

Service Manual

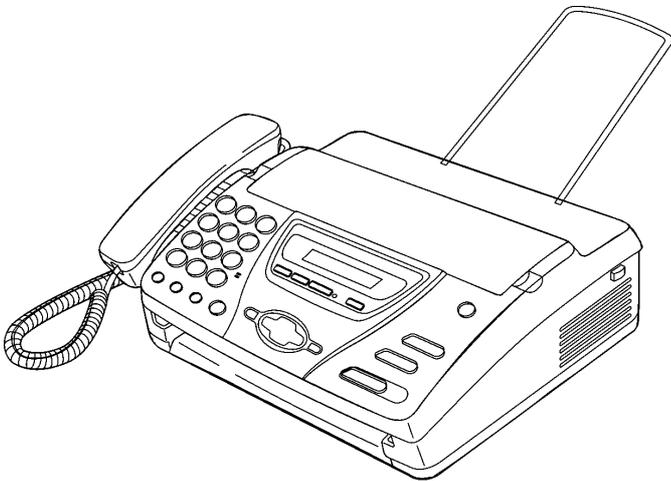
Facsimile with Digital Answering System

KX-FT78CE-B

KX-FT78HG-B

(for Czecho)

(for Hungary)



⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

When you note the serial number, write down all 11 digits. The serial number may be found on the bottom of the unit.

Panasonic

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1 INTRODUCTION

1.1. LCD MESSAGE

1.1.1. KX-FT78CE (for Czech)

English	Czech															
CALL SERVICE 1	V	O	L	E	J	T	E		S	E	R	V	I	S	1	
CALL SERVICE2	V	O	L	E	J	T	E		S	E	R	V	I	S	2	
CHECK COVER	K	R	Y	T		J	E		O	T	E	V	R	E	N	
CHECK DOCUMENT	C	H	Y	B	I		D	O	K	U	M	E	N	T		
CHECK MEMORY	Z	K	O	N	T	R	O	L	.		P	A	M	E	T	
DIRECTORY	A	D	R	E	S	A	R									
DIRECTORY FULL	P	L	N	Y		T	E	L	.	S	E	Z	N	A	M	
FAX IN MEMORY	P	R	I	J	.		D	O		P	A	M	E	T	I	
MEMORY FULL	P	R	E	P	L	N	E	N	A		P	A	M	E	T	
NO RESPONSE			N	E	H	L	A	S	I		S	E				
NO TAD GREETING	C	H	Y	B	I		O	G	M		Z	A	Z	N	.	
NO TRNS-GREET.	C	H	Y	B	I		O	G	M		P	R	E	P	.	
OUT OF PAPER			D	O	S	E	L		P	A	P	I	R			
PAPER JAMMED	Z	M	A	C	K	A	N	Y		P	A	P	I	R		
POLLING ERROR	C	H	Y	B	A		P	O	L	L	I	N	G	U		
PRESS [<>]&[SET]	S	T	I	S	K	.		<<	>>	&	[S	E	T]	
RECEIVE MODE	R	E	Z	I	M		P	R	I	J	M	U				
REDIAL TIME OUT	K	O	N	E	C		O	P	.		V	O	L	B	Y	
REMOVE DOCUMENT	V	Y	J	M	I		D	O	K	U	M	E	N	T		
SYSTEM SET UP	N	A	S	T	.		F	U	N	K	C	I				
TAD OPERATION	O	V	L	A	D	.	Z	A	Z	N	A	M	.			
TRANSMIT ERROR		C	H	Y	B	A		P	R	E	N	O	S	U		
UNIT OVERHEATED	P	R	E	H	R	A	T	Y		S	T	R	O	J		
USER STOPPED	S	P	O	J	E	N	I		Z	R	U	S	E	N	O	
YOUR LOGO	V	A	S	E		L	O	G	O							

1.1.2. KX-FT78CE (for Slovak)

English	Slovak															
CALL SERVICE 1	V	O	L	A	J	T	E		S	E	R	V	I	S	1	
CALL SERVICE2	V	O	L	A	J	T	E		S	E	R	V	I	S	2	
CHECK COVER		Z	A	T	V	O	R	T	E		K	R	Y	T		
CHECK DOCUMENT	V	L	O	Z	T	E		D	O	K	U	M	E	N	T	
CHECK MEMORY		C	H	Y	B	A		P	A	M	A	T	E			
DIRECTORY	P	R	E	H	L	.	Z	O	Z	N	A	M				
DIRECTORY FULL	P	L	N	Y		Z	O	Z	N	A	M					
FAX IN MEMORY		F	A	X		V		P	A	M	A	T	I			
MEMORY FULL	P	R	E	P	L	N	E	N	A		P	A	M	A	T	
NO RESPONSE	N	E	H	L	A	S	I		S	A						
NO TAD GREETING		B	E	Z		U	V	I	T	.		O	D	K	.	
NO TRNS-GREET.	B	E	Z		U	V	I	T	/	T	R	A	N	S	F	
OUT OF PAPER	M	I	N	U	L		S	A		P	A	P	I	E	R	
PAPER JAMMED	U	V	I	A	Z	O	L		P	A	P	I	E	R		
POLLING ERROR	C	H	Y	B	A		P	O	L	L	I	N	G	U		
PRESS [<>]&[SET]	S	T	L	A	C		<<	>>	&	[S	E	T]		
RECEIVE MODE	P	R	I	J	E	M										
REDIAL TIME OUT	O	P	A	K	.	V	O	L	B	A	-	S	T	O	P	
REMOVE DOCUMENT	V	Y	B	E	R	T	E		D	O	K	U	M	.		
SYSTEM SET UP	N	A	S	T	A	V	.		F	U	N	K	C	I	E	
TAD OPERATION	Z	A	Z	N	A	M	N	I	K							
TRANSMIT ERROR		C	H	Y	B	A		P	R	E	N	O	S	U		
UNIT OVERHEATED	P	R	E	H	R	I	A	T	I	E						
USER STOPPED				Z	A	S	T	A	V	E	N	E				
YOUR LOGO	V	A	S	E		L	O	G	O							

1.1.3. KX-FT78HG (for Hungarian)

English	Hungarian															
CALL SERVICE 1	H	í	v	d	:		1	.	s	z	e	r	v	i	z	
CALL SERVICE2	H	í	v	d	:		2	.	s	z	e	r	v	i	z	
CHECK COVER		F	e	d	é	l		n	y	i	t	v	a			
CHECK DOCUMENT	H	i	b	a		a	z		i	r	a	t	n	á	l	
CHECK MEMORY		M	e	m	ó	r	i	a		ü	r	e	s			
DIRECTORY FULL	T	e	l	.	k	ö	n	y	v		t	e	l	e		
FAX IN MEMORY	M	e	m	ó	r	i	á	b	a	n	:		f	a	x	
MEMORY FULL	M	e	m	ó	r	i	a		m	e	g	t	e	l	t	
NO RESPONSE	N	e	m		f	e	l	e	l	t						
NO TAD GREETING	N	i	n	c	s		k	ö	s	z	ö	n	t	é	s	
NO TRNS-GREET.	N	i	n	c	s		k	ö	s	z	ö	n	t	é	s	
OUT OF PAPER	P	a	p	í	r		k	i	f	o	g	y	o	t	t	
PAPER JAMMED	P	a	p	í	r		e	l	a	k	a	d	t			
POLLING ERROR	L	e	k	é	r	d	e	z	é	s		h	i	b	a	
REDIAL TIME OUT	Ú	j	r	a	h	í	v	á	s		v	é	g	e		
REMOVE DOCUMENT	I	r	a	t	o	t		v	e	g	y	e		k	i	
TRANSMIT ERROR	Á	t	v	i	t	e	l	i		h	i	b	a			
UNIT OVERHEATED	T	ú	l	m	e	l	e	g	e	d	é	s				
DIRECTORY	T	e	l	.	k	ö	n	y	v							
RECEIVE MODE	V	é	t	e	l	i		m	ó	d						
TAD OPERATION	R	ö	g	z	.	m	ü	v	e	l	e	t				
USER STOPPED			M	e	g	á	l	l	í	t	v	a				
SYSTEM SET UP	B	e	á	l	l	í	t	á	s	o	k					
PRESS [<>]&[SET]	N	y	o	m	j	o	n	:	<<	>>	&	I	N	D	.	
YOUR LOGO	L	O	G	O												

1.2. ERROR CODE TABLE

1.2.1. KX-FT78CE (for Czecho)

ENGLISH	CZECH
COMMUNICATION ERROR	CHYBA PRI KOMUNIKACI
DOCUMENT JAMMED	ZMACKANY DOKUMENT
ERROR-NOT YOUR UNIT	VAS FAX JE BEZ ZAVADY
NO DOCUMENT	CHYBI DOKUMENT
OTHER FAX NOT RESPOND	PROTEJSI FAX NEKOMUNIKUJE
PAPER OUT	DOSEL ZAZNAMOVY PAPIR
PRESSED THE STOP KEY	STISKNUTO TLACITKO STOP
PRINTER OVERHEATED	PREHRATA TISKOVA HLAVA
MEMORY FULL	PAMAT JE PANA
PAPER JAMMED	ZASEKNUTY PAPIER
THE COVER WAS OPENED	OTVORENY KRYT
OK	V PORIADKU
RCV	PRIJ.
SND	ODESL.

