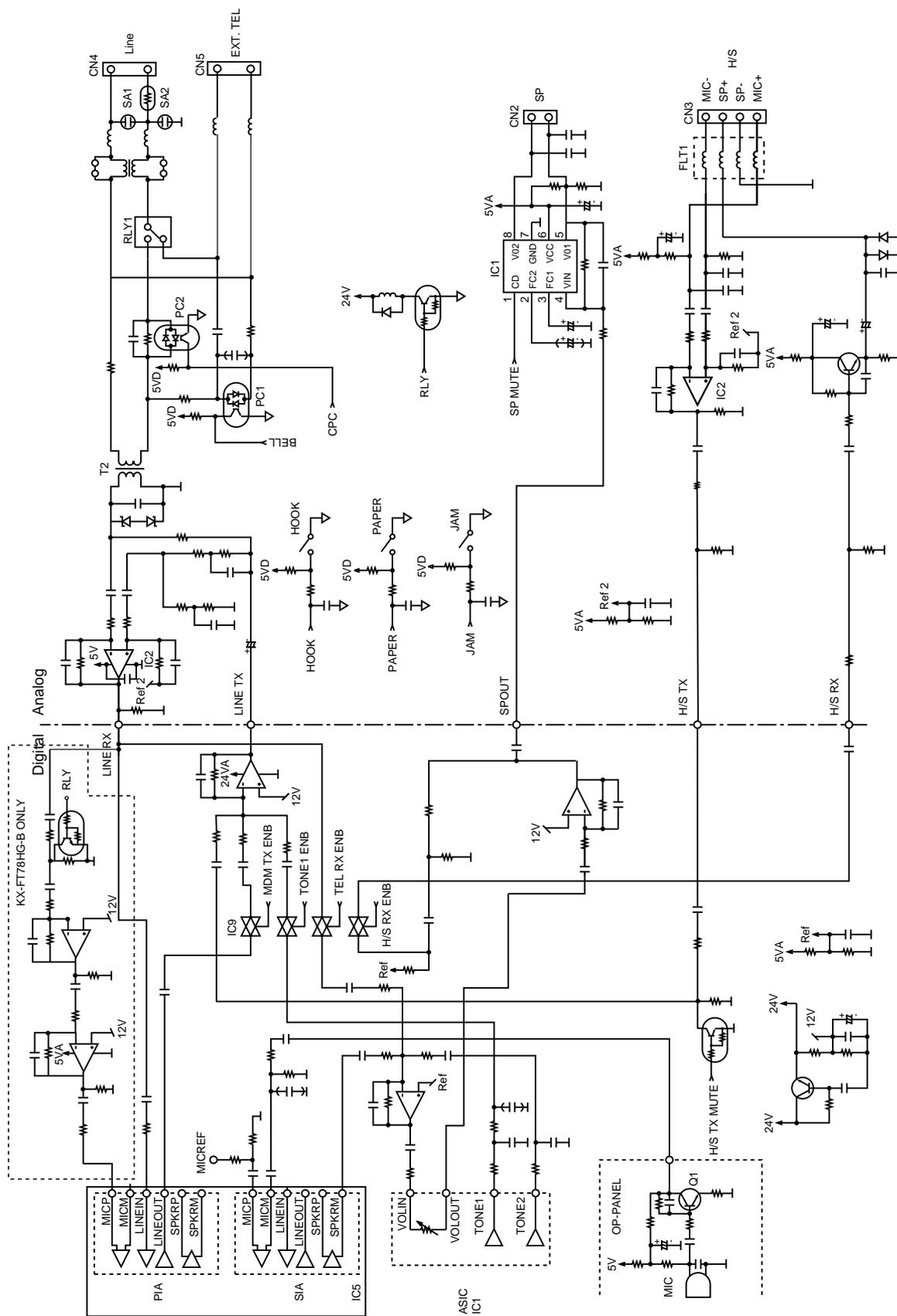


# 5.7. ANALOG UNIT BLOCK DIAGRAM



KX- FT78HG/CE-B ANALOG BOARD: BLOCK DIAGRAM

## 5.8. NCU SECTION

### 5.8.1. GENERAL

This section is the interface between the telephone line. It is composed of bell detection circuit, pulse dialing circuit, CPC detection circuit, line amplifier, sidetone circuits and Remote FAX activation circuit.

### 5.8.2. LINE RELAY (RLY1)

#### 1. Circuit Operation

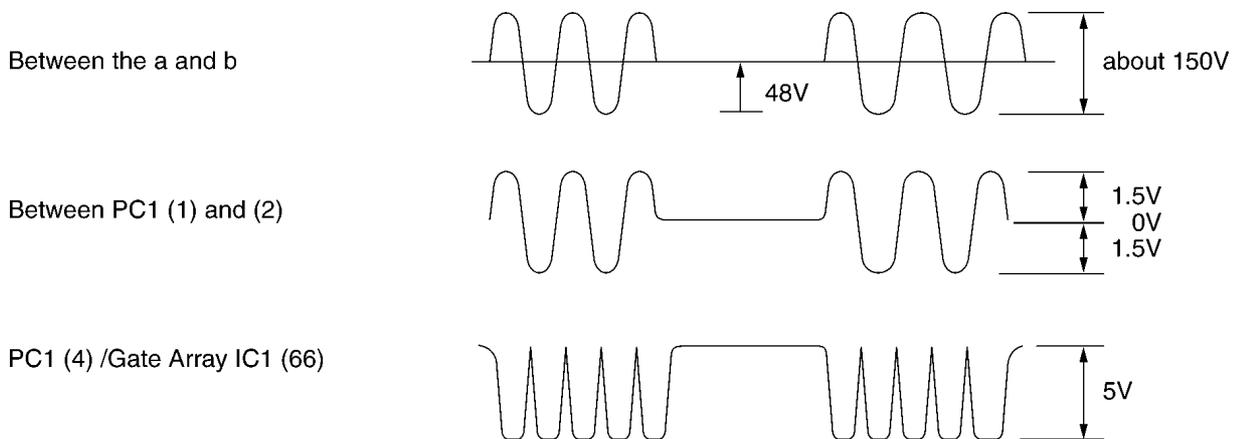
Normally, this relay switches to the external telephone side (Break) and switches to the open side (make) when the unit starts facsimile communication.

[IC1 (130) High Level → CN2 (9)] → CN1 (9) → Q3 ON → RLY1 (make)

### 5.8.3. BELL DETECTION CIRCUIT

#### 1. Circuit Operation

The signal waveform for each section is indicated below. The signal (low level section) input to pin 66 of ASIC IC1 on the digital board is read.



TEL LINE → PC1 (1, 2 - 4) → CN1(6) → [CN2(6) → IC1(66)]

### 5.8.4. PULSE DIALING

[IC1 (130) High Level → CN2 (9)] → CN1 (9) → Q3 ON → RLY1 (make)

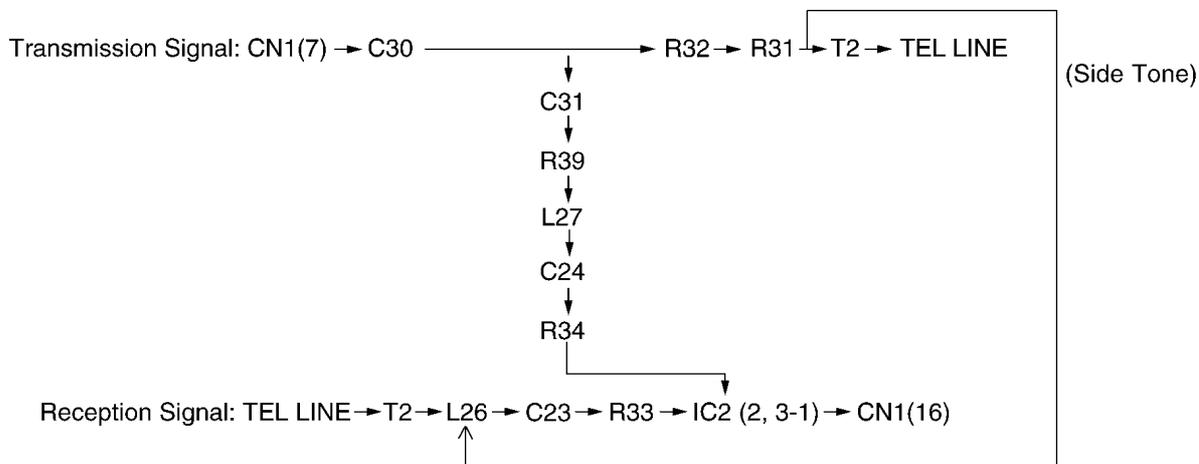
## 5.8.5. LINE AMPLIFIER AND SIDE TONE CIRCUITS

### 1. Circuit Operation

The reception signal received as output from line transformer T1 is given as input to L26, C23, R33 and IC2(2).

Then it is input to the reception system at an amplifier gain of 3.3 dB from pin (2).

The transmission signal is input from CN1 pin (7), and output to the TEL line through C30, R32, R31 and T1. Without a side tone circuit, the transmission signal would return to the reception amplifier via C30 and R31. Here, the signal output from CN1 pin (7) passes through C30, C31 and R39, and enters the amplifier IC2 pin (3). This is used to cancel the return portion of the transmission signal. This is the side tone circuit.



## 5.8.6. CPC (CALLING PARTY CONTROL) DETECTION CIRCUIT

### 1. Function

This circuit detects the signal (cuts the current) output from the converter when the other party finishes ICM recording and goes into the ON-HOOK status.

TAD detects this signal and disconnects the line. When the TAD is operating, pin (4) of PC2 becomes a low level.

While detecting the CPC signal, pin (4) of PC2 becomes a high level. When the CPC signal is detected, the TAD operation stops and the line is disconnected.

## 5.9. NCU SECTION (KX-FT78HG Only)

### 5.9.1. CALLING LINE IDENTIFICATION CIRCUIT

#### 1. Function

This unit is compatible with the Caller ID service offered by your local telephone company. To use this feature, you must subscribe to a Caller ID service. The data for the caller ID from the telephone exchange is sent during the interval between the first and second rings of the bell signal. The data from the telephone exchange is a modem signal which is modulated in an FSK (Frequency Shift Keying) format. Data "0" is a 1200 Hz sine wave, and data 1 a 2200 Hz sine wave.

There are two type of the message format which can be received:i.e.the single data message format and multiple data message format.

The multiple data format allows to transmit the name and data code information in addition to the time and telephone number data.

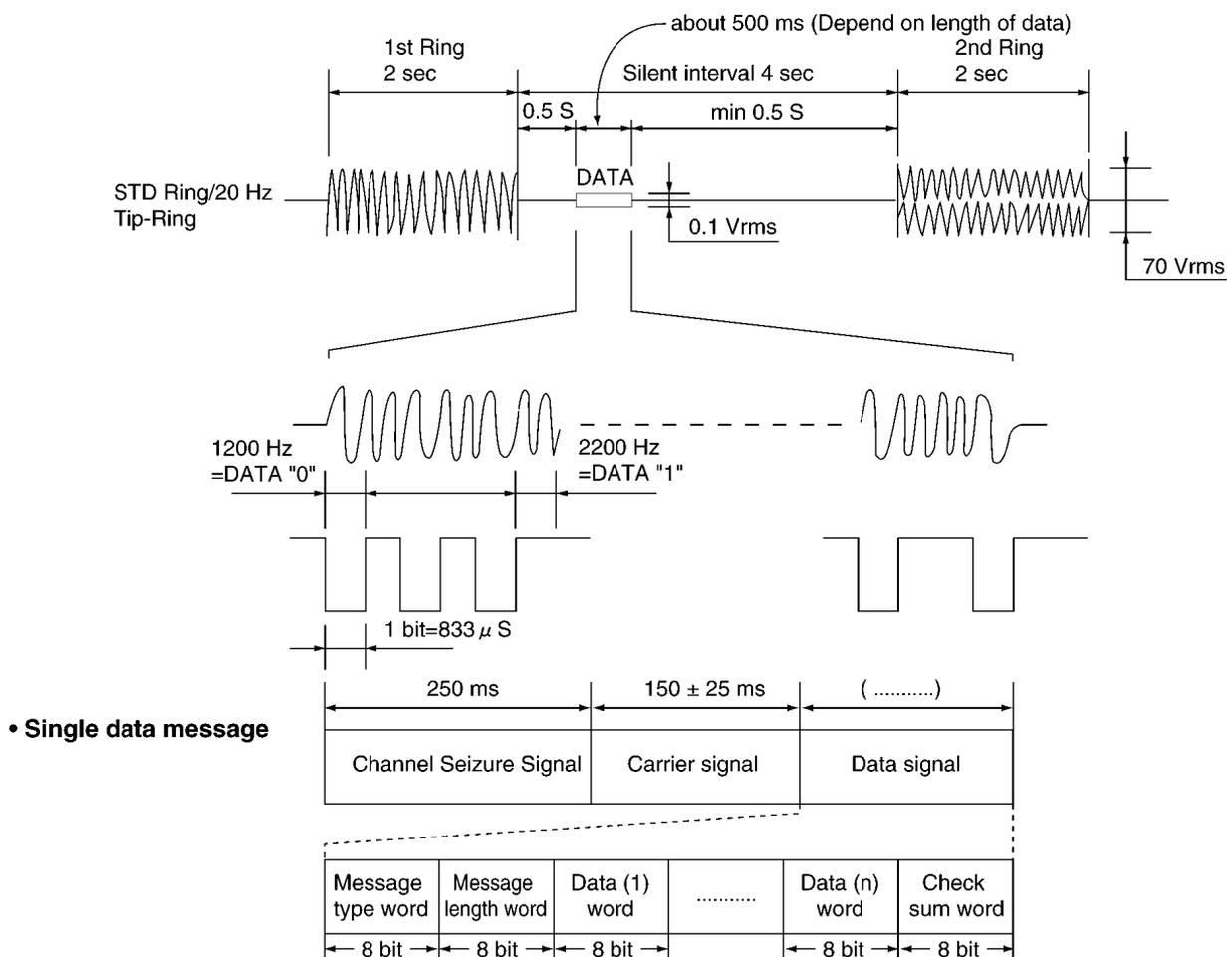
When there is multiple data in the unit, the name or telephone number are displayed.

#### 2. Circuit Operation:

The caller ID signal input from TEL LINE is processed with MODEM (IC5).

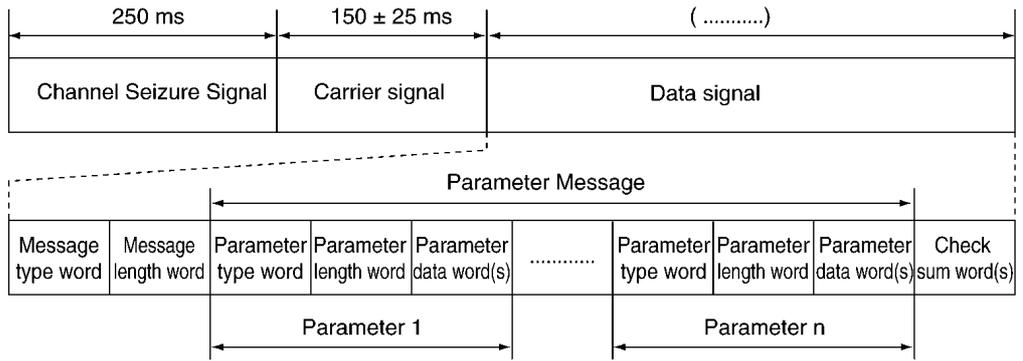
Refer to 2.3.3.5. Analog Board Section for the route of caller ID signal.

