	Other ( )				

The machine displays SC code 2-11 and error code 9-20 but they are incorrect.

They should be SC code 1-11 and error code 9-17 and the meaning is "electrical leakage from the charge corona unit".

The following are recommended for troubleshooting.

- 1) Power pack replacement
- 2) CTM replacement
- 3) Checking the connection between the CTM, OPC, and the main frame
- 4) Checking the electrical path from the power pack

RC	REBV	ASIA	
*	*	*	

### Technical Bulletin

**PAGE: 1/1** 

Reissued: 15-Jul-99

Model: LFO (LSO)

Date: 15-Mar-99

No.: RA523017a

#### **RTB** Correction

The items in bold italics have been corrected or added.

Subject: Error Co	odes	Prepare	d by: Y. Tamaoka	
From: GTSS Field	d Information Dept.			
Classification:	<ul> <li>Troubleshooting</li> <li>Mechanical</li> <li>Paper path</li> <li>Other ()</li> </ul>	<ul> <li>Part informa</li> <li>Electrical</li> <li>Transmit/rec</li> </ul>		<ul> <li>Action required</li> <li>Service manual revision</li> <li>Retrofit information</li> </ul>

The following error codes are missing from the manual.

- 9-90 The home position sensor does not turn on when the scanner carriage returns to the home position
- 9-91 The home position sensor does not turn off when starting book scanning mode
- 9-92 The home position sensor does not turn on in scanner carriage detection mode
- 9-93 The home position sensor does not turn off in scanner carriage detection mode
- 9-94 The scanner carriage is not in the right position to start ADF scanning mode

\*Some of these codes appear on the LSO too.

#### Suggested cause/action

Check the book scanner motor, drive mechanism, and home position sensor.

RC	REBV	ASIA	
*	*	*	

### Technical Bulletin

#### **PAGE: 1/1**

Model: ISDN Op	tion (FX4/FR4)	Dat	e: 31-May-99	No.: RH551014	
Subject: ISDN Option Component List				Prepared by: Y. (	Okunishi
From: GTSS Fiel	d Information Dept.				
Classification:	Troubleshooting	Part inf	orma	tion Action	required
	Mechanical	Electric	al	Servic	e manual revision
	Paper path	Transm	nit/rec	eive 🗌 Retro	fit information
	🛛 Other ( )				

#### Components of the ISDN Option for FX4 and FR4

P/N	Description	FX4 FR4			Parts C	Parts Catalog	
		Eur/Asia	US	Eur/Asia	US	Index	Page
H0826035	PCB - CIG4	0	Х	0	Х	1	33
H0826034	PCB - CIG4	Х	0	Х	0	1	33
H1434313	Installation	0	0	Х	Х	N	
	Manual						
H1434314	Installation	Х	Х	0	0	N	
	Manual						
H1435701	ISDN Harness	0	0	0	0	3	33
H5134102	Decal – ISDN	0	0	0	0	2	33
H5153149	Board Bracket	0	0	0	0	5	33
H5153183	Bracket – 1	0	Х	0	0	Ν	
H5153184	Bracket – 2	0	Х	0	Х	Ν	
H5153186	Ground Plate	0	Х	0	0	N	
H5155014	Grounding Harness	0	0	0	0	4	33
H5155203	PCB – G4 IF	0	0	0	0	6	33
H5158675	Decal – CE	0	Х	0	Х	N	
04523012Z	Cramp	0	0	0	0	Α	
09513006B	Screw – M3x6	0	0	0	0	Ν	
H1433333	Bracket – 3	Х	Х	0	0	N	
H1433335	Grounding Clip	Х	Х	0	0	N	
H1435300	Flat Cable	Х	Х	0	0	Α	
H5155014	Grounding Cord	Х	Х	0	Х	N	
H5516020	PCB – OPIF	Х	Х	0	0	А	

O: Used, X: Not used,

A: The part is registered in the SPC system but not in the catalog,

N: The part is not available.

Note: H0826036 in the catalog is not correct. It should be H0826034.

RC	REBV	ASIA	
*	*	*	

### Technical Bulletin

#### PAGE: 1/17

Model: General			Dat	e: 31-Jan-00	No.: RGene004
Subject: CiG4 Switches and Software Version Prepared by: K. Misugi					Misugi
From: Technical	Services Dept., GTS Division				
Classification:	Troubleshooting	Part inform		tion 🗌 Actio	n required
	🗌 Mechanical	Electric	al	🛛 Servi	ce manual revision
	Paper path	Transm	it/rec	eive 🗌 Retro	fit information
	Other ( )				

The new software will be released for the CiG4 unit to provide new functions for ISDN comunication. This RTB clarifies the new switches and their software version.