1.2.2. KX-FT78CE (for Slovak)

ENGLISH	SLOVAK
COMMUNICATION ERROR	CHYBA KOMUNIKACIE
DOCUMENT JAMMED	ZASEKNUTY DOKUMENT
ERROR-NOT YOUR UNIT	CHYBA MIMO PRISTROJA
NO DOCUMENT	ZIADNY DOKUMENT
OTHER FAX NOT RESPOND	DRUHY UCASTNIK NEPRIJAL FAX
PAPER OUT	MINUL SA PAPIER
PRESSED THE STOP KEY	STLACLI STE TLACIDLO STOP
PRINTER OVERHEATED	TLACIAREN JE PREHRIATA
MEMORY FULL	PREPLNENA PAMET
PAPER JAMMED	ZMACKANY PAPIR
THE COVER WAS OPENED	OTEVRENY KRYT
OK	OK
RCV	PRIJEM
SND	ODOSL.

1.2.3. KX-FT78HG

ENGLISH	HUNGARIAN
COMMUNICATION ERROR	Átviteli hiba
DOCUMENT JAMMED	Irat elakadt
ERROR-NOT YOUR UNIT	A hiba nem Önnél van
NO DOCUMENT	Nincs irat
OTHER FAX NOT RESPOND	Másik fax nem felel
PAPER OUT	Papír kifogyott
PRESSED THE STOP KEY	STOP gomb megnyomva
PRINTER OVERHEATED	Túlmelegedés
MEMORY FULL	Memória megtelt
PAPER JAMMED	papír elakadt
THE COVER WAS OPENED	Túlmelegedés
OK	OK
RCV	Vétel
SND	Adás

1.3. BUTTON NAME

ENGLISH	KX-FT78HG
TONE	TONE
SLOW	LASSÚ
QUICK	GYORS
ERASE	TÖRLÉS
RECORD	FELVÉTEL
Display	Kijelző
PLAY MESSAGES	ÜZENET LEJÁTSZÁS
BROADCAST	KÖRÖZVÉNY
RECEIVE MODE	VÉTELI ÜZEMMÓD
STOP	STOP
FLASH	FLASH
REDIAL/PAUSE	ÜJRAHÍVÁS/SZÜNET
MUTE	NÉMÍTÁS
DIGITAL SP-PHONE	VÉTELI ÜZEMMÓD
MENU	MENÜ
NAVIGATOR, VOLIME	NAVIGATOR, HANGERŐ
HELP	SÚGÓ
FAX/START, SET	TELEFAX/INDÍT, BEÁLLÍT
COPY	MÁSOL

1.4. SAFETY PRECAUTIONS

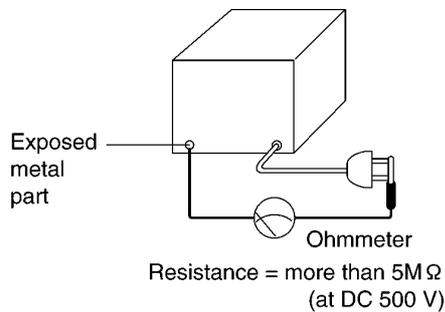
1. Before servicing, unplug the AC power cord to prevent an electric shock.
2. When replacing parts, use only the manufacturer's recommended components.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to perform the following insulation resistance test to prevent the customer from being exposed to shock hazards.

1.5. INSULATION RESISTANCE TEST

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with an ohmmeter between the jumpered AC plug and each exposed metal cabinet part (screw heads, control shafts, bottom frame, etc.).

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.



1.6. FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.

When repairing, the following precautions will help prevent recurring malfunctions.

1. Cover the plastic part's boxes with aluminum foil.
2. Ground the soldering irons.
3. Use a conductive mat on the worktable.
4. Do not touch the IC or LSI pins with bare fingers.

1.7. BATTERY CAUTION

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

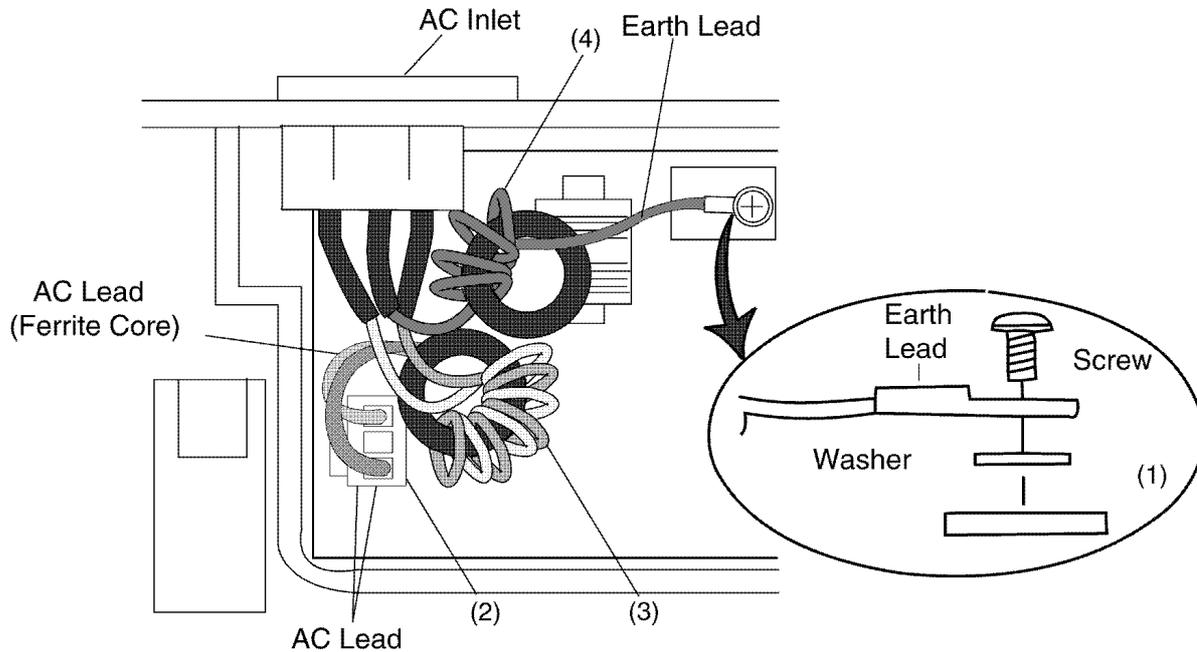
Dispose of used batteries according to the manufacturer's Instructions.

The lithium battery is a critical component . (type No. CR2032). Please observe for the proper polarity and the exact location when replacing it and soldering the replacement lithium battery in.

1.8. AC CAUTION

For safety, before closing the lower cabinet, please make sure of the following precautions.

- (1) The earth lead is fixed with the screw.
- (2) The AC connector is connected properly.
- (3) Wrap the Earth lead around the core 4 times.
- (3) Wrap the AC lead around the core 4 times.

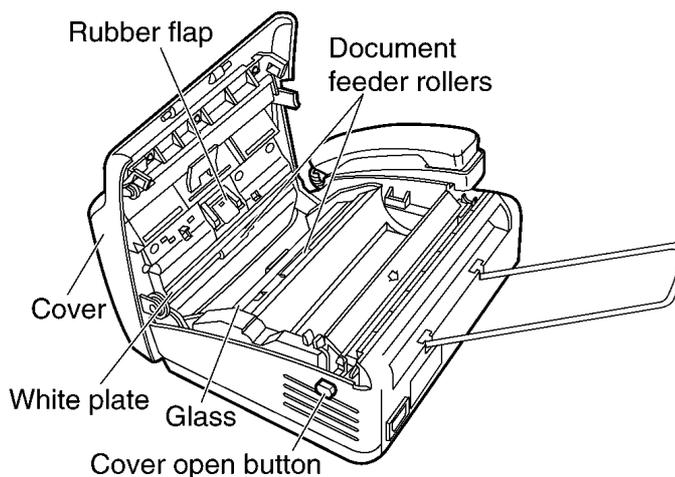


1.9. PERSONAL SAFETY PRECAUTIONS

1.9.1. MOVING SECTIONS OF THE UNIT

Be careful not to let your hair, clothes, fingers, accessories, etc., become caught in any moving sections of the unit.