#### Timing Chart



- 1 word = All 8 bit data
- Message Type Word = Fixed value "00000100"
- Message Length Word = number of the data word
- Data word = The data value (month, day, hour, minute, telephone number)

· Multiple data message



- 1 word = All 8 bit data
- Message Type = Fixed value "10000000"
- Message Length Word = number of the Parameter Message word
- Parameter Type Word = Kind of data (ex. the time, phone number)
- Parameter Length Word = number of the Parameter data word
- Parameter Word (s) = the data value

## 5.10. ITS (INTEGRATED TELEPHONE SYSTEM) AND MONITOR SECTION

### 5.10.1. GENERAL

The general ITS operation is performed by the modem IC5. The alarm tone, the key tone, the calling tone and the beep are output from the ASIC IC1 (digital board).

### 5.10.2. SPEAKER PHONE CIRCUIT

#### 1. Function

The circuit controls the automatic switching of the transmitted and received signals, to and from the telephone line, when the unit is used in the hands-free mode.

#### 2. Circuit Operation

The speakerphone can only provide duplex.

#### 3. Signal path

Refer to **CHECK SHEET (P.70)**

### 5.10.3. HANDSET CIRCUIT

#### 1. Function

This circuit controls the conversation over the handset, i.e. the transmitted and received voices to and from the handset.

#### 2. Signal path

Refer to **CHECK SHEET (P.70)**

### 5.10.4. MONITOR CIRCUIT FOR EACH SIGNALS

#### 1. Function

This circuit monitors various tones, such as **1** DTMF tone, **2** Alarm/Beep/Key tone/Bell **3** Dummy ring back tone.

#### 2. Signal path

Refer to **CHECK SHEET (P.70)**

## 5.11. ATAS (AUTOMATIC TELEPHONE ANSWERING SYSTEM) SECTION

### 1. Function

The ATAS main operation is performed by the special IC5 (MODEM). IC6 (FLASH MEMORY)'s control signals are input from ASIC IC1.

- a. Greeting/Message Recording
- b. ICM Recording
- c. Greeting/Message/ICM play to speaker
- d. Greeting/Message/ICM play to Tel Line
- e. Vox Detection

### 2. Signal Path

Refer to **CHECK SHEET (P.70)**

### 5.11.1. REMOTE RECEIVING

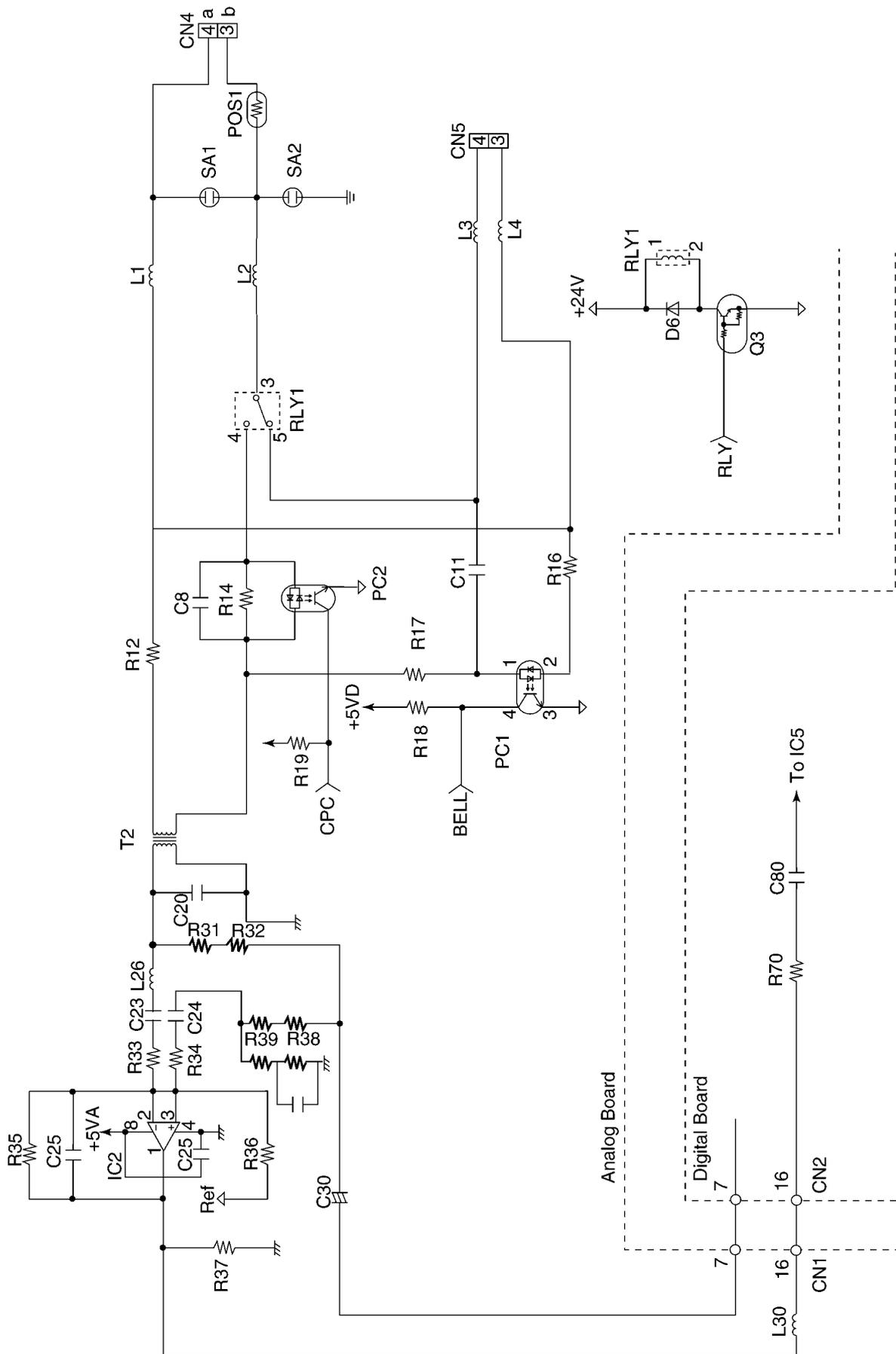
#### 1. Function

This is the parallel connection DTMF signal for the TEL mode between a and b. When the other party is a FAX, the unit changes to FAX receiving.

#### 2. Signal Path

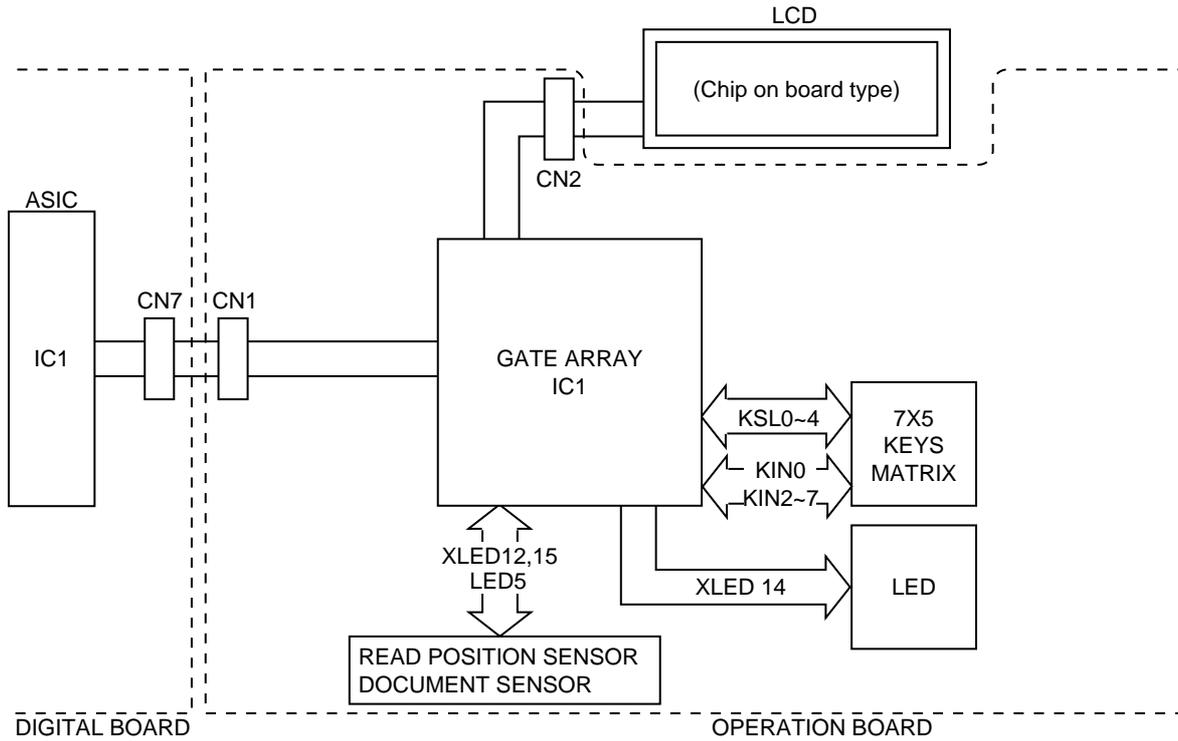
Refer to **CHECK SHEET (P.70)**

### 5.11.2. CIRCUIT DIAGRAM



## 5.12. OPERATION BOARD SECTION

The unit consists of an LCD (Liquid crystal display), KEYS and LED (light-emitting diode). They are controlled by the Gate Array (IC1) and ASIC (IC1: on the DIGITAL BOARD). The key matrix table is shown below.



KX- FT78CE/HG-B OPERATION BOARD: BLOCK DIAGRAM

### Key Matrix

O \ I	KIN 0	KIN 2	KIN 3	KIN 4	KIN 5	KIN6	KIN 7
KSL0	RECEIVE MODE (SW29)	RECORE (SW21)	/	8 (SW8)	9 (SW9)	7 (SW7)	VOL + (SW25)
KSL1	STOP (SW28)	PLAY (SW20)	ERASE (SW16)	5 (SW5)	6 (SW6)	4 (SW4)	BROADCAST (SW24)
KSL2	COPY (SW31)	MENU (SW23)	SP-PHONE (SW19)	REDIAL (SW14)	MUTE (SW15)	FLASH (SW13)	NEXT (SW27)
KSL3	/	/	/	2 (SW2)	3 (SW3)	1 (SW1)	/
KSL4	FAX/START / SET (SW30)	PREV (SW22)	VOL - (SW18)	0 (SW11)	# (SW12)	* (SW10)	HELP (SW26)

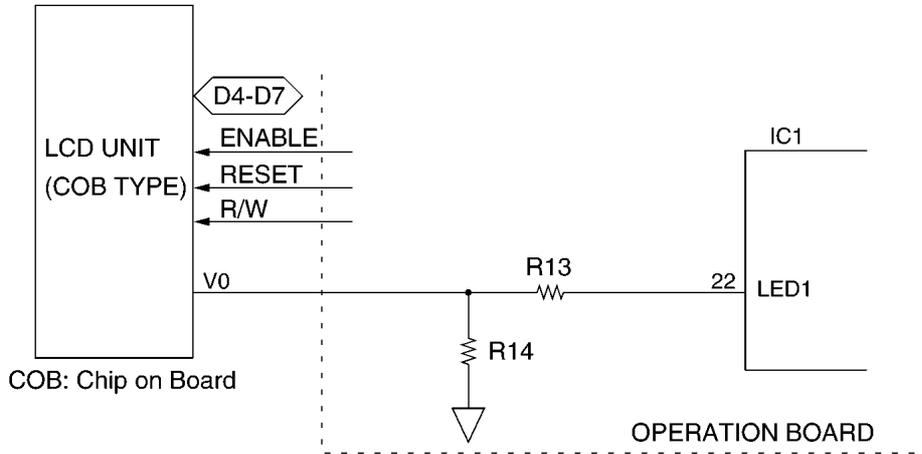
### LED

	XLED14
	LED1 PLAY MESSAGES

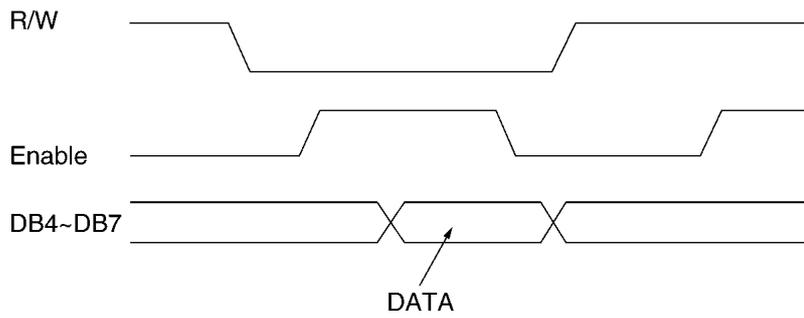
### 5.13. LCD SECTION

The Gate Array (IC1) works only for writing the ASCII code from data bus (D4-D7). V0 is supplied for the crystal drive. R13 and R14 are density control resistors. Consequently, in this unit, the timing (positive clock) is generated by the LCD interface circuitry in the gate array (IC1).

#### Circuit Diagram



#### Timing Chart

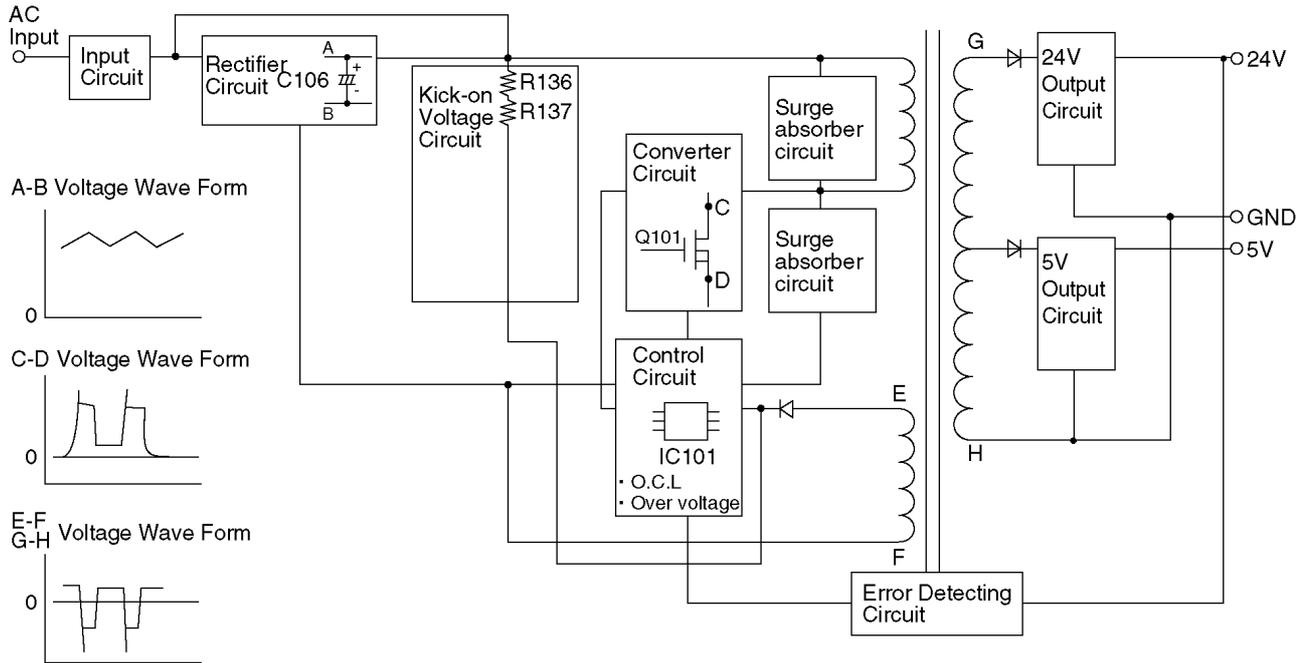


Density	Normal	Dark
LED1 (IC1-22pin)	H	L

## 5.14. POWER SUPPLY BOARD SECTION

This power supply board uses the switching regulator method.