Please note that the CiG4 unit is being used in the FX4 and FR4 fax machines, and in the Adam, NAD, Stinger-C, and Russian-C copiers.

#### NOTE:

The software versions which enable each switch are listed in the "NOTE" column. Otherwise, functions are available from the first production of the G4 unit for the above machines.

#### Release date:

Version 0B: '97. November (at the same time as the fax FR4 release) Version 0F: '00. March

#### 

Do not adjust a bit switch that is described as "Not used", as this may cause the machine to malfunction or to operate in a manner that is not accepted by local regulations.

#### Important:

In the CiG4 unit, after changing any of the bit switches, turn off the machine, wait for 5 seconds or more, and turn it back on, so that the new settings take effect.

#### 1. G4 Internal Switches

Bit S	Bit Switch 00						
		FUNCTION			ON	COMMENTS	NOTE
	Countr	у сс	bde				
0 to 7	0 1 1	0 0 1 In (	0 0 0 0 Gerr	0 1 0 1 nan	1 0 1 1 y, u:	Country Germany (1TR6 mode) Universal (Europe Euro ISDN) USA Taiwan se the Universal setting for the Euro ISDN lines. the Taiwan setting for firmware version 0D or later.	

Bit switches 01 and 02 are not used. Do not change the settings.



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Model: General

Date: 31-Jan-00

Bit Switch 03					
	FUNCTION	COMMENTS	NOTE		
0	Amount of protocol dump data in one protocol dump list <b>0:</b> Last communication only <b>1:</b> Up to the limit of the memory area for protocol dumping	Change this bit to 0 if you want to have a protocol dump list of the last communication only. This bit is only effective for the dump list D + Bch1.			
1-7	Not used	Do not change the settings.			

Bit S	witch 04		
	FUNCTION	COMMENTS	NOTE
0-2	Not used	Do not change the settings.	
3	Auto data rate change for transmission (64 kbps to 56 kbps) <b>0:</b> On <b>1:</b> Off	<b>0:</b> The machine automatically changes the transmission data rate from 64 kbps to 56 kbps after 3 s if the other end did not accept the call. This is to cope with 56 kbps networks in the USA. Normally, keep this bit at 0.	
4	Auto data rate change for reception (64 kbps to 56 kbps) 0: Off 1: On	1: The machine automatically changes the reception data after 6 s. Change this bit to 1 only when there is a communication error where the other terminal informs 64 kbps in the SETUP signal although it is actually 56 kbps.	
5	RCBCTR 0: Not valid 1: Valid	<ul> <li>This bit is used in Germany; set it to 1 for German FTZ approval tests.</li> <li>1: RCBCTR counts consecutive R:RNR signals. If the counter reaches the value of N2, the link is disconnected.</li> </ul>	
6-7	Not used	Do not change the settings.	

Bit Switch 05						
	FUNCTION	COMMENTS	NOTE			
0	Not used	Do not change the settings.				
1	Logical channel number (LCN) 0: Not controlled 1: Fixed at 01	Keep this bit normally at 0. However, some networks may require a fixed LCN. In such cases, this bit should be 1, and you may have to set a different value for the LCN using G4 Parameter Switch A.				
2	Protocol ID check 0: Yes 1: No	The Protocol ID is in the CR packet.				
3-7	Not used	Do not change the settings.				



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Model: General

Date: 31-Jan-00

No.: RGene004

Bit Switch 06						
	FUNCTION	COMMENTS	NOTE			
0	Inclusion of the DTE address in the S:CR packet <b>0:</b> No <b>1:</b> Yes	Normally, do not change the setting. When the CR packet format matches ISO8208 protocol, some networks may require this bit to be set at 1. This bit is only effective if bit 0 of G4 Parameter switch 6 is at 0.				
1	Calling and called DTE addresses <b>0:</b> Not used <b>1:</b> Used	Normally, do not change the setting. This is only for packet networks. The CR packet should contain the rx side's DTE address, but does not have to include the tx side's; it can include it as an option.				
2-7	Not used	Do not change the settings.				

Bit switch 07 and 08 are not used.

Bit S	Bit Switch 09						
	FUNCTION	COMMENTS	NOTE				
0	Not used	Do not change the settings.					
1	New session within the same call <b>0:</b> Not accepted <b>1:</b> Accepted	<ul> <li>0: If a new R:CSS is received, the machine sends back S:RSSN.</li> <li>1: If a new R:CSS is received, the machine sends back S:RSSP. Set this bit to 1 for German PTT (FTZ) approval tests.</li> </ul>					
2-7	Not used	Do not change the settings.					

Bit switches 0A to 0F are not used. Do not change the settings.