The moving sections of the unit are the rollers and a gear. There is a separation roller and a document feed roller which are rotated by the document feed motor. A gear rotates the two rollers. Be careful not to touch them with your hands, especially when the unit is operating.



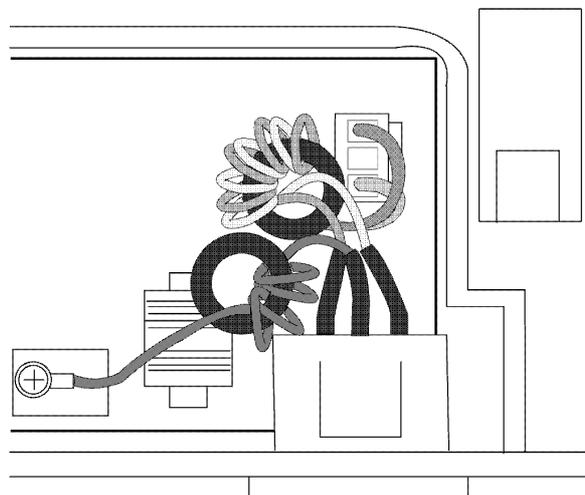
1.9.2. LIVE ELECTRICAL SECTIONS

All the electrical sections of the unit supplied with AC power by the AC power cord are live. Never disassemble the unit for service with the AC power supply plugged in.



AC voltage is supplied to the primary side of the power supply unit. Therefore, always unplug the AC power cord before disassembling for service.

Be careful of "High Voltage" in this area.



(Bottom view)

1.10. FEATURES

General

- Help function

Please refer to **WHEN YOU DON'T KNOW HOW TO OPERATE THE UNIT, USE THE HELP FUNCTI.**(P.27) to print below features.

Display:

- DIRECTORY
- RECEIVE MODE
- TAD OPERATION

Facsimile

- Resolution: Standard/Fine/Super Fine/Halftone
- Copier Function
- Help Printout
- Automatic Document Feeder (10 Sheets)
- Easy-to-view LCD (15 Characters)
- Broadcast (up to 10 Stations)

Integrated telephone system

- Telephone Directory (100 Stations)(KX-FT78CE-B)
- Telephone Directory (50 Stations)(KX-FT78HG-B)
- Digital Duplex Speakerphone

Digital answering system

- Voice Time/Day Stamp
- Quick & Slow Playback Speeds

1.11. SPECIFICATIONS

Applicable Lines:	Public Switched Telephone Network
Document Size:	Max. 216 mm in width Max. 600 mm in length
Effective Scanning Width:	208mm
Recording Paper Size:	216 mm max. 30 m roll
Effective Printing Width:	208 mm
Transmission Time*:	Approx. 15 s/page (Original mode)**
Scanning Density:	Horizontal: 8 pels/mm Vertical: 3.85 lines/mm—STANDARD mode 7.7 lines/mm—FINE/HALF TONE mode 15.4 lines/mm—SUPER FINE mode
Halftone Level:	64-level
Scanner Type:	Contact Image Sensor (CIS)
Printer Type:	Thermal Printing
Data Compression System:	Modified Huffman (MH), Modified READ (MR)
Modem Speed:	9,600 / 7,200 / 4,800 / 2,400 bps; Automatic Fallback
Operating Environment:	5°C—35°C , 45 %—85 % RH (Relative Humidity)
Dimensions (HxWxD):	117 mm x 347 mm x 270 mm
Mass (Weight):	Approx. 2.6 kg
Power Consumption:	Standby: Approx. 4.5 W Transmission: Approx. 25 W Reception: Approx. 30 W (When receiving the ITU-T No. 1 Test Chart) Copy: Approx. 30 W (When copying the ITU-T No. 1 Test Chart) Maximum: Approx. 125 W (When receiving a 100% black document)
Power Supply:	220-240 V AC, 50/60 Hz
Memory Capacity:	Approx. 20 pages of document memory (Based on the ITU-T No.1 Test Chart in standard resolution when no voice messages have been recorded.)
Voice Capacity:	Approx. 20 minutes of recording time including the greeting message***

* Transmission speed depends upon the contents of the pages, resolution, telephone line conditions and capability of the other party's machine.

** The 15 second speed is based upon the ITU-T No. 1 Test Chart and original mode. (Refer to **ITU-T NO. 1 TEST CHART (P.12)**.)
If the capability of the other party's machine is inferior to your unit, the transmission time may be longer.

*** Recording time may be reduced by calling party's background noise.

Note:

- Any details given in these instructions are subject to change without notice.
- The pictures and illustrations in these instructions may vary slightly from the actual product.

1.12. OPTIONAL ACCESSORIES

Model No.	Description	Specifications
KX-A106	Standard thermal recording paper	216 mm x 30 m x roll, with 25 mm core

1.13. ITU-T NO. 1 TEST CHART



THE SLEREXE COMPANY LIMITED

SAPORS LANE - BOOLE - DORSET - BH 25 8 ER

TELEPHONE BOOLE (945 13) 51617 - TELEX 123456

Our Ref. 350/PJC/EAC

18th January, 1972.

Dr. P.N. Cundall,
Mining Surveys Ltd.,
Holroyd Road,
Reading,
Berks.

Dear Pete,

Permit me to introduce you to the facility of facsimile transmission.

In facsimile a photocell is caused to perform a raster scan over the subject copy. The variations of print density on the document cause the photocell to generate an analogous electrical video signal. This signal is used to modulate a carrier, which is transmitted to a remote destination over a radio or cable communications link.

At the remote terminal, demodulation reconstructs the video signal, which is used to modulate the density of print produced by a printing device. This device is scanning in a raster scan synchronised with that at the transmitting terminal. As a result, a facsimile copy of the subject document is produced.

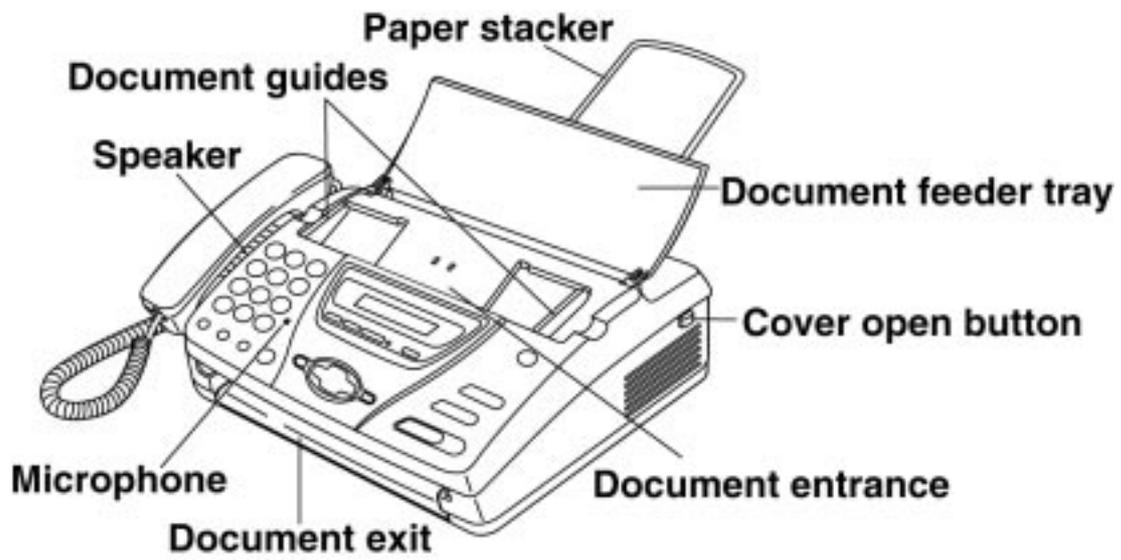
Probably you have uses for this facility in your organisation.