### Block Diagram



#### [Input Circuit]

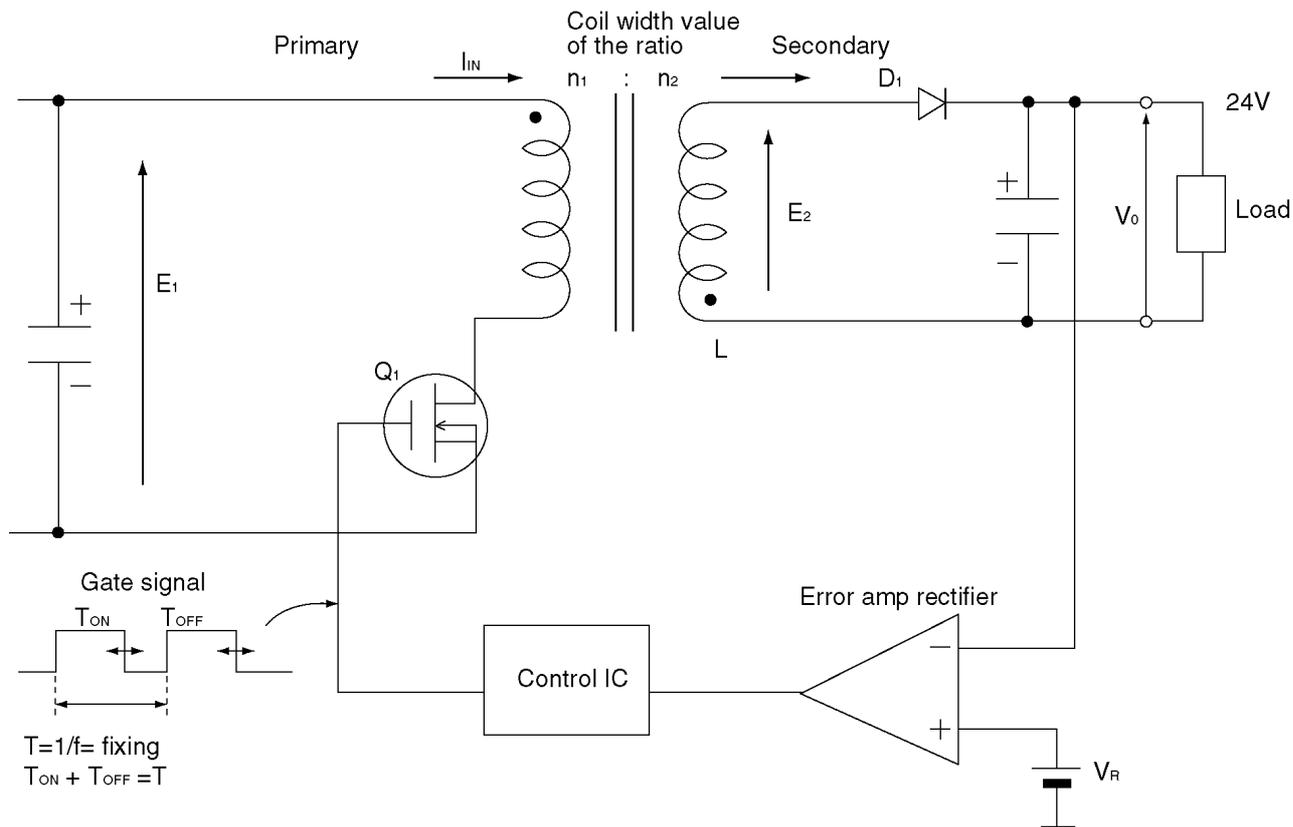
The input current goes into the input rectifier circuit through the filter circuit. The filter circuit decreases the noise voltage and the noise electric field strength.

#### [Rectifier Circuit]

The input current is rectified by D101, D102, D103 and D104 and charges C106 to make DC voltage. Then it supplies power to the converter circuit.

#### [Kick-on voltage circuit]

Bias is applied to the Q101 gate via this circuit when the AC power is turned on and Q101 begins operating.



The following is an overview of how the power supply unit is controlled.  
 The control method of this power supply unit is pulse width modulation.

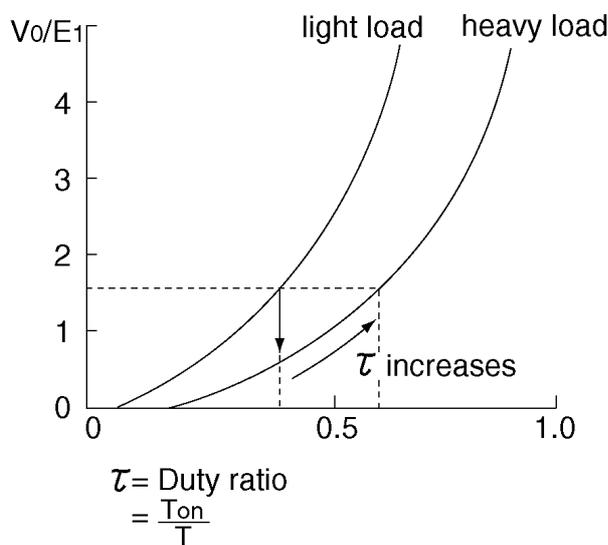
When Q<sub>1</sub> is ON, the energy is charged in the transfer primary coil according to E<sub>1</sub>. When Q<sub>1</sub> is OFF, the energy is output from the secondary transfer as follows.

L → D<sub>1</sub> → Load → L

Then the power is supplied to the Load. When Q<sub>1</sub> is ON, power is not output from the secondary side. The output voltage is fed back in the control IC according to the error amp rectifier. Then depending on how T<sub>ON</sub> is controlled, stabilization occurs. Also, when the current load becomes too large, in order to decrease the voltage output, the increase in τ is controlled and the output voltage is stabilized.

Therefore, basically the timing: Ton/Toff of Q1 controls the output voltage.

Output/Input voltage value of ratio



**[Surge Absorber Circuit]**

This circuit is for absorbing surge voltage generated by the transformer.

**[Control Circuit and Detecting Circuit]**

The control circuit amplifies the output with increased voltage detected in the error detecting circuit. Then it drives the main transistor.

In this power supply, the duty ratio is defined by changing the ON period of the main transistor.

This is shown as follows.

When the output voltage of the 24V circuit increases, the current of the photo coupler PC101 increases, the pulse width of the output control IC becomes narrower and the ON period of Q101 becomes shorter.

**[Over Current Limiter (O.C.L)]**

The highest drain current (Q101) is limited by a limiter circuit (IC101) of 24V. The 24V output is limited by this circuit.

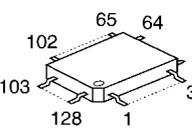
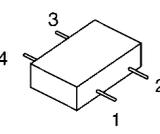
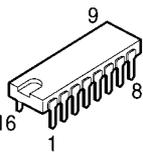
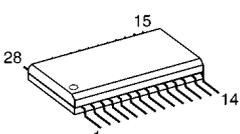
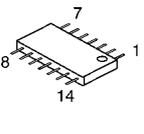
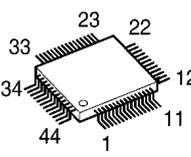
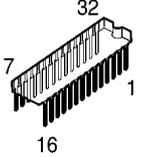
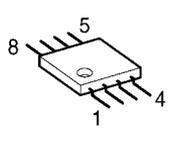
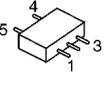
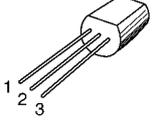
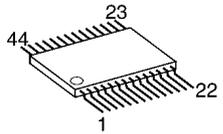
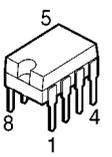
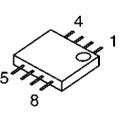
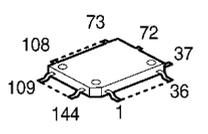
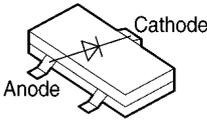
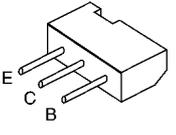
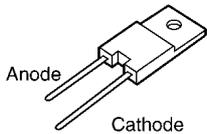
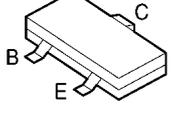
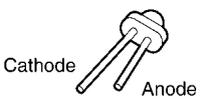
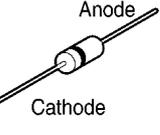
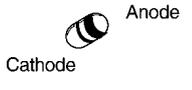
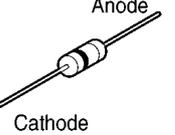
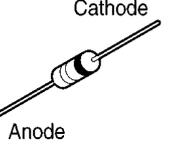
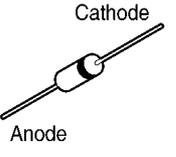
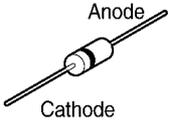
**[Over Voltage Circuit]**

If the 24V output increases because the error detecting circuit or control circuit is broken, IC101 will recognize this signal and output becomes 0V.

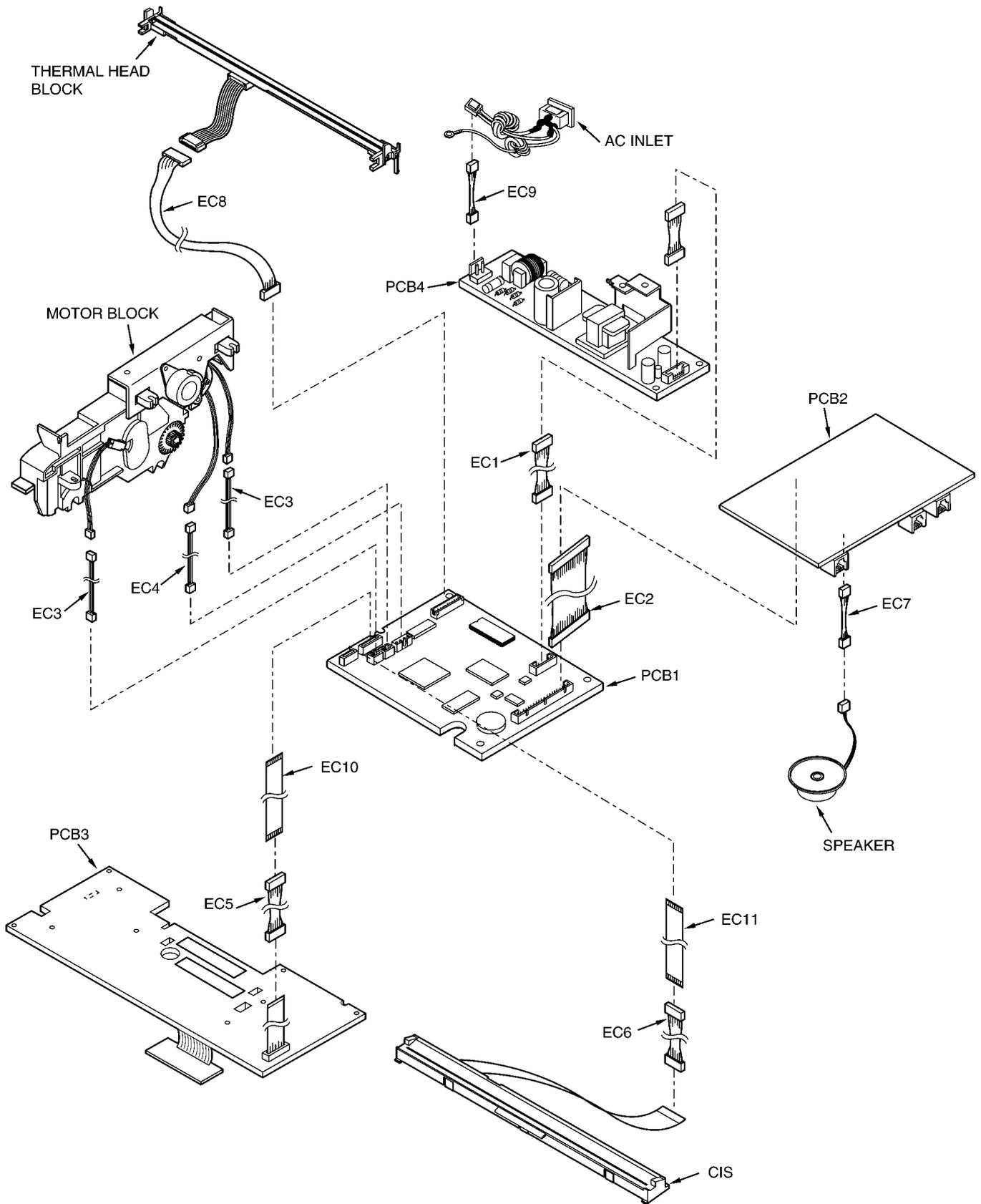
**Dummy load method (to quickly check the power supply output)**

Refer to **POWER SUPPLY BOARD SECTION (P.75)**.

# 6 TERMINAL GUIDE OF THE IC'S TRANSISTORS AND DIODES

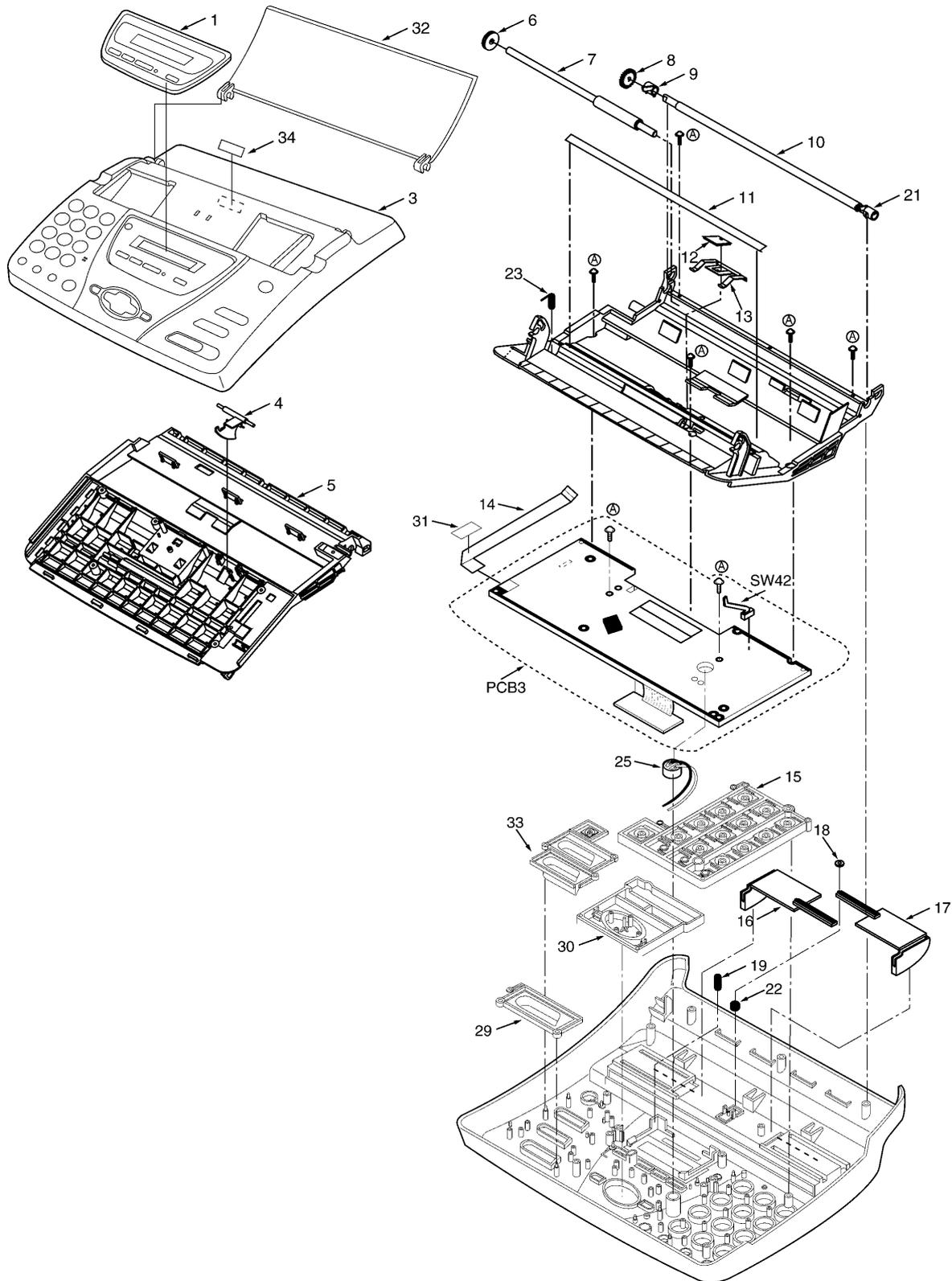
 <p>PFVIR675813</p>	 <p>PFVIS80842AN</p>	 <p>PFVIT2003APS</p>	 <p>PFVIBSL256SC</p>	 <p>PFVIBU4066BF</p>
 <p>MN7D032Z9J</p>	 <p>PFWIFT78CE PFWIFT78HG</p>	 <p>PQVIMC34119D PQVINJM082M</p>	 <p>PFVIMM1385EN</p>	 <p>PFVITA7805F AN1431T</p>
 <p>PQVIKM29N4TC</p>	 <p>PFVIFA5317P</p>	 <p>PFVINJM2904M PFVTSI4431DY</p>	 <p>PFVIM66440M1</p>	 <p>2SD1819A</p>
 <p>MA141WK</p>	 <p>2SB1322</p>	 <p>PFVDSF5LC20U 2SK2651</p>	 <p>PQVTD143Z106 PQVTDTC114EU 2SB1218A</p>	 <p>LNJ801LPDJA</p>
 <p>MA165</p>	 <p>PQVDRLS73T</p>	 <p>PFVD1N4005, MA4220 PFVDD1NL20U, PQVD1N7200R</p>	 <p>PFVDRMRLS245</p>	 <p>1SS131</p>
 <p>PQVDERA1802, PFVDEG01C PQVDMZJ5R6A</p>				