Model: General

Date: 31-Jan-00

No.: RGene004

Bit S	Bit Switch 10			
	FUNCTION	COMMENTS	NOTE	
0	Not used	Do not change the settings.		
1 2	Layer 1 T3 timer <b>Bit 2 1 Time</b> 0 0 5 s 0 1 29 s 1 0 10 s 1 1 Not used	This should be kept at 5 s (both bits at 0) for normal operation.		
3	Layer 1 T4 timer <b>0:</b> Not used <b>1:</b> Used	Set this bit to 1 for French PTT approval tests.		
4-5	Not used	Do not change the settings.		
6	INFO1 signal resend 0: Resend 1: No resend	0: Some DSUs may not reply to the INFO1 signal with INFO2, if there is noise in the INFO1 signal accidentally. Try changing this bit to 0, to resend INFO1 before the machine displays "CHECK INTERFACE".		
7	Loop back 4 mode 0: Disabled 1: Enabled	Normally, keep this bit at 0.		

Bit S	Bit Switch 11			
	FUNCTION	COMMENTS	NOTE	
0	Not used	Do not change the settings.		
1	Type of TEI used <b>0:</b> Dynamic TEI <b>1:</b> Static TEI	This is normally fixed at 0. However, some networks such as the Northern Telecom ISDN may require this bit to be set at 1 (see below). In this case, you may have to change the values of bits 2 to 7.		
2 7	Static TEI value	This is used in the USA with the DMS100 (Northern Telecom ISDN) exchanger. Store the lowest bit of the TEI at bit 7 and the highest bit of the TEI at bit 2. <b>Example:</b> If the static TEI is 011000, set bits 3 and 4 to 1 and bits 2, 5, 6, and 7 to 0.		

Bit switch 12 is not used. Do not change the settings.



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Model: General

Date: 31-Jan-00

No.: RGene004

Bit S	Bit Switch 13			
	FUNCTION	COMMENTS	NOTE	
0-1	Not used	Do not change the settings.		
2	Attachment of calling ID 0: No 1: Yes	Normally, this bit should be at 0, because most networks add the calling ID to the SETUP signal to the receiver. However, some networks may require the machine to add this ID. Only in this case should this bit be at 1.		
3	Attachment of the Lower Layer Capabilities <b>0:</b> No <b>1:</b> Yes	This bit determines whether Lower Layer Capabilities are informed in the [SETUP] signal. Keep this bit at 0 in most cases.		
4	Attachment of the Higher Layer Capabilities <b>0:</b> Yes <b>1:</b> No	This bit determines whether Higher Layer Capabilities are informed in the [SETUP] signal or not. Keep this bit at 0 in most cases.		
5	Attachment of the channel information element (CONN) <b>0:</b> No <b>1:</b> Yes	Keep this bit at 0 in most cases.		
6	Attachment of the Higher Layer Capabilities for ISDN G3 transmission <b>0:</b> Same as the bit 4 setting <b>1:</b> Not attached	This bit determines whether Higher Layer Capabilities are informed in the [SETUP] signal for ISDN G3 transmission. This switch is effective in coping with communication problems with some types of T/A and PBX which do not respond to Higher Layer Capability "G3." When this bit is set to 0, the setting depends on the setting of bit 4.	Ver. 0B	
7	Condition for fallback from G4 to G3 <b>0:</b> Refer to the CPS code setting <b>1:</b> Fallback in response to any CPS code	<b>0:</b> Fallback occurs when a CPS code is the same as the CPS code settings specified by G4 internal switches 17, 18, 1A, 1B, and 1C. If you wish to enable fallback when any CPS code is detected, set this bit to "1." This switch is effective in coping with fallback problems where the CPS code does not match those specified in the ITU-T recommendation.	Ver. 0F	

**NOTE:** CiG4 software version 0F will be released from '00. March production.



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Model: General

Date: 31-Jan-00

Bit S	Bit Switch 14			
	FUNCTION	COMMENTS	NOTE	
0	ISDN G3 information transfer capability <b>0:</b> 3.1 kHz audio <b>1:</b> Speech	In tx mode, this determines the information transfer capability informed in the [SETUP] message. In rx mode, this determines the information transfer capability that the machine can use to receive a call. Set this bit to 1 if the ISDN does not support 3.1 kHz audio.		
1-2	Not used	Do not change the settings.		
3 4	Channel selection in [SETUP] in tx mode Bit 4 3 Setting 0 0 Any channel 0 1 B1 channel 1 0 B2 channel 1 1 Not used	<b>Any channel:</b> When this is informed to the exchanger, the exchanger will select either B1 or B2.		
5	Called ID mapping <b>0:</b> Called party number <b>1:</b> Keypad facility	<ul> <li>0: Called ID is mapped to the called party number.</li> <li>1: Called ID is mapped to the keypad facility. On the 5ESS network (USA), set it to 1.</li> </ul>		
6	Numbering plan for the called party number <b>0:</b> Unknown <b>1:</b> E.164	<ul><li>E.164: This may be used in Sweden if an AXE10 exchanger is fitted with old software, and in Australia.</li><li>Unknown: This is the normal setting.</li></ul>		
7	Subaddress coding type <b>0:</b> IA5 (NSAP) <b>1:</b> BCD (ISO8348)	This is normally kept at 0. However, some networks require this bit to be at 1.		