Yours sincerely,

P.J. CROSS
Group Leader - Facsimile Research

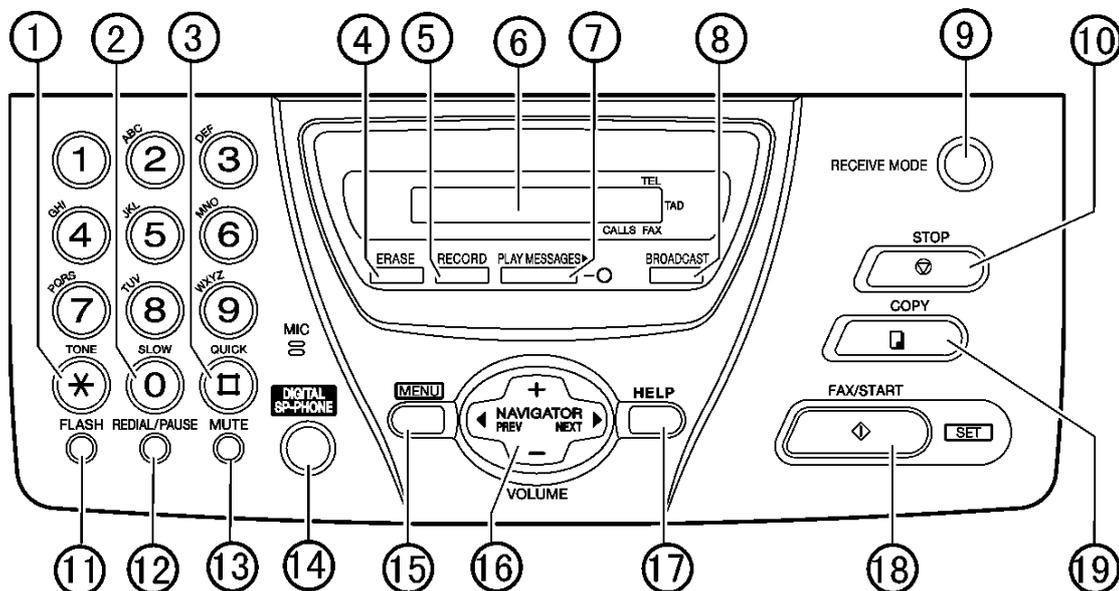
1.14. LOCATION OF CONTROLS

1.14.1. OVERVIEW



1.14.2. CONTROL PANEL

1.14.2.1. KX-FT78CE



① TONE

- To change from pulse to tone temporarily during dialling when your line has rotary pulse services .

② SLOW

- For slow playback.

③ QUICK

- For quick playback.

④ ERASE

- To erase recorded messages.

⑤ RECORD

- To record your messages.

⑥ Display

⑦ PLAY MESSAGES

- To play recorded messages.

⑧ BROADCAST

- To transmit to multiple entries .

⑨ RECEIVE MODE

- To change the receive mode.

⑩ STOP

- To stop an operation or cancel programming.

⑪ FLASH

- To access special telephone services such as call waiting or for transferring extension calls.

⑫ REDIAL/PAUSE

- To redial the last number dialled. If the line is busy when

you make a phone call using the **DIGITAL SP-PHONE** button, the unit will automatically redial the number up to 5 times.

- To insert a pause during dialling.

⑬ MUTE

- To mute your voice to the other party during a conversation. Press this button again to resume the conversation.

⑭ DIGITAL SP-PHONE

- For speakerphone operation. To switch to the handset, lift the handset. To switch back to the speakerphone, press **DIGITAL SP-PHONE** .

⑮ MENU

- To initiate or exit programming.

⑯ NAVIGATOR, VOLUME

- To adjust volume.
- To search for a stored name.
- To select the features or feature settings during programming.
- To navigate to the next operation.

⑰ HELP

- To print a quick reference.

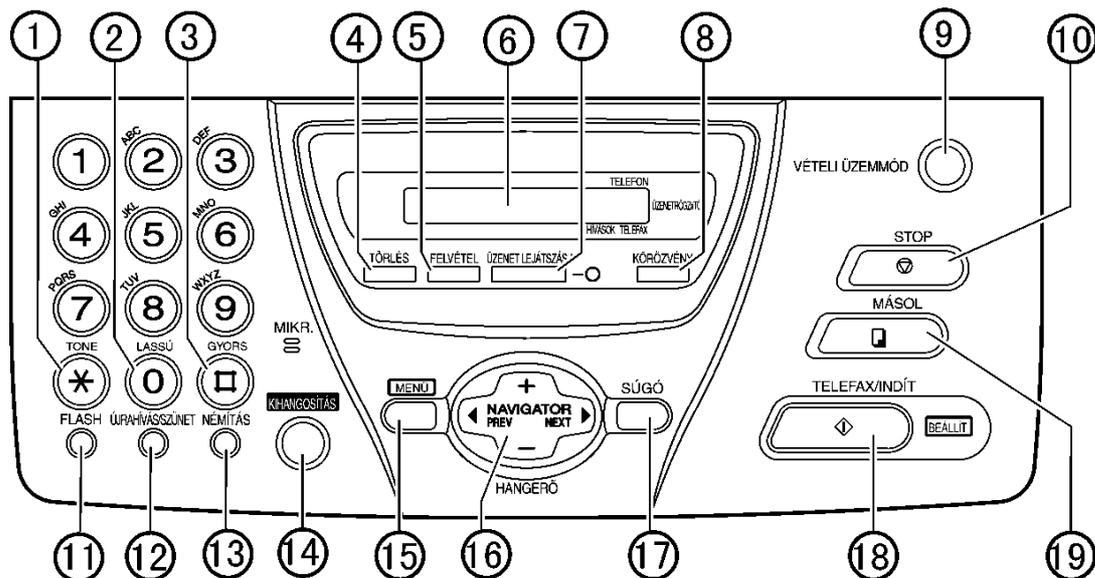
⑱ FAX/START,SET

- To initiate fax transmission or reception.
- To store a setting during programming.

⑲ COPY

- To initiate copying.

1.14.2.2. KX-FT78HG

① **TONE**

- To change from pulse to tone temporarily during dialling when your line has rotary pulse services .

② **SLOW**

- For slow playback.

③ **QUICK**

- For quick playback.

④ **ERASE**

- To erase recorded messages.

⑤ **RECORD**

- To record your messages.

⑥ **Display**⑦ **PLAY MESSAGES**

- To play recorded messages.

⑧ **BROADCAST**

- To transmit to multiple entries .

⑨ **RECEIVE MODE**

- To change the receive mode.

⑩ **STOP**

- To stop an operation or cancel programming.

⑪ **FLASH**

- To access special telephone services such as call waiting or for transferring extension calls.

⑫ **REDIAL/PAUSE**

- To redial the last number dialled. If the line is busy when you make a phone call using the **DIGITAL SP-PHONE** button, the unit will automatically redial the number up to 5 times.

- To insert a pause during dialling.

⑬ **MUTE**

- To mute your voice to the other party during a conversation. Press this button again to resume the conversation.

⑭ **DIGITAL SP-PHONE**

- For speakerphone operation. To switch to the handset, lift

the handset. To switch back to the speakerphone, press **DIGITAL SP-PHONE** .

⑮ **MENU**

- To initiate or exit programming.

⑯ **NAVIGATOR, VOLUME**

- To adjust volume.
- To search for a stored name.
- To select the features or feature settings during programming.
- To navigate to the next operation.

⑰ **HELP**

- To print a quick reference.

⑱ **FAX/START,SET**

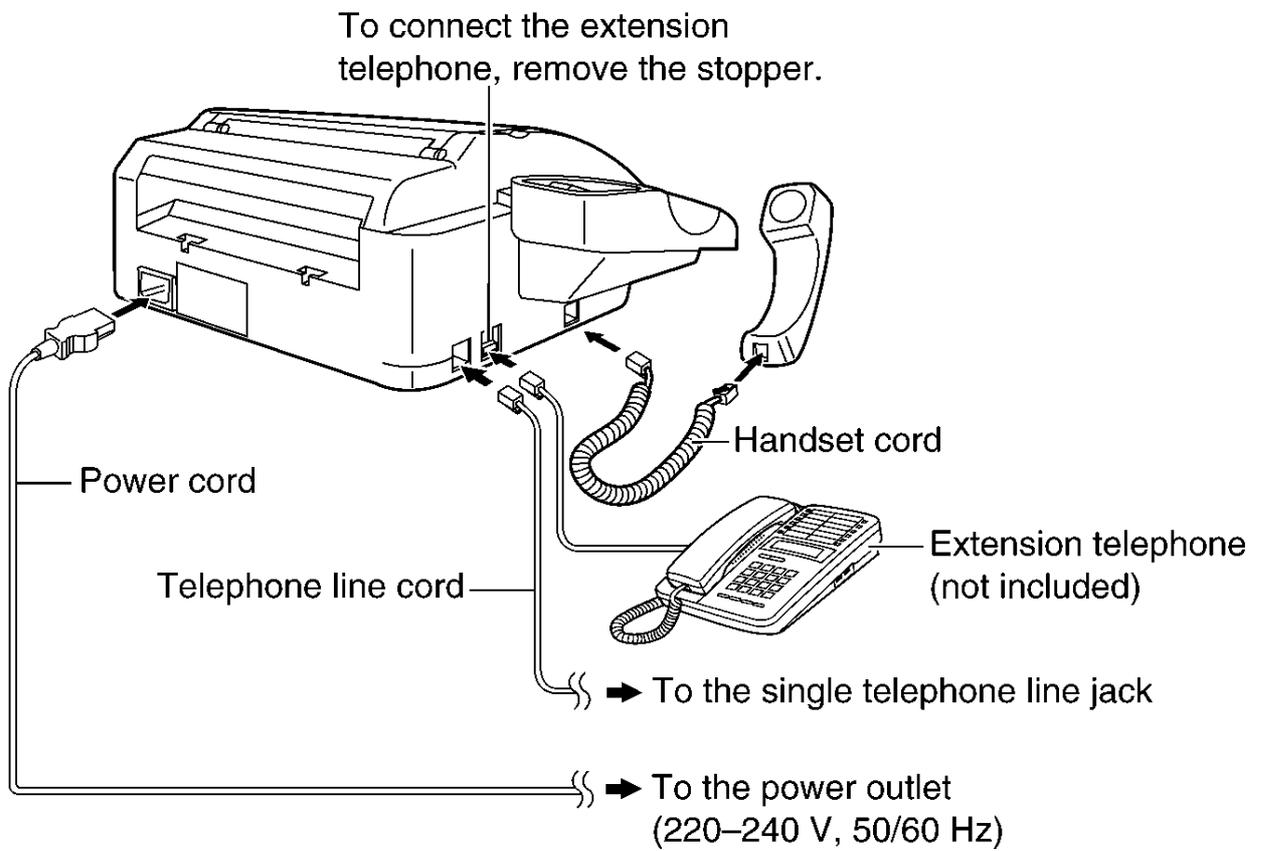
- To initiate fax transmission or reception.
- To store a setting during programming.