# 7 FIXTURES AND TOOLS

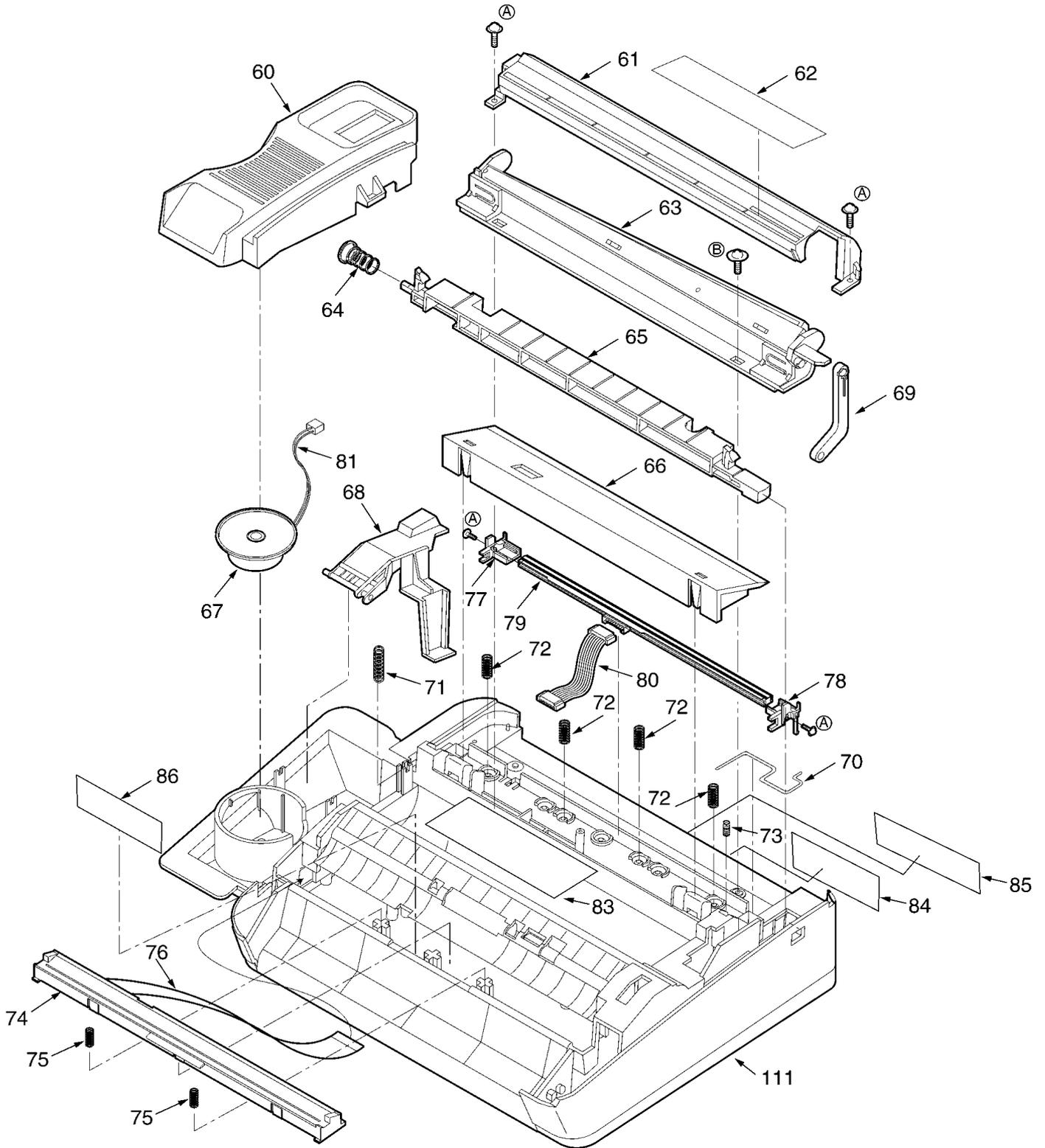


# 8 CABINET, MECHANICAL AND ELECTRICAL PARTS LOCATION

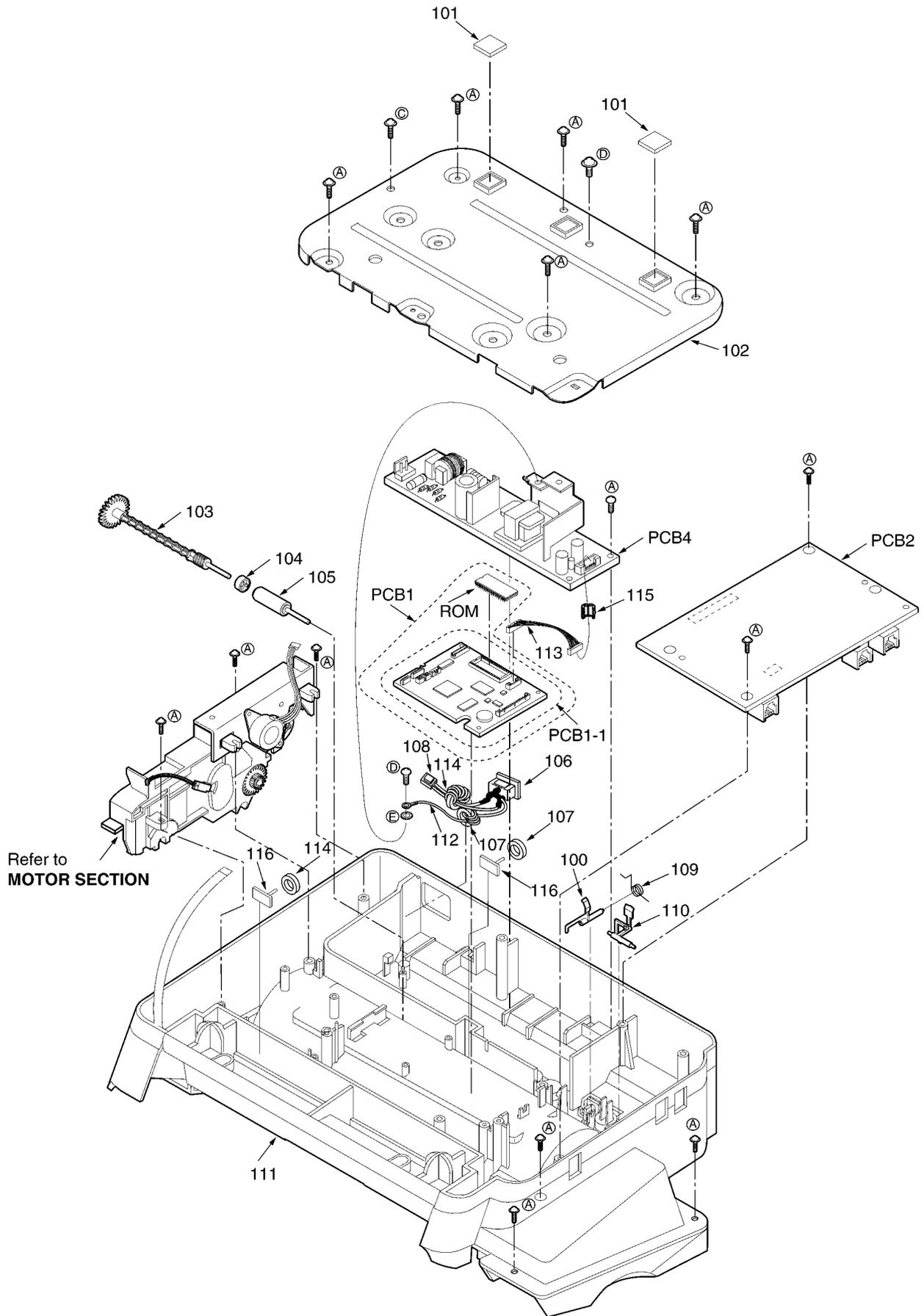
## 8.1. OPERATION PANEL SECTION



## 8.2. UPPER CABINET SECTION

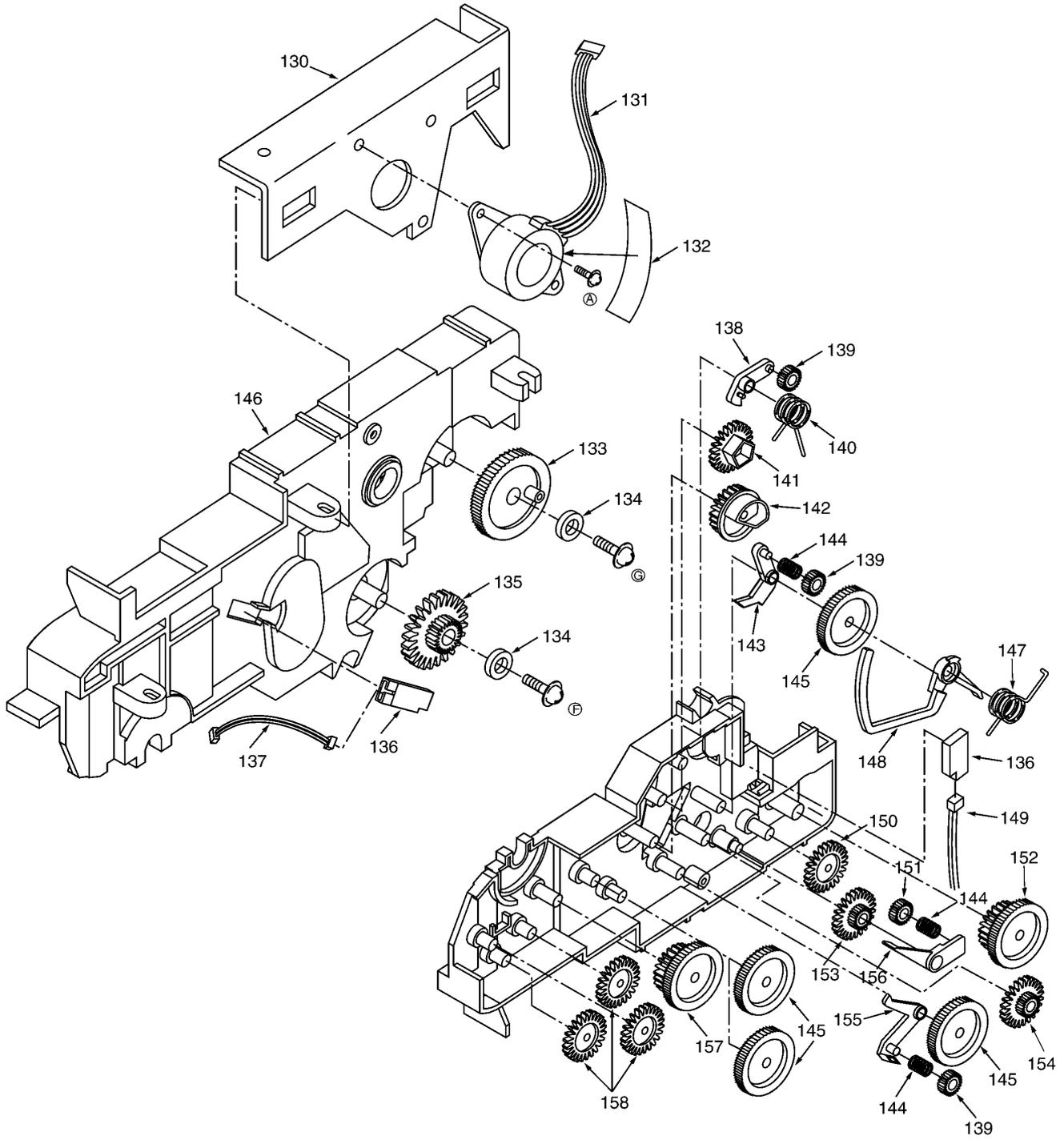


### 8.3. LOWER CABINET/P.C.B. SECTION

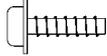


**CROSS REFERENCE:**  
**MOTOR SECTION (P.158)**

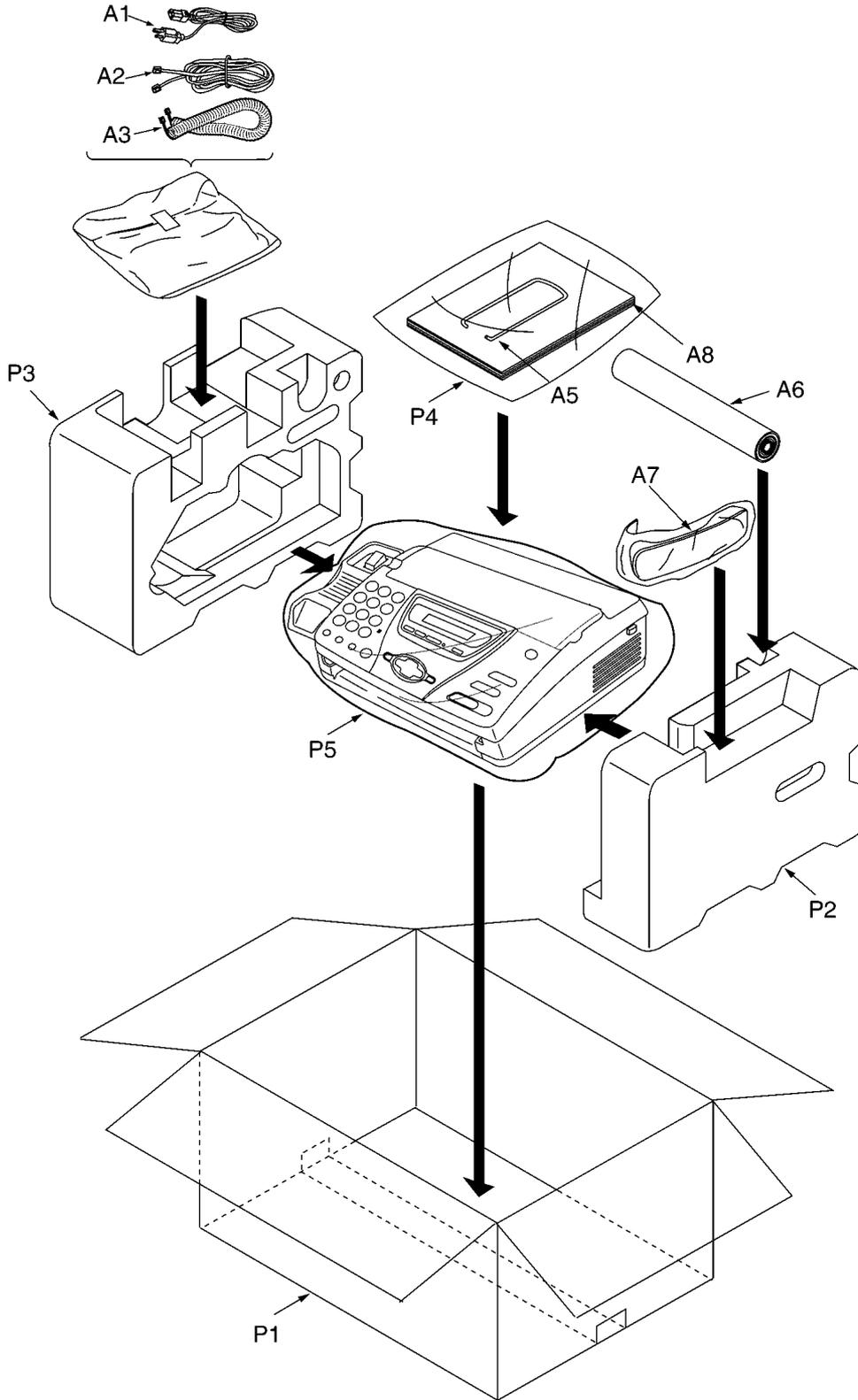
### 8.4. MOTOR SECTION



## 8.5. ACTUAL SIZE OF SCREWS AND WASHER

	Part No.	Illustration
Ⓐ	XTW3 + S10P	
Ⓑ	XTW3+W8P	
Ⓒ	XTW3+U6LFZ	
Ⓓ	XSB4+6	
Ⓔ	XWC4B	
Ⓕ	XTN2+12GFX	
Ⓖ	XTN2+14GFX	

# 9 ACCESSORIES AND PACKING MATERIALS



# 10 REPLACEMENT PARTS LIST

RTL (Retention Time Limited)

Notes:

- The marking (RTL) indicates that the Retention Time is limited for this item.