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Model: General

Б

Date: 31-Jan-00

Bit Switch 15			
	FUNCTION	COMMENTS	NOTE
0	Action when receiving a [SETUP] signal containing no called subaddress, if the subaddress was programmed in the dialed number <b>0:</b> A reply is sent <b>1:</b> No reply is sent	This bit depends on user requirements. If it is at 1, communication will be halted if the other terminal has not input the subaddress.	
1-3	Not used	Do not change the settings	
4	Action when the received Higher Layer Capabilities is Tel or Bearer Capabilities is Speech <b>0:</b> Do not respond to the call <b>1:</b> Respond to the call	1: This switch is effective in coping with communication problems when the received Higher Layer Capabilities is Tel or Bearer Capabilities is Speech for ISDN G3 communication.	Ver. 0B
5	Global call reference 0: Ignored 1: Global call number is used	Global call reference means 'call reference value = 0'. This bit determines how to deal with such an incoming call if received from the network. Keep this bit at 1 for Germany 1TR6.	
6-7	Not used	Do not change the settings.	



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Model: General

Date: 31-Jan-00

Bit S	Bit Switch 16			
	FUNCTION	COMMENTS	NOTE	
0	Answer delay time Bit 1 0 Setting 0 0 No delay 0 1 1.0 s delayed (1TR6) 1 0 0.5 s delayed 1 1 Not used	For Germany 1TR6, a time delay for answering calls is required. In other countries, use this switch as follows: If the machine is connected to the same bus from the DSU as a model K200 is connected, the machine receives most of the calls because the response time to a call is faster than the K200. If the customer wants the K200 to receive most of the calls, adjust the response time using these bits. If the customer does not want one machine to receive most of the calls, use subaddresses to identify each terminal.		
2	Action when receiving a [SETUP] signal containing user-specific called party subaddress <b>0:</b> Ignores the call <b>1:</b> Receives the call	Normally, the 3rd octet of called party subaddress information in the [SETUP] signal is set to NSAP. However, some networks may add a "user-specific" subaddress to the [SETUP] signal, and as a result the machine won't answer the call if a subaddress is specified. So, change this bit to 1 to let the machine receive the call if the machine is connected to such a network.		
3-4	Not used	Do not change the settings.		
5	Indicated bearer capabilities 0: 56 kbps 1: 64 kbps	1: 64 kbps calling is indicated in the Bearer Capabilities, but communication is at 56 k. Use this bit if the machine is connected to a network which does not accept a 56 kbps data transfer rate as a bearer capability.		
6	Not used	Do not change the settings.		
7	Transfer capabilities (SI) informed in 1TR6 ISDN G3 transmission 0: G3 Fax 1: Analog	This bit determines the transfer capabilities informed in the Service Indicator for 1TR6 ISDN G3 transmission. This switch is effective in coping with communication problems with some types of T/A and PBX.		



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Model: General

Date: 31-Jan-00

No.: RGene004

Bit Switch 16			
	FUNCTION	COMMENTS	NOTE
0-6	Examples: Bit 6 5 4 3 2 1 0 1 0 0 0 0 1 CPS code 65 1 0 1 1 0 0 0 CPS code 88 For the codes in bits 0 to 6 of bit switches 17 and 18 to be recognized, bit 7 of		
7	<ul> <li>bit switch 17 must be 1. Also, bit 0 of the Communication Switch 07 must be at 0, or Fallback from G4 to G3 will be disabled.</li> <li>This bit determines whether fallback from G4 to G3 occurs on receipt of one of the CPS codes programmed in bit switch 17 or 18, or on receipt of a certain standard code.</li> <li><b>0:</b> Fallback occurs on receipt of any of the following CPS codes: Universal (Euro ISDN) - #3, #18, #57, #58, # 63, # 65, #79, #88, and #127 Germany 1TR6 mode - #3, #53, #58, and #90 Others - #3, #65, and #88</li> <li><b>1:</b> Fallback from G4 to G3 occurs on receipt any of above CPS codes or one of the CPS codes programmed in bit switch 17, 18, 1A, 1B, or 1C</li> </ul>		