⑲ **COPY**

- To initiate copying.

1.15. CONNECTIONS

- (1) Connect the handset cord.
- (2) Connect the telephone line cord.
- (3) Connect the power cord.

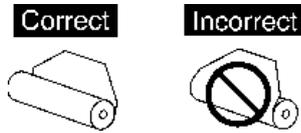


1.16. INSTALLATION

1.16.1. INSTALLING THE RECORDING PAPER

For replacement, remove the used core after opening the cover.

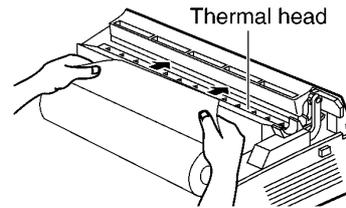
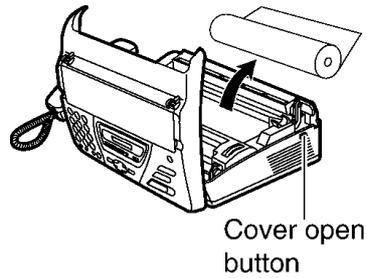
1 Open the cover by pressing the cover open button and install the recording paper roll.



If the paper is secured with glue or tape, cut approximately 15 cm (6 inches) from the beginning of the roll.

2 Insert the leading edge of the paper into the opening above the thermal head and pull it out of the unit.

- Make sure that there is not slack in the paper roll.

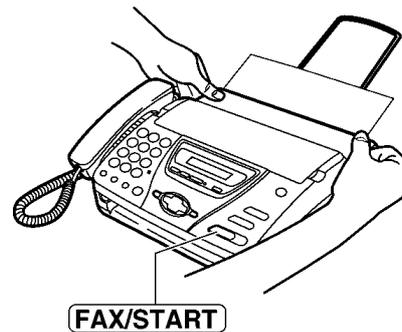


3 Close the cover securely by pushing down on both sides.

Display: **PRESS START**

4 Press **FAX/START**

- The unit will eject the paper slightly and cut it.
- If you do not press **FAX/START** within 30 seconds, the unit will automatically eject the paper slightly and cut it.

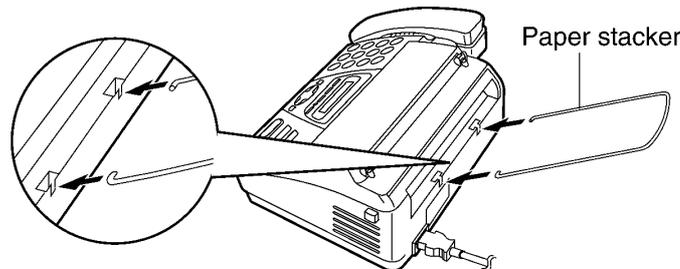


Note:

- Only use the included roll of paper or specified recording paper, or else the print quality may be affected and/or excessive thermal head wear may occur.
- To order recording paper, see **OPTIONAL ACCESSORIES** (P.11).
- When the power cord is connected, every time you close the cover a message will be printed. If the recording paper is set to the wrong side, a message will not be printed. Install the paper correctly.

1.16.2. PAPER STACKER

Install the paper stacker.



1.16.3. SETTING YOUR LOGO (KX-FT78CE_SLOVAK ONLY)

The logo can be your company, division or name.

- (1) Press **MENU** .
 Display: Refer to **LCD MESSAGE (P.3) BUTTON NAME (P.7)**

SYSTEM SET UP

- (2) Press **SET** .

PRESS [◀▶]&[SET]

- (3) Press **◀** or **▶** until the following is displayed.

YOUR LOGO

- (4) Press **SET** .

LOGO=

- (5) Enter your logo, up to 30 characters, using the dial keypad.

Example: Bill

- a. Press **2** 2 times.

LOGO=B
 └─── Cursor

- b. Press **4** 6 times.

LOGO=Bi

- c. Press **5** 6 times.

LOGO=Bi

- d. Press **▶** to move the cursor to the next space and press **5** 6 times.

LOGO=Bill

- (6) Press **SET** .

· The next feature will be displayed.

- (7) Press **MENU** .

Note:

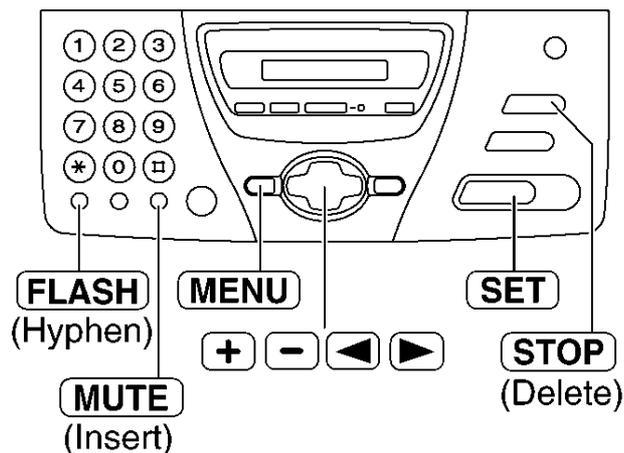
· You can enter your logo by pressing **+** or **-** in step (5). In this case, press **▶** to move the cursor.

To correct a mistake

· Press **◀** or **▶** to move the cursor to the incorrect character, and make the correction.

To delete a character

· Press **◀** or **▶** to move the cursor to the character you want to delete and press **STOP** .



To insert a character

1. Press **◀** or **▶** to move the cursor to the position to the right of where you want to insert the character.
2. Press **MUTE** to insert a space and enter the character.

1.16.4. SETTING YOUR LOGO (KX-FT78CE_CZECHO/FT78HG ONLY)

The logo can be your company, division or name.

(1) Press **MENU** .

Display: Refer to **LCD MESSAGE (P.3) BUTTON NAME (P.7)**



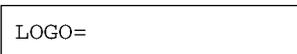
(2) Press **#** , then **# 9 0 0 0**.



(3) Press **0 0 2** (for YOUR LOGO).



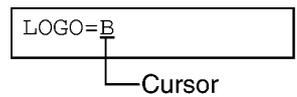
Press **0 0 3** (for YOUR FAX NUMBER).



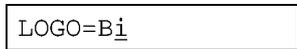
(4) Enter your logo, up to 30 characters, using the dial keypad.

Example: Bill

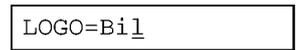
a. Press **2** 2 times.



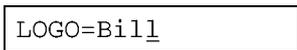
b. Press **4** 6 times.



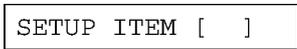
c. Press **5** 6 times.



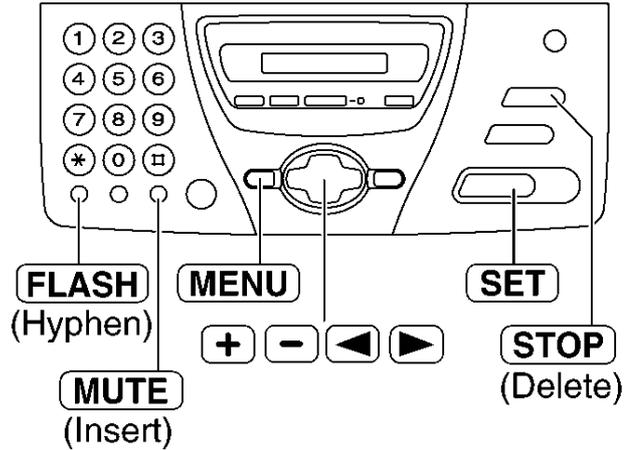
d. Press **▶** to move the cursor to the next space and press **5** 6 times.