After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing parts and product retention.

After the end of this period, the assembly will no longer be available.

- Important safety notice

Components identified by  $\triangle$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

- The S mark indicates service standard parts and may differ from production parts.

- ISO code (Example : ABS-HB) of the remarks column shows quality of the material and a flame resisting grade about plastics.

- RESISTORS & CAPACITORS

Unless otherwise specified;

All resistors are in ohms ( $\Omega$ ) K=1000 $\Omega$ , M=1000k $\Omega$

All capacitors are in MICRO FARADS ( $\mu$ F) P= $\mu$ F

\*Type & Wattage of Resistor

Type

ERC:Solid ERD:Carbon PQ4R:Chip	ERX: Metal Film ERG: Metal Oxide ERO: Metal Film	PQRD: Carbon PQRQ: Fuse ERF: Wire Wound
--------------------------------------	--	---

Wattege

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	5:5W
---------------	---------------	---------------	------	------	------

ECFD: Semi-Conductor ECQS: Styrol PQCBX, ECUV: Chip ECMS: Mica	ECCD, ECKD, PQCBC, PQVP : Ceramic ECQM, ECQV, ECQE, ECQU, ECQB : Polyester ECEA, ECSZ, ECOS : Electrolytic ECQP : Polypropylene
---	--

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others		
1H : 50V 2A : 100V 2E : 250V 2H : 500V	05 : 50V 1 : 100V 2 : 200V	OF : 3.15V 1A : 10V 1V : 35V OJ : 6.3V	OJ : 6.3V 1A : 10V 1C : 16V 1E,25 : 25V	1V : 35V 50,1H : 50V 1J : 63V 2A : 100V	

## 10.1. CABINET AND ELECTRICAL PARTS

### 10.1.1. OPERATION PANEL SECTION

Ref. No.	Part No.	Part Name & Description	Remarks
1	PFGP1222T	PANEL, LCD (KX-FT78CE-B)	PC-HB
1	PFGP1222V	PANEL, LCD (KX-FT78HG-B)	PC-HB
2	Not Used		S
3	PFGG1178Z1	GRILLE OPERATION PANEL (KX-FT78CE-B)	S PS-HB
3	PFGG1178V1	GRILLE OPERATION PANEL (KX-FT78HG-B)	S PS-HB
4	PFDE1096Z	LEVER, DOCUMENT DETECTION	POM-HB
5	PFUV1056Z	COVER, OPERATION	PS-HB
6	PFDG1170Z	GEAR, PLATEN	POM-HB

Ref. No.	Part No.	Part Name & Description	Remarks
7	PFDN1044Z	ROLLER, PLATEN	
8	PFDG1123Z	GEAR, PLATEN	
9	PFDJ1021Z	PLATEN SPACER, R	POM-HB
10	PFDN1033Z	ROLLER, PLATEN	
11	PFHX1360Z	COVER READING SHEET	
12	PFHG1064Z	SEPARATION RUBBER	
13	PFUS1173Z	SPRING, DOCUMENT FEED	
14	PFJE1032Z	LEAD WIRE	
15	PFBX1171Z1	KEY, DIAL	S ABS-HB
16	PFKR1026Z1	DOCUMENT GUIDE,R	S ABS-HB
17	PFKR1025Z1	DOCUMENT GUIDE,L	S ABS-HB
18	PFDG1015Y	GEAR,DOCUMENT GUIDE	POM-HB
19	PFUS1170Z	SPRING,DOCUMENT LEVER	
20	Not Used		
21	PFDJ1020Z	PLATEN SPACER, L	POM-HB
22	PFUS1222Z	SLIDER SPRING	
23	PFUS1286Z	SPRING, OPERATION EARTH	
24	Not Used		
25	PQJML28Z	BUILTIN-MICROPHONE	
26	Not Used		
27	Not Used		
28	Not Used		S
29	PFBC1094Z1	KEY,START	S ABS-HB
30	PFBX1182Z1	KEY,FANCTION NABI	ABS-HB
31	PFHX1578Z	SHEET, OPEPANE	
32	PFKS1077Z1	DOCUMENT, TRY	
33	PFBX1173Z1	KEY,COPY STOP	ABS-HB
34	PFQT1435V	FACE DOWN LABEL (KX-FT78HG-B)	

## 10.2. UPPER CABINET/THERMAL HEAD SECTION

Ref. No.	Part No.	Part Name & Description	Remarks
60	PFKM1049Z1	HANDSET CRADLE	S PS-HB
61	PFKV1026Z1	COVER,CUTTER	S PS-HB
62	PFQT1698X	CAUTION LABEL (KX-FT78CE-B)	
62	PFQT1698T	CAUTION LABEL (KX-FT78HG-B)	
63	PFDX1025Z	CUTTER UNIT	
64	PFUS1179Z	LOOK LEVER SPRING	
65	PFDE1137Y1	LEVER, LOCK	S ABS+GF2 0%
66	PFHR1219Z	COVER, HEAD	
67	PFAS50P003Z	SPEAKER	
68	PFBH1011Z1	BUTTON, HOOK	S ABS-HB
69	PFHR1214Z	ARM, CUTTER	POM-HB
70	PFUS1256Z	SPRING, EARTH CUTTER	
71	PFUS1176Z	SPRING, OPERATION COVER OPEN	
72	PFUS1318Z	THERMAL HEAD SPRING	
73	PFUS1257Z	SPRING, EARTH HEAD	
74	N2GBBE000002	IMAGE SENSOR	
75	PFUS1285Z	SPRING, CIS	
76	PFJE1005Z	LEAD WIRE	
77	PFDE1135Z	HEAD GUIDE,L	POM-HB
78	PFDE1136Z	HEAD GUIDE,R	POM-HB
79	PFJHS023Z	THERMAL HEAD	
80	PFJS12Q80Z	LEAD, THERMAL	
81	PFJS02Q64Z	CONNECTOR, 2PIN	
82	Not Used		
83	PFQT1952Z	PAPER CAUTION LABEL	
84	PFGT2105Z-M	NAME PLATE (KX-FT78CE-B)	
84	PFGT2075Z-M	NAME PLATE (KX-FT78HG-B)	
85	PFQT1979Y	CAUTION LABEL (KX-FT78CE-B)	
85	PFQT1186R	CAUTION LABEL (KX-FT78HG-B)	
86	PFHX1621Z	CIS SHEET	

## 10.2.1. LOWER SECTION

Ref. No.	Part No.	Part Name & Description	Remarks
100	PFDE1097Z	PAPER SENSOR LEVER	
101	PFHA1001Z	LEG RUBBER	
102	PFMD1046Z	FRAME BOTTOM	
103	PFDF1051Z	SHAFT	POM-HB
104	PFDE1133Z	SPACER	POM-HB
105	PFDR1015Z	ROLLER SUPPORT	
106	PFJP03S04Z	AC INLET	△
107	PQLB1E1	FERRITE CORE	
108	PFJS02Q82Z	CONNECTOR, 2PIN	
109	PFUS1319Y	SPRING, SENSOR	
110	PFDE1134Z	LEVER, JAM SENSOR	PBT-VO
111	PFKM1064W1	CABINET, MAIN (KX-FT78CE-B)	S PS-VO
111	PFKM1064X1	CABINET, MAIN (KX-FT78HG-B)	S PS-VO
112	WLR18YK26CM4	EARTH LEAD	S
113	PFJS07P21Z	LEAD, POWER	
114	KR06TT251508	FERRITE CORE LARGE	
115	PFLB5K001	FERR	
116	PQHR136Z	CLAMPER	

## 10.2.2. GEAR CHASSIS SECTION

Ref. No.	Part No.	Part Name & Description	Remarks
130	PFMH1084Z	MOTOR PLATE	
131	35S1S15DCNR	MOTOR	S
132	PFHX1399Z	MOTER SHEET	
133	PFDG1174Y	GEAR, CUTTER	POM-HB
134	PFHX1413Z	GEAR SHEET	
135	PFDG1119Y	GEAR	POM-HB
136	PQST2A04Z	SENSOR	
137	PFJS03Q43Z	SENSOR LEAD	
138	PFHR1218Z	ARM	POM-HB
139	PFDG1021Z	GEAR, C	POM-HB
140	PFUS1251Z	SPRING, BACK	
141	PFDG1167Z	GEAR, MODE	POM-HB
142	PFDG1168Z	GEAR, MODE	POM-HB
143	PFHR1216Z	ARM	POM-HB
144	PFUS1253Y	SPRING, GEAR	
145	PFDG1022Z	GEAR, D	POM-HB
146	PFUA1026X	BASE, GEAR	PBT-ABS
147	PFUS1252Z	SPRING, CUTTER	
148	PFHR1215Z	ARM, CUTTER	POM-HB
149	PFJS03Q79Z	LEAD	
150	PFDG1129Z	GEAR S	POM-HB
151	PFDG1134Z	GEAR, C	POM-HB
152	PFDG1173Z	GEAR, CUTTER	POM-HB
153	PFDG1132Y	GEAR, A	POM-HB
154	PFDG1172Z	GEAR, BASE	POM-HB
155	PFHR1217Z	ARM	POM-HB
156	PFHR1213Z	ARM, CUTTER	POM-HB
157	PFDG1171Z	GEAR, SENDING	POM-HB
158	PFDG1169Z	GEAR	POM-HB

## 10.2.3. ACCESSORIES AND PACKING MATERIALS

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PQJA10038Y	POWER CORD	△
A2	PQJA10075Z	TEL CORD	
A3	PFJA04C002Y	CURL CORD	
A4	Not Used		
A5	PQUS10136Z	PAPER STACKER	
A6	PQHP10023Z	ROLL PAPER	
A7	PFJXE1001Z	HANDSET	
A8	PFQX1767Z	INSTRUCTION BOOK (KX-FT78CE-B)	
A8	PFQX1766Z	INSTRUCTION BOOK (KX-FT78HG-B)	
P1	PFPE1357Z-M	GIFT BOX ASS`Y (KX-FT78CE-B)	S
P1	PFPE1356Z-M	GIFT BOX ASS`Y (KX-FT78HG-B)	S

Ref. No.	Part No.	Part Name & Description	Remarks
P2	FFPN1289Z	CUSHION	
P3	FFPN1288Z	CUSHION	
P4	PQPP10005Z	BAG, POLYETHYLENE	
P5	FFPH1030Z	SOFT SHEET	

## 10.3. DIGITAL BOARD PARTS

### 10.3.1. KX-FT78CE-B

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	FFWP1FT78CE	DIGITAL BOARD ASS`Y (RTL)	
PCB-1	PFLP1436CEZ	DIGITAL BOARD ASS`Y (RTL) (without ROM)	
		(ICS)	
IC1	FFVIM66440M1	IC	S
IC2	FFWIFT78CE	IC (ROM)	
IC3	PFVIS80842AN	IC	S
IC4	FFVIBSL2566C	IC	
IC5	PFVIR675813	IC	
IC6	PQVIKM29N4TC	IC	S
IC7	PQVIMML385EN	IC	S
IC8	PFVIT2003APS	IC	S
IC9	PQVITC4066BF	IC	S
IC10	PQVINJM082EM	IC	S
IC11	PFVINJM2904M	IC	S
		(TRANSISTORS)	
Q3	2SD1819A	TRANSISTOR (SI)	S
Q4	2SD1819A	TRANSISTOR (SI)	S
Q5	2SD1819A	TRANSISTOR (SI)	S
Q6	2SD1819A	TRANSISTOR (SI)	S
Q7	2SB1218A	TRANSISTOR (SI)	
Q8	PQVTD143Z106	TRANSISTOR (SI)	S
Q9	PQVTDTC114EU	TRANSISTOR (SI)	S
Q10	2SB1322	TRANSISTOR (SI)	S
Q11	PQVTDTC114EU	TRANSISTOR (SI)	S
Q12	PFVTSI4431DY	TRANSISTOR (SI)	S
Q14	PQVTDTC114EU	TRANSISTOR (SI)	S
Q15	2SB1218A	TRANSISTOR (SI)	
Q16	PQVTDTC114EU	TRANSISTOR (SI)	S
		(DIODES)	
D1	PQVDRLS73T	DIODE (SI)	
D3	PFVDRMRLS245	DIODE (SI)	S
D4	PQVD1N7200R	DIODE (SI)	
DA1	MA141WK	DIODE (SI)	
		(CONNECTORS)	
CN1	PQJP7G30Y	CONNECTOR, 7PIN	S
CN2	PQJP18A19Z	CONNECTOR, 18PIN	S
CN3	PQJP5G30Y	CONNECTOR, 5PIN	S
CN4	PFJP12A12Z	CONNECTOR, 12PIN	S
CN5	PQJP2G30Y	CONNECTOR, 2PIN	S
CN6	PQJP02G100Z	CONNECTOR, 2PIN	
CN7	PQJS12A13Z	CONNECTOR, 13PIN	
CN8	PFJS10A13Z	CONNECTOR, 10PIN	S
		(COILS)	
L3	PQLQR2KA20T	COIL	S
L4	PQLQR2KA20T	COIL	S
L7	PQLQR2KA20T	COIL	S
L8	PQLQR2KA20T	COIL	S
L10	PQLQR2KA113	COIL	S
L11	PQLQR2KA113	COIL	S
L13	PQLQR2KA20T	COIL	S
L18	PQLQR2KA20T	COIL	S
L21	PQLQR2KA20T	COIL	S
L22	PQLQR2KA20T	COIL	S
L23	PQLQR2KA20T	COIL	S
L24	PQLQR2KA20T	COIL	S