Bit S	Bit Switch 18			
	FUNCTION	COMMENTS	NOTE	
0-6	Condition for fallback from G4 to	G3		
0-0	See the explanation for bits 0 to	6 of bit switch 17		
7	<ul> <li>See the explanation for bits 0 to 6 of bit switch 17</li> <li>This bit helps to choose the CPS code set for G4 to G3 fallback.</li> <li>0: Fallback occurs on receipt of the CPS code set which is specified by the country code setting.</li> <li>7 1: Fallback occurs on receipt of the Universal CPS code set (#3, #18, #57, #58, # 63, # 65, #79, #88, and #127) even if another country code is programmed. If bit switch 17 bit 7 is "1", fallback occurs on receipt of the Universal CPS code set or one of the CPS codes programmed in bit switches 17, 18, 1A, 1B, or 1C.</li> </ul>			

#### G4 to G3 fallback

Bit 0 of Communication Switch 07 must be at 0, or fallback from G4 to G3 will be disabled.

The CPS codes for which fallback occurs are decided as follows.

• G4 bit switch 17, bit 7 - If set to "0", fallback occurs on receipt of a code from a set that depends on the country code. If set to "1", fallback occurs for the 5 CPS codes programmed in bits 0 to 6 of G4 bit switches 17, 18, 1A, 1B, and 1C, in addition to the country code set.



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Bit S	Bit Switch 19			
	FUNCTION	COMMENTS	NOTE	
0	Permanence of the link <b>0:</b> Set/released each LAPD call <b>1:</b> Permanent	Keep this at 1 in the USA. In other areas, this bit is normally 0, depending on network requirements.		
1	Channel used in ISDN L2 (64k) mode <b>0:</b> B1 <b>1:</b> B2	When making an IDSN L2 back-to-back test, you can select either the B1 or B2 channel with this bit switch.		
2-7	Not used	Do not change the factory settings.		

Bit Switch 1A: CPS Code Used for G4 to G3 Fallback - 3			
	FUNCTION COMMENTS NOTE		
0-6	Condition for fallback from G4 to G3 See the explanation for bits 0 to 6 of bit switch 17.		
7	Not used	Do not change the factory settings.	

Bit Switch 1B: CPS Code Used for G4 to G3 Fallback - 4				
	FUNCTION COMMENTS NOTE			
0-6	Condition for fallback from G4 to G3 See the explanation for bits 0 to 6 of bit switch 17.			
7	Not used	Do not change the factory settings.		

Bit Switch 1C: CPS Code Used for G4 to G3 Fallback - 5				
	FUNCTION COMMENTS NOTE			
0-6	Condition for fallback from G4 to G3 See the explanation for bits 0 to 6 of bit switch 17.			
7	Not used	Do not change the factory settings.		

Bit switches 1D to 1F are not used. Do not change any of the settings.



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### 2. G4 Parameter Switches

Para	Parameter Switch 00			
	FUNCTION	COMMENTS	NOTE	
0	Network type Bit 2 1 0 Type	Do not change the default setting.		
1	x 0 0 Circuit switched ISDN			
2	Other settings: Not used			
3-7	Not used	Do not change the default settings.		

Parameter Switch 01					
	F	UNCTION		COMMENTS	NOTE
0	Voice codir <b>0:</b> μ law	ng		<ul><li>0: This setting is used in USA.</li><li>1: This setting is used in Europe and Asia.</li></ul>	
U	<b>1:</b> A law			1. This setting is used in Europe and Asia.	
1	without HLC 0: Respond	n a [SETUP] C is received I to the call ond to the ca	C	If there are several TEs on the same bus and the machine responds to calls for another TE, the call may be without HLC information. Identify the type of calling terminal and change this bit to 1 if the caller is not a fax machine.	
2-3	Not used			Do not change the default settings.	
4	Signal attenuation level for G3 fax signals received from an ISDN line. If an analog signal comes over an digital line, the signal level after decoding by the TE is theorically the same as the level at the entrance to the digital line. However, this sometimes causes the received signal level to be too high at the received end. In this case, adjust the decoded signal's attenuation level using these switches. The values in the "Codec" column below show the attenuation level at the G4 interface board. The values in the "Modem" column show the actual attenuation level at the modem, because the signal is attenuated again on the MFCE by - 6dB.				
6	1 0	0 -0.5dB	-10.5dB -8.5dB -6.5dB -4.5dB -2.5dB -0.5dB +1.5dB	(default setting)	
7	Not used			Do not change the default settings.	



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Para	Parameter Switch 02			
	FUNCTION	COMMENTS	NOTE	
0 1	Data rate (kbps) Bit 1 0 Setting 0 0 64 kbps 0 1 56 kbps	Other settings: Not used		
2-3	Not used	Do not change the default settings.		
4 5	Transmission mode Bit 5 4 Mode 0 0 CS	Normally, do not change the seting.		
6-7	Not used	Do not change the default settings.		