(5) Press **SET** .



(6) Press **MENU** .



Note:

• You can enter your logo by pressing **+** or **-** in step (5). In this case, press **▶** to move the cursor.

To correct a mistake

• Press **◀** or **▶** to move the cursor to the incorrect character, and make the correction.

To delete a character

• Press **◀** or **▶** to move the cursor to the character you want to delete and press **STOP** .

To insert a character

1. Press **◀** or **▶** to move the cursor to the position to the right of where you want to insert the character.
2. Press **MUTE** to insert a space and enter the character.

1.16.5. TO SELECT CHARACTERS WITH THE DIAL KEYPAD

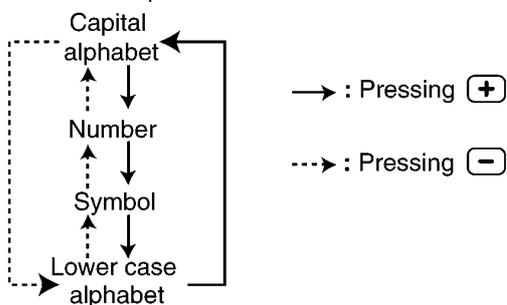
Pressing the dial keys will select a character as shown below.

Keys	Characters
①	1 [] { } + - / = , . _ ' : ; ?
②	A B C a b c 2
③	D E F d e f 3
④	G H I g h i 4
⑤	J K L j k l 5
⑥	M N O m n o 6
⑦	P Q R S p q r s 7
⑧	T U V t u v 8
⑨	W X Y Z w x y z 9
⑩	0 () < > ! " # \$ % & ¥ * @ ^ ' →
FLASH	Hyphen button (To insert a hyphen.)
MUTE	Insert button (To insert one character or one space.)
STOP	Delete button (To delete a character.)
	▶ key (To move the cursor to the right.) To enter another character using the same number key, move the cursor to the next space.
	◀ key (To move the cursor to the left.)

1.16.6. TO SELECT CHARACTERS USING or

Instead of pressing the dial keys, you can select characters using  or 

- (1) Press  or  until the desired character is displayed. **Display order of characters**
- (2) Press  to move the cursor to the next space.
 - The character displayed in step 1 is inserted.
- (3) Return to step 1 to enter the next character.



1.16.7. SETTING THE DIAL LOCK

The dial lock feature prevents the unit from calls being made to any numbers, except for pre-stored emergency telephone numbers.

- (1) Press **MENU** repeatedly until the following is displayed.
 Display: Refer to **LCD MESSAGE** (P.3) **BUTTON NAME** (P.7)

DIAL LOCK

- (2) Press **SET** .

CODE=

- (3) Enter your PIN(Personal Identification Number) code, from 2 to 4 digits, using 0-9.

If you want to release the PIN code, refer to #531 on the **SERVICE FUNCTION TABLE** (P.86)

- (4) Press . **SET**

E01=

- (5) Enter an emergency telephone number, up to 30 digits, using the dial keypad.

- (6) Press **SET** .

E02=

- (7) If necessary, enter the second emergency telephone number.

· If you do not need to enter, skip to step 8.

- (8) Press **SET** .

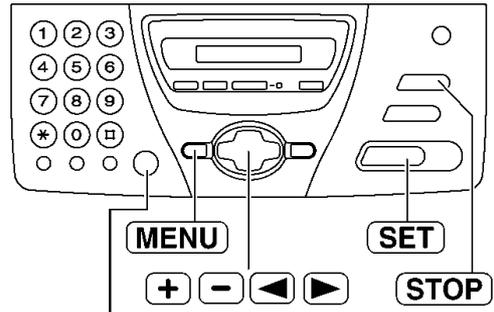
E03=

- (9) If necessary, enter the third emergency telephone number.

· If you do not need to enter, skip to step 10.

- (10) Press **SET** .

DIAL LOCK



DIGITAL SP-PHONE

Note:

- You can also enter an emergency telephone number using the directory in steps 5,7 and 9. Press **+** or **-** until the desired name is displayed, then press **SET** .

- Press **SET** .

To correct an emergency telephone number

- Press **←** or **→** to move the cursor to the incorrect number, and make the correction.
- To delete a number, move the cursor to the number you want to delete, and press **STOP** .

Making an emergency call

- Press **DIGITAL SP-PHONE** or lift the handset while the unit displays the following.

Display: **DIAL LOCK**

· The display will show the following.

Example: **E01-0123456 [+]**

- Press **+** or **-** until the desired emergency telephone number is displayed.

Example: **E03=6543210 [+]**

- Press **SET**

· The unit will start dialing automatically.

· If any documents are in the document entrance, the unit will start fax transmission..

To cancel the dial lock

- Press **MENU** repeatedly until the following is displayed.

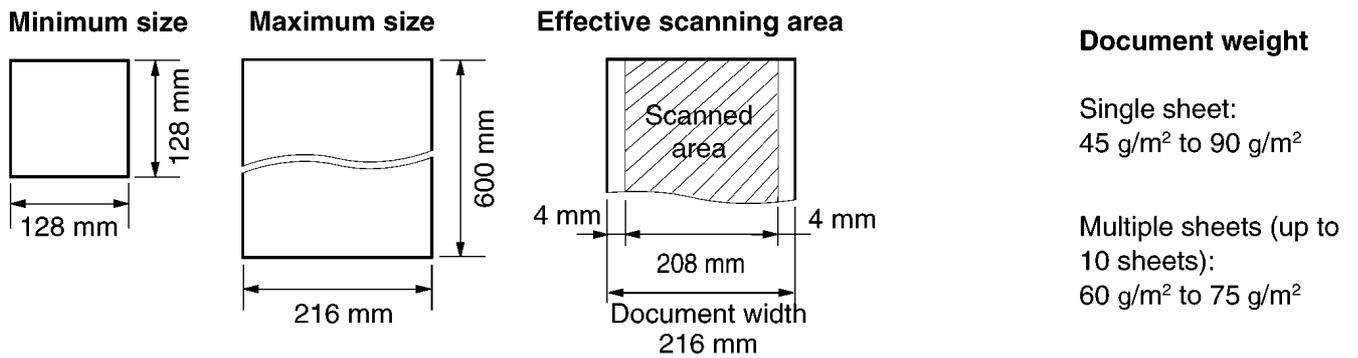
DIAL LOCK

- Press **SET** .

- Enter your PIN code.

- Press **SET** .

1.16.8. DOCUMENTS YOU CAN SEND



Note:

Remove clips, staples or other similar fastenings.

Check that ink, paste or correction fluid has dried.

Do not send the following types of documents. (Use copies for fax transmission).

- Chemically treated paper such as carbon or carbonless duplicating paper
- Electrostatically charged paper
- Badly curled, creased or torn paper.
- Paper with a coated surface
- Paper with a faint image
- Paper with printing on the opposite side that can be seen through the front (i.e. newspaper)

To transmit the document with a width of less than A4 SIZE (210 mm), we recommend using a copy machine to copy the original document onto A4 or letter-sized paper, then transmit the copied document.

1.17. MAINTENANCE ITEMS AND COMPONENT LOCATIONS

1.17.1. OUTLINE

MAINTENANCE AND REPAIRS ARE PERFORMED USING THE FOLLOWING STEPS.

1. Periodic maintenance

Inspect the equipment periodically and if necessary, clean any contaminated parts.

2. Check for breakdowns

Look for problems and consider how they arose.

If the equipment can be still used, perform copying, self testing or communication testing.

3. Check equipment

Perform copying, self testing and communication testing to determine if the problem originates from the transmitter, receiver or the telephone line.

4. Determine causes

Determine the causes of equipment problem by troubleshooting.

5. Equipment repairs

Repair or replace the defective parts and take appropriate measures at this stage to ensure that the problem will not recur.