Ref. No.	Part No.	Part Name & Description	Remarks
L25	PQLQR2KA20T	COIL	S
L26	PQLQR2KB20T	COIL	S
L27	PQLQR2KB20T	COIL	S
L29	PQLQR2KB20T	COIL	S
L30	PQLQR2KB20T	COIL	S
L31	PQLQR2KB20T	COIL	S
L33	PQLQR2KB20T	COIL	S
		(BATTERY)	
BAT1	PFSU1004Z	LITHIUM BATTERY	S
		(COMPONENTS PARTS)	
RA1	EXRV8V271JV	RESISTOR ARRAY	
RA2	EXRV8V271JV	RESISTOR ARRAY	
RA3	EXRV8V271JV	RESISTOR ARRAY	
RA4	EXRV8V271JV	RESISTOR ARRAY	
RA5	EXRV8V271JV	RESISTOR ARRAY	
RA6	EXRV8V271JV	RESISTOR ARRAY	
RA7	EXRV8V101JV	RESISTOR ARRAY	S
RA8	EXRV8V101JV	RESISTOR ARRAY	S
		(CRYSTAL OSCILLATORS)	
X1	PFVCCFS32Z	CRYSTAL OSCILLATOR	S
X2	PFVBKB240ZAT	CRYSTAL OSCILLATOR	S
X3	PFVC32256ZAT	CRYSTAL OSCILLATOR	S
		(FUSE)	
F2	PFRB001251KC	FUSE	S
F5	PFRB0031125T	FUSE RESISTOR	S
		(CERAMIC FILTERS)	
L2	PFVF1A121ST	CERAMIC FILTERS	
L5	PFVF1A121ST	CERAMIC FILTERS	
		(RESISTORS)	
F3	ERJ3GEY0R00	0	
F4	ERJ3GEY0R00	0	
J2	PQ4R18XJ000	0	S
J3	ERJ3GEY0R00	0	
J6	ERJ3GEY0R00	0	
J9	ERJ3GEY0R00	0	
J11	ERJ3GEY0R00	0	
L6	PQ4R18XJ100	10	S
L4	ERJ3GEY0R00	0	
L6	PQ4R18XJ100	0	S
L9	PQ4R18XJ220	22	S
L12	ERJ3GEY0R00	0	
L14	ERJ3GEYJ101	100	
L15	ERJ3GEY0R00	0	
L16	ERJ3GEYJ101	100	
L17	ERJ3GEYJ101	100	
L19	ERJ3GEYJ101	100	
L20	ERJ3GEY0R00	0	
L26	ERJ3GEY0R00	0	
L27	ERJ3GEY0R00	0	
L32	ERJ3GEY0R00	0	
R1	ERJ3GEYJ103	0.01	
R2	ERJ3GEYJ203	20K	
R3	ERJ3GEYJ472	4.7K	
R4	ERJ3GEY0R00	0	
R5	ERJ3GEYJ271	270	
R6	ERJ3GEY0R00	0	
R7	ERJ3GEYJ271	270	
R8	ERJ3GEYJ271	270	
R10	ERJ3GEY0R00	0	
R11	ERJ3GEYJ271	270	
R12	ERJ3GEYJ271	270	
R13	ERJ3GEYJ271	270	
R14	ERJ3GEYJ472	470	
R15	ERJ3GEYJ103	10k	
R16	ERJ3GEYJ102	100	
R17	ERJ3GEYJ472	470	

Ref. No.	Part No.	Part Name & Description	Remarks
R18	ERJ3GEYJ101	100	
R19	ERJ3GEYJ271	270	
R20	ERJ3GEYJ101	100	
R21	ERJ3GEYJ153	15K	
R22	ERJ3GEYJ470	47	
R24	ERJ3GEYJ222	220	
R25	ERJ3GEYJ101	100	
R26	ERJ3GEYJ101	100	
R27	ERJ3GEYJ101	100	
R28	ERJ3GEYJ562	5.6K	
R29	ERJ3GEYJ101	100	
R30	ERJ3GEYJ101	100	
R31	ERJ3EKF1101	0	
R32	ERJ3GEY0R00	0	
R34	ERJ3GEYJ104	100K	
R36	ERJ3GEYJ103	10K	
R37	ERJ3GEYJ103	10K	
R38	ERJ3GEYJ103	10K	
R41	ERJ3GEYJ222	2.2K	
R42	ERJ3GEYJ473	47K	
R43	ERJ3GEYJ124	120K	
R44	ERJ3GEYJ334	330K	
R45	ERJ3GEY0R00	0	
R46	ERJ3GEYJ102	1K	
R47	ERJ3GEYJ363	36K	
R49	ERJ3GEYJ222	2.2K	
R50	ERJ3GEYJ334	330K	
R51	ERJ3GEYJ393	39K	
R52	ERJ3GEYJ472	4.7K	
R54	ERJ3GEYJ272	2.7K	
R55	ERJ3GEYJ183	18K	
R56	ERJ3GEYJ393	39K	
R57	ERJ3GEYJ104	100K	
R58	ERJ3GEYJ472	4.7K	
R59	ERJ3GEYJ103	10K	
R60	ERJ3GEYJ224	220K	
R61	ERJ3GEYJ102	1K	
R62	ERJ3GEYJ222	2.2K	
R63	ERJ3GEYJ682	6.8K	
R64	ERJ3GEYJ222	2.2K	
R65	ERJ3GEYJ472	4.7K	
R66	ERJ3GEYJ101	100	
R67	ERJ3GEYJ222	2.2K	
R68	ERJ3GEYJ123	12K	
R69	ERJ3GEYJ102	1K	
R70	ERJ3GEYJ103	10K	
R73	ERJ3GEYJ363	36K	
R74	ERJ3GEY0R00	0	
R75	ERJ3GEYJ472	4.7K	
R77	ERJ3GEYJ333	33K	
R78	ERJ3GEYJ683	68K	
R79	ERJ3GEYJ682	6.8K	
R82	ERJ3GEYJ394	390K	
R84	ERJ3GEY0R00	0	
R85	ERJ8GEYJ8R2	8.2	
R95	ERJ3GEYJ103	10K	
R96	ERJ3GEYJ622	6.2K	
R97	ERJ3GEYJ103	10K	
R98	ERJ3GEYJ224	220K	
R99	ERJ3GEYJ224	220K	
R101	ERJ3GEYJ331	330	
R102	ERJ3GEYJ2R2	2.2	
R103	ERJ3GEYJ470	47	
R104	ERJ3GEYJ563	0.05	
R105	ERJ3GEYJ222	220	
R107	ERJ3GEYJ104	100K	
R108	ERJ3GEY0R00	0	
R110	ERJ3GEYJ222	2.2K	
R111	ERJ3GEYJ472	4.7K	
R114	ERJ3GEYJ472	4.7K	
R115	ERJ3GEYJ472	4.7K	
R116	ERJ3GEYJ102	1K	
R117	ERJ3GEYJ102	1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R118	ERJ3GEYJ101	100	
R119	ERJ3GEYJ101	100	
R120	ERJ3GEYJ101	100	
R121	ERJ3GEYJ101	100	
R122	ERJ3GEYJ101	100	
R123	ERJ3GEYJ101	100	
R124	ERJ3GEYJ823	82K	
R125	ERJ3GEYJ223	22K	
R126	ERJ3GEYJ562	5.6K	
R127	ERJ3GEYJ472	4.7K	
R128	ERJ3GEYJ821	820	
R129	ERDS1VJ152	1.5K	S
R133	ERJ3GEYJ363	36K	
R135	ERJ3GEY0R00	0	
R136	ERJ3GEYJ271	270	
R137	ERJ3GEY0R00	0	
R138	ERJ3GEY0R00	0	
R139	ERJ3GEY0R00	0	
R140	ERJ3GEY0R00	0	
R142	ERJ3GEY0R00	0	
R143	ERJ3GEY0R00	0	
R144	ERJ3GEY0R00	0	
		(CAPACITORS)	
C1	ECUV1E104ZFV	0.1	S
C2	ECUV1H222KBV	0.0022	
C3	ECUV1H102KBV	0.001	S
C4	ECUV1H102KBV	0.001	
C5	ECUV1H102KBV	0.001	
C6	ECUV1E104ZFV	0.1	S
C7	ECUV1E104ZFV	0.1	S
C8	ECUV1E104ZFV	0.1	S
C9	ECUV1E104ZFV	0.1	S
C10	ECUV1E104ZFV	0.1	S
C11	ECUV1E104ZFV	0.1	S
C12	ECUV1C104KBV	0.1	
C13	ECUV1H102KBV	0.001	S
C14	ECUV1C104KBV	0.1	
C15	ECUV1E104ZFV	0.1	S
C16	ECUV1E104ZFV	0.1	S
C17	ECUV1H120JCV	12	
C18	ECUV1H180JCV	18	
C19	ECUV1E104ZFV	0.1	S
C20	ECUV1E104ZFV	0.1	
C21	ECUV1E104ZFV	0.1	
C22	ECUV1E104ZFV	0.1	
C24	ECEA1CK101	100	S
C25	ECUV1H102KBV	0.001	
C26	ECUV1E104ZFV	0.1	
C27	ECUV1H102KBV	0.001	
C28	ECUV1E104ZFV	0.1	
C29	ECUV1H100DCV	10	
C30	ECUV1H100DCV	10	
C31	ECUV1E104ZFV	0.1	S
C32	ECUV1H102KBV	0.001	
C33	ECUV1H100DCV	10	S
C35	ECUV1E104ZFV	0.1	S
C36	ECUV1E104ZFV	0.1	S
C37	ECUV1E104ZFV	0.1	S
C38	ECUV1H102KBV	0.001	S
C39	ECUV1E104ZFV	0.1	
C40	ECEA0JKA221	220	
C41	ECUV1E104ZFV	0.1	
C42	PQCUV1H104ZF	0.1	S
C43	ECUV1C104KBV	0.1	
C44	ECUV1H102KBV	0.001	
C46	ECUV1C104KBV	0.1	
C47	ECUV1C104KBV	0.1	
C48	ECUV1H101JCV	100	
C49	ECUV1E104ZFV	0.1	
C50	ECUV1H681JCV	680	S
C51	ECEA1CKS100	10	S
C52	ECEA1CKS100	10	S

Ref. No.	Part No.	Part Name & Description	Remarks
C53	ECUV1H330JCV	33	
C55	ECUV1E104ZFV	0.1	
C56	ECUV1E104ZFV	0.1	
C57	ECUV1E104ZFV	0.1	
C58	ECUV1C104KBV	0.1	
C59	ECUV1C104KBV	0.1	
C60	ECUV1H103KBV	0.01	
C61	ECUV1C104KBV	0.1	
C62	ECUV1H331JCV	330	S
C63	ECUV1C104KBV	0.1	
C64	ECUV1H102KBV	0.001	
C65	ECUV1C104KBV	0.1	
C66	ECUV1C104KBV	0.1	
C67	ECUV1H472KBV	0.0047	
C68	ECUV1H472KBV	0.0047	
C69	ECUV1E104ZFV	0.1	
C70	ECUV1C104KBV	0.1	
C71	ECUV1H333KBV	0.033	S
C72	ECUV1C104KBV	0.1	
C73	ECUV1H100DCV	10	
C74	ECUV1H100DCV	10	
C76	ECUV1H102KBV	0.001	
C77	ECUV1C104KBV	0.1	
C78	ECUV1E104ZFV	0.1	
C79	ECEA1CKS100	10	S
C80	ECUV1C104KBV	0.1	
C81	ECUV1C104KBV	0.1	
C82	ECUV1C104KBV	0.1	
C83	ECUV1E104ZFV	0.1	
C85	ECUV1E104ZFV	0.1	
C87	ECUV1C333KBV	0.033	
C88	ECUV1C104KBV	0.1	
C90	ECEA1CKS100	10	S
C91	ECUV1E104ZFV	0.1	
C92	ECUV1H102KBV	0.001	
C93	ECEA1CKS100	10	S
C94	ECUV1H103KBV	0.01	
C96	ECEA1CKS100	10	S
C97	ECUV1H102KBV	0.001	
C98	ECUV1E104ZFV	0.1	
C100	ECUV1E104ZFV	0.1	
C101	ECUV1E104ZFV	0.1	
C102	ECUV1H470JCV	47	
C103	ECEA1CKS100	10	S
C104	ECEA1CKS100	10	S
C105	ECUV1E104ZFV	0.1	
C106	ECUV1E104ZFV	0.1	
C107	ECEA0JKA221	220	
C116	ECUV1C104KBV	0.1	
C119	ECEA1CKS470	47	S
C121	PQCUV1H104ZF	0.1	S
C122	ECUV1E104ZFV	0.1	
C124	ECEA1CKS100	10	S
C125	ECUV1E104ZFV	0.1	
C126	ECEA1CK101	100	S
C127	ECUV1H102KBV	0.001	
C130	ECUV1H102KBV	0.001	
C131	ECUV1H102KBV	0.001	
C139	ECUV1H561JCV	560	S
C143	ECUV1H102KBV	0.001	
C144	ECUV1H102KBV	0.001	
C145	ECUV1H102KBV	0.001	
C146	ECUV1H102KBV	0.001	
C148	ECUV1C104KBV	0.1	S
C149	ECUV1H102KBV	0.001	
C150	ECUV1H102KBV	0.001	
C152	ERJ3GEY0R00	0	
C153	ECUV1H271JCV	270	
C154	ECUV1H102KBV	0.001	
C156	ECUV1H102KBV	0.001	S
C157	ECUV1H102KBV	0.001	
C158	ECUV1H102KBV	0.001	
C159	ECUV1H102KBV	0.001	

Ref. No.	Part No.	Part Name & Description	Remarks
C160	ECUV1H102KBV	0.001	
C164	ECUV1H100DCV	10	
C165	ECUV1H100DCV	10	
C167	ECUV1H100DCV	10	
		(JACK)	
CN2	PFJS32A11Z	JACK	S
CN4	PFJP12A12Z	JACK	S

### 10.3.2. KX-FT78HG-B

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	PFWP1FT78HG	DIGITAL BOARD ASS`Y (RTL)	
PCB-1	PFLP1436HGZ	DIGITAL BOARD ASS`Y (RTL) (without ROM)	
		(ICS)	
IC1	PFVIM66440M1	IC	S
IC2	PFWIFT78HG	IC (ROM)	
IC3	PFVIS80842AN	IC	S
IC4	PFVIBSL256SC	IC	
IC5	PFVIR675813	IC	
IC6	PQVIKM29N4TC	IC	S
IC7	PQVIMM1385EN	IC	S
IC8	PFVIT2003APS	IC	S
IC9	PQVITC4066BF	IC	S
IC10	PQVINJM082BM	IC	S
IC11	PFVINJM2904M	IC	S
IC12	PFVINJM2904M	IC	S
		(TRANSISTORS)	
Q3	2SD1819A	TRANSISTOR(SI)	S
Q4	2SD1819A	TRANSISTOR(SI)	S
Q5	2SD1819A	TRANSISTOR(SI)	S
Q6	2SD1819A	TRANSISTOR(SI)	S
Q7	2SB1218A	TRANSISTOR(SI)	
Q8	PQVTD143Z106	TRANSISTOR(SI)	S
Q9	PQVTDTC114EU	TRANSISTOR(SI)	S
Q10	2SB1322	TRANSISTOR(SI)	S
Q11	PQVTDTC114EU	TRANSISTOR(SI)	S
Q12	PFVTSI4431DY	TRANSISTOR(SI)	S
Q13	PQVTDTC114EU	TRANSISTOR(SI)	S
Q14	PQVTDTC114EU	TRANSISTOR(SI)	S
Q15	2SB1218A	TRANSISTOR(SI)	
Q16	PQVTDTC114EU	TRANSISTOR(SI)	S
		(DIODES)	
D1	PQVDRLS73T	DIODE(SI)	
D3	PFVDRMLS245	DIODE(SI)	S
D4	PQVD1N7200R	DIODE(SI)	
DA1	MA141WK	DIODE(SI)	
		(CONNECTORS)	
CN1	PQJP7G30Y	CONNECTOR, 7PIN	S
CN2	PQJP18A19Z	CONNECTOR, 18PIN	S
CN3	PQJP5G30Y	CONNECTOR, 5PIN	S
CN4	PFJP12A12Z	CONNECTOR, 12PIN	S
CN5	PQJP2G30Y	CONNECTOR, 2PIN	S
CN6	PQJP02G100Z	CONNECTOR, 2PIN	
CN7	PQJS12A13Z	CONNECTOR, 12PIN	
CN8	PFJS10A13Z	CONNECTOR, 10PIN	S
		(COILS)	
L3	PQLQR2KA20T	COIL	S
L4	PQLQR2KA20T	COIL	S
L7	PQLQR2KA20T	COIL	S
L8	PQLQR2KA20T	COIL	S
L10	PQLQR2KA113	COIL	S
L11	PQLQR2KA113	COIL	S
L13	PQLQR2KA20T	COIL	S
L18	PQLQR2KA20T	COIL	S