Para	Parameter Switch 03				
	FUNCTION	COMMENTS	NOTE		
	Link modulus	Keep this bit at 0 in most cases.			
	<b>0:</b> 8 <b>1:</b> 128	This setting determines whether protocol			
0		frame numbering is done using 3 bits (0 to 7			
U		then start again at 0) or 7 bits (0 to 127 then			
		start again at 0). Set this bit switch to match			
		the network's specifications.			
1-7	Not used	Do not change the default settings.			

Parameter Switch 04 is not used. Do not change any of the settings.

Para	Parameter Switch 05			
	FUNCTION	COMMENTS	NOTE	
0 1 2 3	Link timer (D-channel layer 2 T1 timer) Bit 3 2 1 0 Value 0 0 0 0 0 s 0 0 0 1 1 s 0 0 1 0 2 s and so on until 1 0 1 0 10 s	Normally, do not change the setting. The link timer is the maximum allowable time between sending a protocol frame and receiving a response frame from the remote terminal.		
4	B-channel T3 timer <b>0:</b> 30s <b>1:</b> 57s	<ul> <li>1: This switch is useful when used in combination with communication switch 07 bit</li> <li>4. This is to cope with communication problems where G4 communication fails on the ISDN B-channel.</li> </ul>	Ver. 0F	
5-7	Not used	Do not change the default settings.		

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Para	Parameter Switch 06			
	FUNCTION	COMMENTS	NOTE	
0	Layer 3 protocol 0: ISO8208 1: T.70NULL	Set this bit to match the type of layer 3 signalling used by the ISDN. The dedicated parameters have the same setting for specific destinations.		
1-3	Not used	Do not change the settings.		
4	Packet modulus 0:8 1:128	Do not change the default setting, unless the machine is experiencing compatibility problems.		
5-7	Not used	Do not change the settings.		

Para	Parameter Switch 07			
	FUNCTION	COMMENTS	NOTE	
0 1 2 3	Packet size Bit 3 2 1 0 Value 0 1 1 1 128 1 0 0 0 256 1 0 0 1 512 1 0 1 0 1024 1 0 1 1 2048	This value is sent in the CR packet. This value must match the value stored in the other terminal, or communication will stop (CI will be returned). If the other end returns CI, check the value of the packet window size with the other party. Note that this value must be the same as the value programmed for the transport block size (G4 Parameter Switch 0B, bits 0 to 3). Normally, do not change the default setting.		
4-7	Not used	Do not change the settings.		

Para	Parameter Switch 08			
	FUNCTION	COMMENTS	NOTE	
	Packet window size	This is the maximum number of		
0	Bit 3 2 1 0 Value	unacknowledged packets that the machine		
1	00011	can send out before having to pause and wait		
2	00102	for an acknowledgement from the other end.		
3	and so on until			
	1 1 1 1 15	Normally this should be kept at 7.		
4-7	Not used	Do not change the settings.		

Para	Parameter Switch 09				
	FUNCTION	COMMENTS	NOTE		
0 1 2 3	LCGN Bit 3 2 1 0 Value 0 0 0 0 0 0 0 0 1 1 0 0 1 0 2 and so on until 1 1 1 1 15	Keep the value of the LCGN at 0.			
4-7	Not used	Do not change the settings.			



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Para	Parameter Switch 0A			
	FUNCTION	COMMENTS	NOTE	
0-7	LCN Bit 7 6 5 4 3 2 1 0 Value 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 1 0 2 0 0 0 0 0 0 1 1 3 and so on until 1 1 1 1 1 1 1 1 255	Keep at the value of the LCN at 1.		

Para	Parameter Switch 0B				
	FUNCTION	COMMENTS	NOTE		
0 1 2 3	Transport block size Bit 3 2 1 0 Value 0 1 1 1 128 1 0 0 0 256 1 0 0 1 512 1 0 1 0 1024 1 0 1 1 2048	This value must match the value set in the other terminal. Note that this value must be the same as the value programmed for the packet size (G4 Parameter Switch 7, bits 0 to 3). Also, the transport block size is limited by the amount of memory in the remote terminal.			
4-7	Not used	Do not change the settings.			

Parameter Switch 0C is not used. Do not change any of the settings.

Para	Parameter Switch 0D			
	FUNCTION	COMMENTS	NOTE	
0	Back-to-back test mode Bit 1 0 Setting 0 0 Off 1 0 ISDN L2 test mode (TE mode) Other settings - Not used	<ul> <li>When doing a back-to-back test or doing a demonstration without a line simulator, use these bits to set up one of the machines in TE mode, and the other in NT mode</li> <li>Please note that this machine can only be set to TE mode.</li> <li>After the test, return both bits to 0.</li> <li>See "Back-to-back Testing" in the Troubleshooting section of the srrvice manual for full details.</li> </ul>		
2-7	Not used	Do not change the settings.		