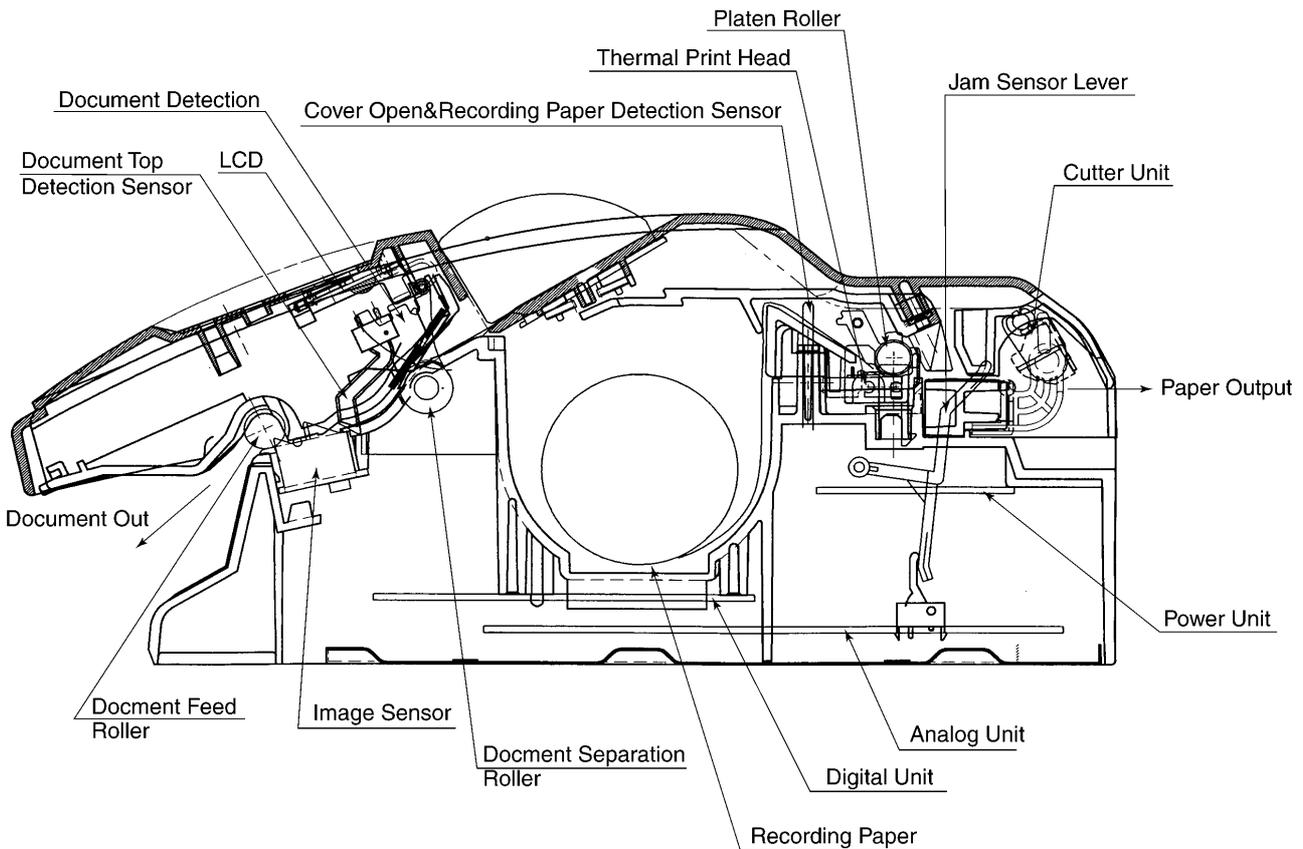
6. Confirm normal operation of the equipment

After completing the repairs, conduct copying, self testing and communication testing to confirm that the equipment operates normally.

7. Record keeping

Make a record of the measures taken to rectify the problem for future reference.

1.17.2. MAINTENANCE CHECK ITEMS/COMPONENT LOCATIONS



1.17.2.1. MAINTENANCE LIST

NO.	OPERATION	CHECK	REMARKS
1	Document Path	Remove any foreign matter such as paper.	—
2	Rollers	If the roller is dirty, clean it with a damp cloth then dry thoroughly.	See MAINTENANCE (P.26)
3	Thermal Head	If the thermal head is dirty, clean the printing surface with a cloth moistened with denatured alcohol (alcohol without water), then dry thoroughly.	See MAINTENANCE (P.26) and DISASSEMBLY INSTRUCTIONS (P.95).
4	Glass	If the glass is dirty, clean the with a dry soft cloth.	See MAINTENANCE (P.26)
5	Sensors	Document sensor (PS1), Read position sensor (SW32), Recording paper/cover open sensor (SW1) Jam sensor (SW3).	See SENSOR SECTION (P.79) and SENSORS AND SWITCHES (P.130) .
6	Abnormal, wear and tear or loose parts	If the glass is dirty, clean them with a dry soft cloth.	—

1.17.2.2. MAINTENANCE CYCLE

No.	Item	Cleaning Cycle	Replacement	
			Cycle	Procedure
1	Separation Roller (Ref. No. 10)	3 months	7 years* (100,000 documents)	See HOW TO REMOVE THE ROLLERS (P.102).
2	Separation Rubber (Ref. No. 12)	3 months	7 years* (100,000 documents)	See HOW TO REMOVE THE ROLLERS (P.102).
3	Feed Rollers (Ref. No. 7)	3 months	7 years* (100,000 documents)	See HOW TO REMOVE THE ROLLERS (P.102).
4	Thermal Head (Ref. No. 79)	3 months	7 years* (100,000 documents)	See HOW TO REMOVE THE THERMAL HEAD AND CUTTER UNIT (P.104).

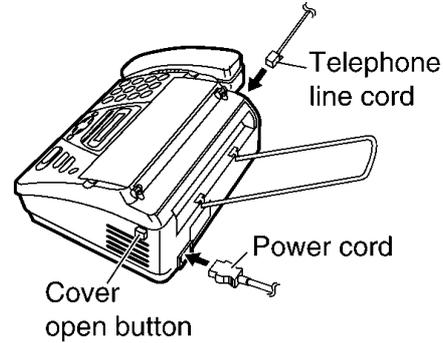
* These values are standard and may vary depending on usage conditions.

1.17.3. MAINTENANCE

1.17.3.1. CLEANING THE DOCUMENT FEEDER UNIT

If misfeeding of the document occurs frequently or if dirty patterns or black/white bands appear on the original document, when transmitting or copying.

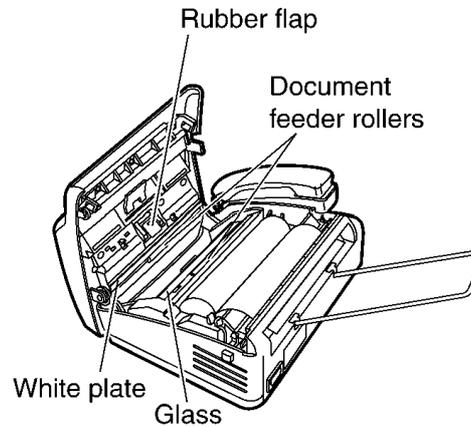
- 1 Disconnect the power cord and the telephone line cord.
- 2 Open the cover by pressing the cover open button.



- 3 Clean the document feeder rollers and rubber flap with a cloth moistened with isopropyl rubbing alcohol, and let all parts dry thoroughly.
- 4 Clean the white plate and glass with a soft dry cloth.
- 5 Close the cover securely by pushing down on both sides.
- 6 Connect the power cord and the telephone line cord.

caution:

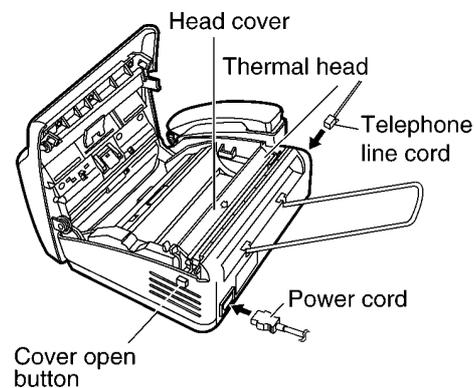
Do not use paper products, such as paper towels or tissues, to clean the inside of the unit.



1.17.3.2. CLEANING THE THERMAL HEAD

If dirty patterns or black/white bands appear on a copied or received document, clean the thermal head.

- 1 Disconnect the power cord and the telephone line cord.
- 2 Open the cover by pressing the cover open button and remove the recording paper roll.
- 3 Clean the thermal head with a cloth moistened with isopropyl rubbing alcohol, and let it dry thoroughly.
- 4 Connect the power cord and the telephone line cord.



- 5 Install the recording paper and close the cover securely by pushing down on both sides, then press . **FAX/START**

Caution:

To prevent a malfunction due to static electricity, do not use a dry cloth and do not touch the thermal head directly.

2 TROUBLESHOOTING GUIDE

2.1. TROUBLESHOOTING SUMMARY

2.1.1. TROUBLESHOOTING

After confirming the problem by asking the user, troubleshoot according to the instructions and observe the following precautions.