Ref. No.	Part No.	Part Name & Description	Remarks
L21	PQLQR2KA20T	COIL	S
L22	PQLQR2KA20T	COIL	S
L23	PQLQR2KA20T	COIL	S
L24	PQLQR2KA20T	COIL	S
L25	PQLQR2KA20T	COIL	S
L26	PQLQR2KB20T	COIL	S
L27	PQLQR2KB20T	COIL	S
L29	PQLQR2KB20T	COIL	S
L30	PQLQR2KB20T	COIL	S
L31	PQLQR2KB20T	COIL	S
L33	PQLQR2KB20T	COIL	S
		(BATTERY)	
BAT1	PFSU1004Z	LITHIUM BATTERY	S
		(COMPONENTS PARTS)	
RA1	EXRV8V271JV	RESISTOR ARRAY	
RA2	EXRV8V271JV	RESISTOR ARRAY	
RA3	EXRV8V271JV	RESISTOR ARRAY	
RA4	EXRV8V271JV	RESISTOR ARRAY	
RA5	EXRV8V271JV	RESISTOR ARRAY	
RA6	EXRV8V271JV	RESISTOR ARRAY	
RA7	EXRV8V101JV	RESISTOR ARRAY	S
RA8	EXRV8V101JV	RESISTOR ARRAY	S
		(CRYSTAL OSCILLATORS)	
X1	PFVCCFS32Z	CRYSTAL OSCILLATOR	S
X2	PFVBKB240ZAT	CRYSTAL OSCILLATOR	S
X3	PFVC32256ZAT	CRYSTAL OSCILLATOR	S
		(FUSE)	
F2	PFRB001251KC	FUSE	S
F5	PFRB0031125T	FUSE RESISTOR	S
		(CERAMIC FILTERS)	
L2	PFVF1A121ST	CERAMIC FILTERS	
L5	PFVF1A121ST	CERAMIC FILTERS	
		(RESISTORS)	
F3	ERJ3GEY0R00	0	
F4	ERJ3GEY0R00	0	
J2	PQ4R18XJ000	0	S
J3	ERJ3GEY0R00	0	
J6	ERJ3GEY0R00	0	
J9	ERJ3GEY0R00	0	
J11	ERJ3GEY0R00	0	
L6	PQ4R18XJ100	10	S
L4	ERJ3GEY0R00	0	
L6	PQ4R18XJ100	0	S
L9	PQ4R18XJ220	22	S
L12	ERJ3GEY0R00	0	
L14	ERJ3GEYJ101	0	
L15	ERJ3GEY0R00	0	
L16	ERJ3GEYJ101	0	
L17	ERJ3GEYJ101	0	
L19	ERJ3GEYJ101	0	
L20	ERJ3GEY0R00	0	
L26	ERJ3GEY0R00	0	
L27	ERJ3GEY0R00	0	
L32	ERJ3GEY0R00	0	
R1	ERJ3GEYJ103	0.01	
R2	ERJ3GEYJ203	20K	
R3	ERJ3GEYJ472	4.7K	
R4	ERJ3GEY0R00	0	
R5	ERJ3GEYJ271	270	
R6	ERJ3GEY0R00	0	
R7	ERJ3GEYJ271	270	
R8	ERJ3GEYJ271	270	
R10	ERJ3GEY0R00	0	
R11	ERJ3GEYJ271	270	
R12	ERJ3GEYJ271	270	
R13	ERJ3GEYJ271	270	
R14	ERJ3GEYJ472	470	

Ref. No.	Part No.	Part Name & Description	Remarks
R15	ERJ3GEYJ103	10k	
R16	ERJ3GEYJ102	100	
R17	ERJ3GEYJ472	470	
R18	ERJ3GEYJ101	100	
R19	ERJ3GEYJ271	270	
R20	ERJ3GEYJ101	100	
R21	ERJ3GEYJ153	15K	
R22	ERJ3GEYJ470	47	
R24	ERJ3GEYJ222	220	
R25	ERJ3GEYJ101	100	
R26	ERJ3GEYJ101	100	
R27	ERJ3GEYJ101	100	
R28	ERJ3GEYJ562	5.6K	
R29	ERJ3GEYJ101	100	
R30	ERJ3GEYJ101	100	
R31	ERJ3EKF1101	0	
R34	ERJ3GEYJ104	100K	
R36	ERJ3GEYJ103	10K	
R37	ERJ3GEYJ103	10K	
R38	ERJ3GEYJ103	10K	
R41	ERJ3GEYJ222	2.2K	
R42	ERJ3GEYJ473	47K	
R43	ERJ3GEYJ124	120K	
R44	ERJ3GEYJ334	330K	
R45	ERJ3GEY0R00	0	
R46	ERJ3GEYJ102	1K	
R47	ERJ3GEYJ363	36K	
R49	ERJ3GEYJ222	2.2K	
R50	ERJ3GEYJ334	330K	
R51	ERJ3GEYJ393	39K	
R52	ERJ3GEYJ472	4.7K	
R54	ERJ3GEYJ272	2.7K	
R55	ERJ3GEYJ183	18K	
R56	ERJ3GEYJ393	39K	
R57	ERJ3GEYJ104	100K	
R58	ERJ3GEYJ472	4.7K	
R59	ERJ3GEYJ103	10K	
R60	ERJ3GEYJ224	220K	
R61	ERJ3GEYJ102	1K	
R62	ERJ3GEYJ222	2.2K	
R63	ERJ3GEYJ682	6.8K	
R64	ERJ3GEYJ222	2.2K	
R65	ERJ3GEYJ472	4.7K	
R66	ERJ3GEYJ101	100	
R67	ERJ3GEYJ222	2.2K	
R68	ERJ3GEYJ123	12K	
R69	ERJ3GEYJ102	1K	
R70	ERJ3GEYJ103	10K	
R71	ERJ3GEYJ102	1K	
R72	ERJ3GEYJ222	2.2K	
R73	ERJ3GEYJ363	36K	
R74	ERJ3GEY0R00	0	
R75	ERJ3GEYJ472	4.7K	
R76	ERJ3GEYJ823	82K	
R77	ERJ3GEYJ333	33K	
R78	ERJ3GEYJ683	68K	
R79	ERJ3GEYJ682	6.8K	
R80	ERJ3GEYJ103	10K	
R82	ERJ3GEYJ394	390K	
R84	ERJ3GEY0R00	0	
R85	ERJ8GEYJ8R2	8.2	
R86	ERJ3GEYJ222	2.2K	
R88	ERJ3GEYJ473	47K	
R91	ERJ3GEYJ103	10K	
R95	ERJ3GEYJ103	10K	
R96	ERJ3GEYJ622	6.2K	
R97	ERJ3GEYJ103	10K	
R98	ERJ3GEYJ224	220K	
R99	ERJ3GEYJ224	220K	
R101	ERJ3GEYJ331	330	
R102	ERJ3GEYJ2R2	2.2	
R103	ERJ3GEYJ470	47	
R104	ERJ3GEYJ563	0.05	

Ref. No.	Part No.	Part Name & Description	Remarks
R105	ERJ3GEYJ222	220	
R107	ERJ3GEYJ104	100K	
R108	ERJ3GEY0R00	0	
R110	ERJ3GEYJ222	2.2K	
R111	ERJ3GEYJ472	4.7K	
R113	ERJ3GEYJ105	1M	
R114	ERJ3GEYJ472	4.7K	
R115	ERJ3GEYJ472	4.7K	
R116	ERJ3GEYJ102	1K	
R117	ERJ3GEYJ102	1K	
R118	ERJ3GEYJ101	100	
R119	ERJ3GEYJ101	100	
R120	ERJ3GEYJ101	100	
R121	ERJ3GEYJ101	100	
R122	ERJ3GEYJ101	100	
R123	ERJ3GEYJ101	100	
R124	ERJ3GEYJ823	82K	
R125	ERJ3GEYJ223	22K	
R126	ERJ3GEYJ562	5.6K	
R127	ERJ3GEYJ472	4.7K	
R128	ERJ3GEYJ821	820	
R129	ERDS1VJ152	1.5K	S
R131	ERJ3GEYJ103	10K	
R132	ERJ3GEY0R00	0	
R133	ERJ3GEYJ363	36K	
R135	ERJ3GEY0R00	0	
R136	ERJ3GEYJ271	270	
R137	ERJ3GEY0R00	0	
R138	ERJ3GEY0R00	0	
R139	ERJ3GEY0R00	0	
R140	ERJ3GEY0R00	0	
R142	ERJ3GEY0R00	0	
R143	ERJ3GEY0R00	0	
R144	ERJ3GEY0R00	0	
		(CAPACITORS)	
C1	ECUV1E104ZFV	0.1	S
C2	ECUV1H222KBV	0.0022	
C3	ECUV1H102KBV	0.001	S
C4	ECUV1H102KBV	0.001	
C5	ECUV1H102KBV	0.001	
C6	ECUV1E104ZFV	0.1	S
C7	ECUV1E104ZFV	0.1	S
C8	ECUV1E104ZFV	0.1	S
C9	ECUV1E104ZFV	0.1	S
C10	ECUV1E104ZFV	0.1	S
C11	ECUV1E104ZFV	0.1	S
C12	ECUV1C104KBV	0.1	
C13	ECUV1H102KBV	0.001	S
C14	ECUV1C104KBV	0.1	
C15	ECUV1E104ZFV	0.1	S
C16	ECUV1E104ZFV	0.1	S
C17	ECUV1H120JCV	12	
C18	ECUV1H180JCV	18	
C19	ECUV1E104ZFV	0.1	S
C20	ECUV1E104ZFV	0.1	
C21	ECUV1E104ZFV	0.1	
C22	ECUV1E104ZFV	0.1	
C24	ECEA1CK101	100	S
C25	ECUV1H102KBV	0.001	
C26	ECUV1E104ZFV	0.1	
C27	ECUV1H102KBV	0.001	
C28	ECUV1E104ZFV	0.1	
C29	ECUV1H100DCV	10	
C30	ECUV1H100DCV	10	
C31	ECUV1E104ZFV	0.1	S
C32	ECUV1H102KBV	0.001	
C33	ECUV1H100DCV	10	S
C35	ECUV1E104ZFV	0.1	S
C36	ECUV1E104ZFV	0.1	S
C37	ECUV1E104ZFV	0.1	S
C38	ECUV1H102KBV	0.001	S
C39	ECUV1E104ZFV	0.1	

Ref. No.	Part No.	Part Name & Description	Remarks
C40	ECEA0JKA221	220	
C41	ECUV1E104ZFB	0.1	
C42	PQCUV1H104ZF	0.1	S
C43	ECUV1C104KBV	0.1	
C44	ECUV1H102KBV	0.001	
C46	ECUV1C104KBV	0.1	
C47	ECUV1C104KBV	0.1	
C48	ECUV1H101JCV	100	
C49	ECUV1E104ZFB	0.1	
C50	ECUV1H681JCV	680	S
C51	ECEA1CK100	10	S
C52	ECEA1CK100	10	S
C53	ECUV1H330JCV	33	
C55	ECUV1E104ZFB	0.1	
C56	ECUV1E104ZFB	0.1	
C57	ECUV1E104ZFB	0.1	
C58	ECUV1C104KBV	0.1	
C59	ECUV1C104KBV	0.1	
C60	ECUV1H103KBV	0.01	
C61	ECUV1C104KBV	0.1	
C62	ECUV1H331JCV	330	S
C63	ECUV1C104KBV	0.1	
C64	ECUV1H102KBV	0.001	
C65	ECUV1C104KBV	0.1	
C66	ECUV1C104KBV	0.1	
C67	ECUV1H472KBV	0.0047	
C68	ECUV1H472KBV	0.0047	
C69	ECUV1E104ZFB	0.1	
C70	ECUV1C104KBV	0.1	
C71	ECUV1H333KBV	0.033	S
C72	ECUV1C104KBV	0.1	
C73	ECUV1H100DCV	10	
C74	ECUV1H100DCV	10	
C76	ECUV1H102KBV	0.001	
C77	ECUV1C104KBV	0.1	
C78	ECUV1E104ZFB	0.1	
C79	ECEA1CK100	10	S
C80	ECUV1C104KBV	0.1	
C81	ECUV1C104KBV	0.1	
C82	ECUV1C104KBV	0.1	
C83	ECUV1E104ZFB	0.1	
C85	ECUV1E104ZFB	0.1	
C87	ECUV1C333KBV	0.033	
C88	ECUV1C104KBV	0.1	
C89	ECUV1H221JCV	220	S
C90	ECEA1CK100	10	S
C91	ECUV1E104ZFB	0.1	
C92	ECUV1H102KBV	0.001	
C93	ECEA1CK100	10	S
C94	ECUV1H103KBV	0.01	
C96	ECEA1CK100	10	S
C97	ECUV1H102KBV	0.001	
C98	ECUV1E104ZFB	0.1	
C99	ECUV1C473KBV	0.047	
C100	ECUV1E104ZFB	0.1	
C101	ECUV1E104ZFB	0.1	
C102	ECUV1H470JCV	47	
C103	ECEA1CK100	10	S
C104	ECEA1CK100	10	S
C105	ECUV1E104ZFB	0.1	
C106	ECUV1E104ZFB	0.1	
C107	ECEA0JKA221	220	
C112	ECUV1H391KBV	390	S
C116	ECUV1C104KBV	0.1	
C119	ECEA1CK100	47	S
C121	PQCUV1H104ZF	0.1	S
C122	ECUV1E104ZFB	0.1	
C124	ECEA1CK100	10	S
C125	ECUV1E104ZFB	0.1	
C126	ECEA1CK101	100	S
C127	ECUV1H102KBV	0.001	
C130	ECUV1H102KBV	0.001	
C131	ECUV1H102KBV	0.001	

Ref. No.	Part No.	Part Name & Description	Remarks
C139	ECUV1H561JCV	560	S
C141	ECUV1C104KBV	0.1	
C143	ECUV1H102KBV	0.001	
C144	ECUV1H102KBV	0.001	
C145	ECUV1H102KBV	0.001	
C146	ECUV1H102KBV	0.001	
C148	ECUV1H104KBV	0.1	S
C149	ECUV1H102KBV	0.001	
C150	ECUV1H102KBV	0.001	
C152	ERJ3GEY0R00	0	
C153	ECUV1H271JCV	270	
C154	ECUV1H102KBV	0.001	
C156	ECUV1H102KBV	0.001	S
C157	ECUV1H102KBV	0.001	
C158	ECUV1H102KBV	0.001	
C159	ECUV1H102KBV	0.001	
C160	ECUV1H102KBV	0.001	
C161	ECUV1H102KBV	0.001	
C163	ECUV1H100DCV	10	
C164	ECUV1H100DCV	10	
C165	ECUV1H100DCV	10	
C166	ECUV1H100DCV	10	
C167	ECUV1H100DCV	10	
		(JACK)	
CN2	PFJS32A11Z	JACK	S
CN4	PFJP12A12Z	JACK	S