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Para	Parameter Switch 0E					
	FUNCTION	COMMENTS	NOTE			
0	Troubleshooing mode - real time status codes display <b>0:</b> Off <b>1:</b> On	If this is switched on, the status codes will be displayed in the lower two lines of the LCD. These codes are explained in the Troubleshooting section (G4CCU Status Codes) of the service manual. Change this bit back to 0 after testing.				
1	Saving frames to the protocol dump list <b>0:</b> Off <b>1:</b> On	Keep this bit at 1 normally.				
2-7	Not used	Do not change the settings.				

Parameter Switch 0F is not used. Do not change any of the settings.

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### **3. DEDICATED TRANSMISSION PARAMETERS**

The following G4 communication parameter bytes have been added for each Quick Dial and Speed Dial.

Swite	Switch 07				
	FUNCTION	NOTE			
0 1 2 3 4-7	Data rate Bit 3 2 1 0 Setting 0 0 0 64 kbps 0 0 1 56 kbps 1 1 1 1 As in Parameter Switch 2, bits 0 and 1 Other settings: Not used Not used. Do not change the settings.				

Swite	Switch 08				
	FUNCTION	NOTE			
0 1 2 3	Link modulus Bit 3 2 1 0 Setting 0 0 0 0 Modulo 8 0 0 0 1 Modulo 128 1 1 1 1 As in Parameter Switch 3, bit 0 Other settings: Not used				
4-7	Not used. Do not change the settings.				

Swite	Switch 09				
	FUNCTION	NOTE			
0 1 2 3	Layer 3 protocol Bit 3 2 1 0 Setting 0 0 0 0 IS.8208 0 0 0 1 T.70 NULL 1 1 1 As in Parameter Switch 6, bit 0 Other settings: Not used				
4-7	Not used. Do not change the settings.				



Model: General

Date: 31-Jan-00

No.: RGene004

### **4. OTHER RELATED SWITCHES**

The following switches have been added to the mainframe switches (or fax board switches for MFPs), in relation to ISDN G4 communication.

С	Communication Switch 07					
		FUNCTION	COMMENTS	NOTE		
	3	Fallback from G4 to G3 reflected in programmed Quick/Speed dials 0: Fallback enabled (Default) 1: Always start with G4	<ul> <li>0: If a communication falls back from G4 to G3, the machine will always start transmission with G3 from the next communication.</li> <li>1: The machine will always start to transmit with G4.</li> </ul>	See the following		
	4	Fallback from G4 to G3 when G4 communication fails on the ISDN B-channel <b>0:</b> Fallback disabled (Default) <b>1:</b> Fallback enabled	1: Enable this switch only when G4 communication errors occur because the exchanger connects G4 calls to the PSTN. This problem only occurs with some types of exchanger.	table		

#### Software versions for each machine

Communication Switch 07							
	FUNCTION	FX4	FR4	Adam	NAD	Stinger	Russian
3	Fallback from G4 to G3 reflected in programmed Quick/Speed dials <b>0:</b> Fallback enabled (Default) <b>1:</b> Always start with G4	N/A	Availa- ble	N/A	N/A	Available	Available
4	Fallback from G4 to G3 when G4 communication fails on the ISDN B-channel <b>0:</b> Fallback disabled (Default) <b>1:</b> Fallback enabled	N/A	Availa- ble	Ver. 1.75 or later	Ver. 5.01 or later	Available	Available

N/A: Function is not available

## Technical Bulletin

Model: FX6Mk2		Dat	te: 29-Feb-00	No.: RH515068	
Subject: Firmwar	e modification		Prepared by: Y. Okunishi		
From: Technical Services Dept., GTS Division					
Classification: Troubleshooting		Part information		tion Act	ion required
	🗌 Mechanical	Electric	al	Ser	vice manual revision
	Paper path	🗌 Transm	iit/rec	eive 🗌 Re	trofit information
	Other ( )				

#### **Firmware**

#### Reason

Correction of software bugs:

- 1) When the time designated transmission function (Send Later) is used on December 31 of a leap year, the machine starts dialing right away instead of waiting until the specified time.
- 2) When time designated transmission is used on Dec. 31 of a year preceding a leap year, dialing starts 24 hours after the specified time.
- 3) For the following dates, time designated transmission does not dial at the specified time:
  - Dec. 28 to 30, 2000 Dec. 28 to 30, 2001 Dec. 28 to 30, 2002 Dec. 28 to 30, 2003 Dec. 27 to 30, 2004 Dec. 27 to 30, 2005 Dec. 27 to 30, 2006 Dec. 27 to 30, 2007
- 4) The image data in the SAF card is erased when the following 3 conditions are met:
  - a) The 2M SAF Option is installed
  - b) Image data is stored in the first block of the SAF memory (Image data stored when the remaining memory capacity is 100%)
  - c) The main power is turned off.