2.1.2. PRECAUTIONS

1. If there is a problem with the print quality or the paper feed, first check if the installation space and the print paper meets the specifications, the paper selection lever/paper thickness lever is set correctly, and the paper is set correctly without any slack.
2. Before troubleshooting, first check that the connectors and cables are connected correctly (not loose).
If the problem occurs randomly, check it very carefully.
3. When connecting the AC power cord with the unit case and checking the operation, exercise utmost care when handling electric parts in order to avoid electric shocks and short-circuits.
4. After troubleshooting, double check that you have not forgotten any connectors, left any loose screws, etc.
5. Always test to verify that the unit is working normally.

2.1.3. WHEN YOU DON'T KNOW HOW TO OPERATE THE UNIT, USE THE HELP FUNCTI

Refer to **BUTTON NAME** (P.7)

• How to use:

1. press **HELP** repeatedly until the desired item is displayed.
2. press **SET** .

2.2. USER RECOVERABLE ERRORS

If the unit detects a problem, the following messages will appear on the display.

Refer to **LCD MESSAGE** (P.3)

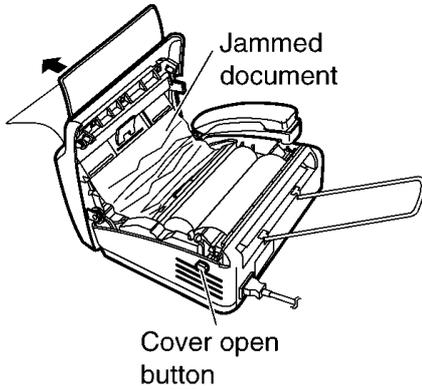
DISPLAY MESSAGE	CAUSE AND SOLUTION
CALL SERVICE 1	<ul style="list-style-type: none"> There is something wrong with the unit. Contact our service personnel. [This error is displayed when the thermal head does not warm up. Check the thermistor on the thermal head and connector lead.]
CALL SERVICE 2	<ul style="list-style-type: none"> This message appears when the gear is not in an idle state. Check the GEAR BLOCK and position sen.
<div style="border: 1px solid black; padding: 5px; text-align: center;">CHECK COVER</div> <div style="text-align: center;">↑↓</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">OUT OF PAPER</div>	<ul style="list-style-type: none"> The cover is open. Close it. The unit has run out of recording paper. Install a recording paper roll.
CHECK DOCUMENT	<ul style="list-style-type: none"> The document was not fed into the unit properly. Reinsert the document. If misfeeding occurs frequently, clean the document feeder rollers (Refer to NO DOCUMENT FEED (P.33)) and try again. (Refer to DOCUMENT JAM (P.34).) Attempted to transmit a document longer than 600 mm. Press STOP to remove the document. Divide the document into two or more sheets and try again.
CHECK MEMORY	<ul style="list-style-type: none"> Memory (telephone numbers, parameters, etc.) has been erased. Re-program. [The backup battery on the top of the digital board may be low or dead, so check it.]
DIRECTORY FULL	<ul style="list-style-type: none"> There is no space to store new entries in navigator directory. Erase unnecessary entries.
FAX IN MEMORY	<ul style="list-style-type: none"> The unit has a document in memory. See the other displayed message instructions to point out the document.
MEMORY FULL	<ul style="list-style-type: none"> There is not room left in memory to record a voice message. Erase unnecessary message.
NO RESPONSE	<ul style="list-style-type: none"> The other party's FAX machine is busy or has run out of recording paper. Try again.
NO TAD GREETING	<ul style="list-style-type: none"> Your TAD/FAX greeting message is not recorded. Record a message. The voice guidance feature is set to off. Activate feature #47 on page 66. Pre-recorded greeting message will be adopted.
NO TRNS-GREET.	<ul style="list-style-type: none"> Your transfer greeting message is not recorded. Record a message. The voice guidance feature is set to off. Activate feature #47 on page 66. Pre-recorded greeting message will be adopted.
PAPER JAMMED	<ul style="list-style-type: none"> A recording paper jam occurred. Clear the jammed paper.
POLLING ERROR	<ul style="list-style-type: none"> The other party's fax machine dose not provide the polling function. Check with the other party.
REDIAL TIME OUT	<ul style="list-style-type: none"> The other party's fax machine is busy or has run out of recording paper. Try again.
REMOVE DOCUMENT	<ul style="list-style-type: none"> The document is jammed. Remove the jammed document.
TRANSMIT ERROR	<ul style="list-style-type: none"> A transmission error occurred. Try again.
UNIT OVERHEATED	<ul style="list-style-type: none"> The unit is too hot. Let the unit cool down.

Notes: The explanations given in the [] are for servicemen only.

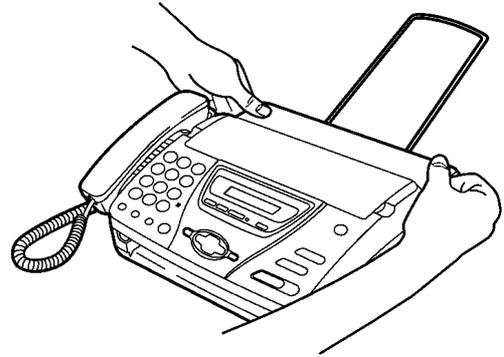
2.2.1. DOCUMENT JAMS (SENDING)

If the unit does not release during feeding, remove the jammed document.

- (1) Open the cover by pressing the cover open button and remove the jammed document carefully. Do not pull out the jammed document carefully.



- (2) Close the cover securely by pushing down on both sides.



2.2.2. RECORDING PAPER JAM

If the unit does not eject any recording paper during fax reception or copying, the recording paper has jammed. Remove the jammed paper.

- (1) Open the cover by pressing the cover open button. Lift the green lever to release the paper cutter, and remove the recording paper roll.

In case the green lever is too hard to move

When paper jam is occurred or the paper cutter is not set to the proper position, the following operation returns the paper cutter to its home position automatically.

Procedure:

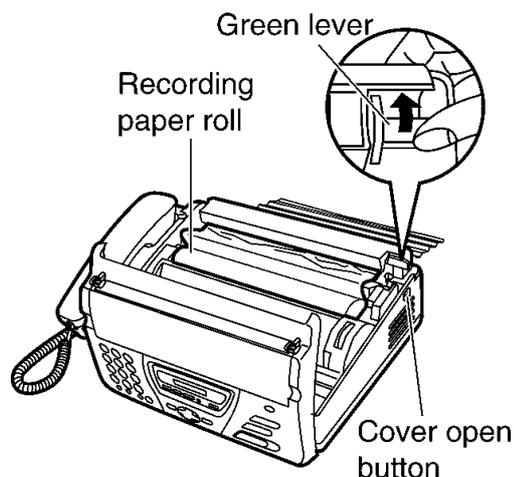
1. Make sure that the paper is removed completely. (The paper cutter might be damaged if the following operation is executed with paper remained.)

2. Press [STOP] and [4] simultaneously.

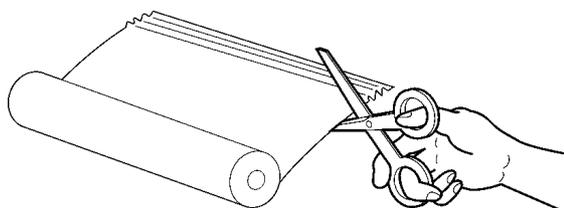
Note:

1. The operation can be done even while the cover is open, so be careful when executing it.

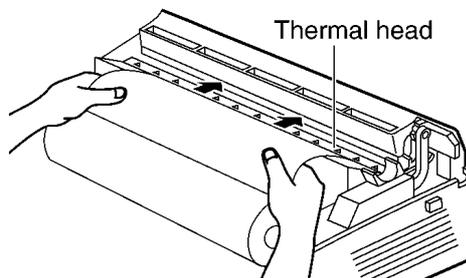
2. Use the unit after removing paper completely.



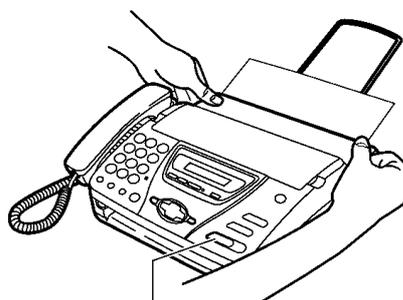
- (2) Cut off the wrinkled portion, and replace the recording paper roll into the unit in the proper direction.



- (3) Insert the leading edge of the paper into the opening above the thermal head, and pull the paper out of the unit.



- (4) Close the cover securely by pushing down on both sides.



FAX/START

- (5) Press **FAX/START**.

If you do not press **FAX/START** within 30 seconds, the unit will automatically eject the paper slightly and cut it.

The unit will eject the paper slightly and cut it. Every time you close the cover a message will be printed. If the recording paper is set to the wrong side, a message will not be printed. Install the paper correctly.