See RTB no. F/L Series – 011F for the previous modifications.

### Technical Bulletin

Reissued: 07-Mar-00

Model: FX6Mk2

Date: 29-Feb-00 No.

No.: RH515068a

#### **RTB** Correction

#### The item in italics have been corrected added.

Subject: Firmware modification				Prepared by: Y. Okunishi		
From: Technical	Services Dept., GTS Division					
Classification:	<ul> <li>Troubleshooting</li> <li>Mechanical</li> <li>Paper path</li> <li>Other ()</li> </ul>	<ul> <li>Part informa</li> <li>Electrical</li> <li>Transmit/rec</li> </ul>		Action required Service manual revision Retrofit information		

#### Firmware

#### Reason

Correction of software bugs:

1) For the following dates, the reception times printed at the top of the received pages are incorrect: Dec. 28 to 30, 2000

Dec. 28 to 30, 2001 Dec. 28 to 30, 2002 Dec. 28 to 30, 2003 Dec. 27 to 30, 2004 Dec. 27 to 30, 2005 Dec. 27 to 30, 2006 Dec. 27 to 30, 2007 Dec. 26 to 30, 2008

#### Note: Disregard the information in the last RTB H515068.

Model: Kaiser1, LSO, LF	Date:	11-Jul-00		No.: RGenF021		
Subject: Modem	turn-on level (NCU Parameter		Prepared by: Y.Okunishi			
From: Technical	Services Dept., GTS Division					
Classification:	Troubleshooting	Part	informa	tion	Action	required
	Mechanical Electrical				] Servic	e manual revision
Paper path Transmit/re			smit/rec	eive	Retrof	it information
	Other (Technical Informati	ion)				

Please note the following points when setting the modem turn-on level:

1) Schmidt 3 Service Manual, pg. 4-49: The maximum value at the address (NCU Parameter) for the modem turn-on level (incoming signal detection level) is 1F(h).

Of the 8 bits, only the first 5 are used. Therefore, if the input were 20(h), the 5 bits would be 00000.

2) The level is calculated by the following equations:

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Kaiser1, Schmidt1/3: Modem carrier on: off:	= (-33dB) – (0.5 x N) = (-33dB) – (0.5 x N) – (3dB)
FX4/6, LSO, FX7, LSO, Modem carrier on: off:	LFO, LX7: = (-37dB) – (0.5 x N) = (-37dB) – (0.5 x N) – (3dB)
FR4/6:	
Modem carrier on:	= -33dB (N= 00h) = -38dB (N= 01h – 0Ah) = -43dB (N= 0Bh – 14h) = -48dB (N= 15h – 1Fh)
off:	= (above value – 3dB)

### Technical Bulletin

Reissued: 17-Sep-02

Model: Model LSO, LSO MK2

Date: 12-Jul-01

No.: RH515069b

#### RTB Correction

Subject: The Scanner Unit (Upper Unit)			Prepared by: A. Ishiyama	
From: Technical Services sec. Service Planning Dept.				
Classification:	<ul> <li>Troubleshooting</li> <li>Mechanical</li> <li>Paper path</li> <li>Other ()</li> </ul>	Part informat Electrical Transmit/rec		Action required Service manual revision Retrofit information

#### <Symptom>

When the scanner unit is closed, it does not close gently.

#### <Cause>

Broken tooth on the Oil Damper Gear (Parts Catalog, p. 23, index 4)

#### <Action>

Replace the Oil Damper Gear and Collar (see below).

**Note:** The following parts have been modified and released (see MB MH515208a and *MH515220*). **The Oil Damper Collar should be replaced together with the Oil Damper Gear**.

H5213117  $\rightarrow$  H5223117  $\rightarrow$  H3073117: Gear – Oil Damper H5213118  $\rightarrow$  H5223118: Collar – Oil Damper

#### [Important]

1. The Gear and Collar (H3073117 and H5523118) must be replaced <u>together as a set</u> (see "New" in fig. 2 below).

On the current machine, if the gear is replaced without the new collar, the gear will push up against the bracket (#5 in fig. 1), causing the bracket to deform and the symptom above to reoccur, as the gear teeth will break more easily from the increased friction.

2. Lubricating grease (G501) must be applied to the <u>shaft and contact</u> <u>surfaces between gears</u>.

### Technical Bulletin

Reissued: 17-Sep-02

Model: Model LSO, LSO MK2

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Date: 12-Jul-01

No.: RH515069b

#### [Figure 1]