## 10.4. ANALOG BOARD PARTS

### 10.4.1. KX-FT78CE-B

Ref. No.	Part No.	Part Name & Description	Remarks
PCB2	PFLP1437CEZ	ANALOG BOARD ASS'Y (RTL)	
		(ICS)	
IC1	PQVIMC34119D	IC	S
IC2	COAABB000025	IC	
		(TRANSISTORS)	
Q2	2SD1819A	TRANSISTOR(SI)	S
Q3	PQVTDTC143E	TRANSISTOR(SI)	S
		(DIODES)	
D6	1SS131	DIODE(SI)	S
D8	1SS131	DIODE(SI)	S
D9	1SS131	DIODE(SI)	S
D11	PQVDMZJ5.6A	DIODE(SI)	S
D12	PQVDMZJ5.6A	DIODE(SI)	S
		(JACK AND CONNECTORS)	
CN1	PQJS18A10Z	CONNECTOR,18PIN	S
CN2	PQJP02G100Z	CONNECTOR,2PIN	
CN3	PQJJ1TB18Z	JACK	S
CN4	PFJJ1T01Z	JACK	S
CN5	PFJJ1T01Z	JACK	S
		(SWITCHES)	
SW1	PFSH1A03Z	PUSH SWITCH	S
SW2	ESE14A211	PUSH SWITCH	
SW3	PFSH1A03Z	PUSH SWITCH	S
		(COILS)	
L1	PQLQR2BT	COIL	S
L2	PQLQR2BT	COIL	S
L3	PQLQR2BT	COIL	S
L4	PQLQR2BT	COIL	S
L5	PQLQR2KB20T	COIL	S
L6	PQLQR2KB20T	COIL	S
L7	PQLQR2KB20T	COIL	S
L8	PQLQR2KB20T	COIL	S
L11	PQLQR2BT	COIL	S

Ref. No.	Part No.	Part Name & Description	Remarks
L12	PQLQR2BT	COIL	S
L17	PQLQR2KB113T	COIL	S
L18	PQLQR2KB113T	COIL	S
L19	PQLQR2KB20T	COIL	S
L20	PQLQR2KB20T	COIL	S
L21	PQLQR2KB113T	COIL	S
L22	PQLQR2KB20T	COIL	S
L23	PQLQR2KB20T	COIL	S
L24	PQLQR2KB20T	COIL	S
L26	PQLQR2KB20T	COIL	S
L27	PQLQR2KB20T	COIL	S
L28	PQLQR2KB20T	COIL	S
L29	PQLQR2KB20T	COIL	S
L30	PQLQR2KB113T	COIL	S
L31	PQLQR2KB113T	COIL	S
L32	PQLQR2KB113T	COIL	S
FLT1	PFLE126	COIL	S
		(PHOTO ELECTRIC TRANSDUCERS)	
PC1	PQVIPC814K	PHOTO ELECTRIC TRANSDUCER	S
PC2	PFVITLP320	PHOTO ELECTRIC TRANSDUCER	S
		(RELAY)	
RLY1	PFSL003Z	RELAY	S
		(VARISTORS)	
SA1	PFRZRA311P6T	VARISTOR (SURGE ABSORBER)	S
SA2	PFRZ001Z	VARISTOR (SURGE ABSORBER)	S
		(TRANSFORMER)	
T2	PFLT8E009	TRANSFORMER	S
		(RESISTORS)	
JJ201	ERJ3GEY0R00	0	
L25	ERJ3GEY0R00	0	
R1	ERJ3GEYJ101	100	
R2	ERJ3GEYJ472	4.7K	
R3	ERJ3GEYJ101	100	
R4	ERJ3GEYJ472	4.7K	
R5	ERJ3GEYJ101	100	
R6	ERJ3GEYJ472	4.7K	
R12	ERG2S151	150	
R14	ERDS2TJ221	220	S
R16	ERDS1TJ103	10K	S
R17	ERDS1TJ183	18K	S
R18	ERJ3GEYJ222	2.2K	
R19	ERJ3GEYJ222	2.2K	
R31	ERDS2TJ221	220	S
R33	ERJ3GEYJ563	56K	
R34	ERJ3GEYJ563	56K	
R35	ERJ3GEYJ124	120K	
R36	ERJ3GEYJ124	120K	
R37	ERJ3GEYJ222	2.2K	
R38	ERJ3GEYJ104	100K	
R39	ERJ3GEYJ182	1.8K	
R41	ERJ3GEY0R00	0	
R42	ERJ3GEYJ273	27K	
R45	ERJ3GEYJ331	330	
R46	ERJ3GEYJ152	1.5K	
R47	ERJ3GEYJ152	1.5K	
R48	ERJ3GEYJ472	4.7K	
R49	ERJ3GEYJ472	4.7K	
R50	ERJ3GEYJ474	470K	
R51	ERJ3GEYJ474	470K	
R52	ERJ3GEYJ222	2.2K	
R53	ERJ3GEY0R00	0	
R61	ERJ3GEYJ220	22	
R62	ERJ3GEYJ473	47K	
R63	ERJ3GEYJ331	330	
R64	ERJ3GEYJ223	22K	
R67	ERJ3GEY0R00	0	
R72	ERJ3GEYJ154	150K	

Ref. No.	Part No.	Part Name & Description	Remarks
R73	ERJ3GEYJ114	110K	
R74	ERJ3GEYJ103	10K	
R75	ERJ3GEYJ153	15K	
R80	ERJ3GEYJ103	10K	
R81	ERJ3GEYJ103	10K	
R82	ERJ3GEY0R00	0	
		(CAPACITORS)	
C1	ECUV1H103KBV	0.01	
C2	ECUV1H103KBV	0.01	
C3	ECUV1H103KBV	0.01	
C8	ECUV1H103KBV	0.01	
C11	ECQE2E105KZ	1	S
C20	ECUV1H103KBV	0.01	
C23	ECUV1C104KBV	0.1	
C24	ECUV1C104KBV	0.1	
C25	ECUV1H151JCV	150P	
C26	ECUV1E104ZFB	0.1	
C27	ECUV1H151JCV	150P	
C30	ECEA1HKA4R7	4.7	S
C31	ECUV1C683KBV	0.068	
C33	ECUV1H682KBV	0.0068	
C43	ECUV1H102KBV	0.001	
C44	ECEA1HKA4R7	4.7	S
C46	ECUV1H103KBV	0.01	
C47	ECEA1CKA100	10	S
C48	ECEA0JKA470	47	S
C49	ECUV1H472KBV	0.0047	
C50	ERJ3GEY0R00	0	
C51	ECUV1H103KBV	0.01	
C52	ECUV1H103KBV	0.01	
C53	ECUV1C473KBV	0.047	
C54	ECUV1C473KBV	0.047	
C55	ECUV1H271JCV	270P	
C56	ECUV1H271JCV	270P	
C57	ERJ3GEY0R00	0	
C58	ECEA0JKA470	47	S
C61	ECEA0JKA470	47	S
C64	ECUV1H100DCV	10P	
C65	ECUV1H100DCV	10P	

10.4.2. KX-FT78HG-B

Ref. No.	Part No.	Part Name & Description	Remarks
PCB2	PFLP1437HGZ	ANALOG BOARD ASS'Y (RTL)	
		(ICS)	
IC1	PQVIMC34119D	IC	S
IC2	C0AABB000025	IC	
		(TRANSISTORS)	
Q2	2SD1819A	TRANSISTOR(SI)	S
Q3	PQVTDTC143E	TRANSISTOR(SI)	S
		(DIODES)	
D6	1SS131	DIODE(SI)	S
D8	1SS131	DIODE(SI)	S
D9	1SS131	DIODE(SI)	S
D11	PQVDMZJ5.6A	DIODE(SI)	S
D12	PQVDMZJ5.6A	DIODE(SI)	S
		(JACK AND CONNECTORS)	
CN1	PQJS18A10Z	CONNECTOR, 18PIN	S
CN2	PQJP02G100Z	CONNECTOR, 2PIN	
CN3	PQJJ1TB18Z	JACK	S
CN4	PFJJ1T01Z	JACK	S
CN5	PFJJ1T01Z	JACK	S
		(SWITCHES)	
SW1	PFSH1A03Z	PUSH SWITCH	S
SW2	ESE14A211	PUSH SWITCH	
SW3	PFSH1A03Z	PUSH SWITCH	S

Ref. No.	Part No.	Part Name & Description	Remarks
		(COILS)	
L1	PQLQR2BT	COIL	S
L2	PQLQR2BT	COIL	S
L3	PQLQR2BT	COIL	S
L4	PQLQR2BT	COIL	S
L5	PQLQR2KB20T	COIL	S
L6	PQLQR2KB20T	COIL	S
L7	PQLQR2KB20T	COIL	S
L8	PQLQR2KB20T	COIL	S
L11	PQLQR2BT	COIL	S
L12	PQLQR2BT	COIL	S
L17	PQLQR2KB113T	COIL	S
L18	PQLQR2KB113T	COIL	S
L19	PQLQR2KB20T	COIL	S
L20	PQLQR2KB20T	COIL	S
L21	PQLQR2KB113T	COIL	S
L22	PQLQR2KB20T	COIL	S
L23	PQLQR2KB20T	COIL	S
L24	PQLQR2KB20T	COIL	S
L26	PQLQR2KB20T	COIL	S
L27	PQLQR2KB20T	COIL	S
L28	PQLQR2KB20T	COIL	S
L29	PQLQR2KB20T	COIL	S
L30	PQLQR2KB113T	COIL	S
L31	PQLQR2KB113T	COIL	S
L32	PQLQR2KB113T	COIL	S
FLT1	PFLE126	COIL	S
		(PHOTO ELECTRIC TRANSDUCERS)	
PC1	PQVIPC814K	PHOTO ELECTRIC TRANSDUCER	S
PC2	PFVITLP320	PHOTO ELECTRIC TRANSDUCER	S
		(RELAY)	
RLY1	PFSL003Z	RELAY	S
		(VARISTORS)	
SA1	PQVDDSS301L	VARISTOR(SURGE ABSORBER)	S
SA2	PFRZ001Z	VARISTOR(SURGE ABSORBER)	S
		(TRANSFORMER)	
T2	PFLT8E009	TRANSFORMER	S
		(RESISTORS)	
JJ201	ERJ3GEY0R00	0	
L25	ERJ3GEY0R00	0	
R1	ERJ3GEYJ101	100	
R2	ERJ3GEYJ472	4.7K	
R3	ERJ3GEYJ101	100	
R4	ERJ3GEYJ472	4.7K	
R5	ERJ3GEYJ101	100	
R6	ERJ3GEYJ472	4.7K	
R12	ERG2SJ121	120	
R14	ERDS2TJ221	220	S
R16	ERDS1TJ103	10K	S
R17	ERDS1TJ183	18K	S
R18	ERJ3GEYJ122	1.2K	
R19	ERJ3GEYJ222	2.2K	
R31	ERDS2TJ221	220	S
R33	ERJ3GEYJ563	56K	
R34	ERJ3GEYJ563	56K	
R35	ERJ3GEYJ124	120K	
R36	ERJ3GEYJ124	120K	
R37	ERJ3GEYJ222	2.2K	
R38	ERJ3GEYJ104	100K	
R39	ERJ3GEYJ392	3.9K	
R41	ERJ3GEYJ123	12K	
R42	ERJ3GEYJ273	27K	
R45	ERJ3GEYJ331	330	
R46	ERJ3GEYJ152	1.5K	
R47	ERJ3GEYJ152	1.5K	
R48	ERJ3GEYJ392	3.9K	
R49	ERJ3GEYJ392	3.9K	

Ref. No.	Part No.	Part Name & Description	Remarks
R50	ERJ3GEYJ474	470K	
R51	ERJ3GEYJ224	220K	
R52	ERJ3GEYJ222	2.2K	
R53	ERJ3GEY0R00	0	
R61	ERJ3GEYJ220	22	
R62	ERJ3GEYJ473	47K	
R63	ERJ3GEYJ331	330	
R64	ERJ3GEYJ512	5.1K	
R67	ERJ3GEY0R00	0	
R72	ERJ3GEYJ154	150K	
R73	ERJ3GEYJ114	110K	
R74	ERJ3GEYJ103	10K	
R75	ERJ3GEYJ153	15K	
R80	ERJ3GEYJ103	10K	
R81	ERJ3GEYJ103	10K	
R82	ERJ3GEY0R00	0	
		(CAPACITORS)	
C1	ECUV1H103KBV	0.01	
C2	ECUV1H103KBV	0.01	
C3	ECUV1H103KBV	0.01	
C8	ECUV1H103KBV	0.01	
C11	ECQE2E105KZ	1	S
C20	ECUV1H103KBV	0.01	
C23	ECUV1C104KBV	0.1	
C24	ECUV1C104KBV	0.1	
C25	ECUV1H151JCV	150P	
C26	ECUV1E104ZFB	0.1	
C27	ECUV1H151JCV	150P	
C30	ECEA1HKA4R7	4.7	S
C31	ECUV1C473KBV	0.047	
C33	ECUV1H562KBV	0.0056	
C43	ECUV1H102KBV	0.001	
C44	ECEA1HKA4R7	4.7	S
C46	ECUV1H103KBV	0.01	
C47	ECEA1CKA100	10	S
C48	ECEA0JKA470	47	S
C49	ECUV1H472KBV	0.0047	
C50	ERJ3GEY0R00	0	
C51	ECUV1H103KBV	0.01	
C52	ECUV1H103KBV	0.01	
C53	ECUV1C473KBV	0.047	
C54	ECUV1C473KBV	0.047	
C55	ECUV1H331JCV	330P	
C56	ECUV1H471JCV	470P	
C57	ERJ3GEY0R00	0	
C58	ECEA0JKA470	47	S
C61	ECEA0JKA470	47	S
C64	ECUV1H100DCV	10P	
C65	ECUV1H100DCV	10P	
POS1	PQRPAR390N	THERMISTOR	S

## 10.5. OPERATION BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
PCB3	PFWP2FT77CX	OPERATION BOARD ASS'Y(RTL)	
		(ICS)	
IC1	MN7D032Z9J	IC	
		(TRANSISTORS)	
Q1	2SD1819A	TRANSISTOR(SI)	S
		(DIODE)	
LED1	LNJ801LPDJA	DIODE(SI)	
		(LIQUID CRYSTAL DISPLAY)	
CN2	PFAVM220	LIQUID CRYSTAL DISPLAY	
		(PHOTO ELECTRIC TRANSDUCERS)	
PS1	CNA1006N	PHOTO ELECTRIC TRANSDUCER	

Ref. No.	Part No.	Part Name & Description	Remarks
		(SWITCHES)	
SW1	EVQ11Y05B	SWITCH	
SW2	EVQ11Y05B	SWITCH	
SW3	EVQ11Y05B	SWITCH	
SW4	EVQ11Y05B	SWITCH	
SW5	EVQ11Y05B	SWITCH	
SW6	EVQ11Y05B	SWITCH	
SW7	EVQ11Y05B	SWITCH	
SW8	EVQ11Y05B	SWITCH	
SW9	EVQ11Y05B	SWITCH	
SW10	EVQ11Y05B	SWITCH	
SW11	EVQ11Y05B	SWITCH	
SW12	EVQ11Y05B	SWITCH	
SW13	EVQ11Y05B	SWITCH	
SW14	EVQ11Y05B	SWITCH	
SW15	EVQ11Y05B	SWITCH	
SW16	EVQ11Y05B	SWITCH	
SW18	EVQ11Y05B	SWITCH	
SW19	EVQ11Y05B	SWITCH	
SW20	EVQ11Y05B	SWITCH	
SW21	EVQ11Y05B	SWITCH	
SW22	EVQ11Y05B	SWITCH	
SW23	EVQ11Y05B	SWITCH	
SW24	EVQ11Y05B	SWITCH	
SW25	EVQ11Y05B	SWITCH	
SW26	EVQ11Y05B	SWITCH	
SW27	EVQ11Y05B	SWITCH	
SW28	EVQ11Y05B	SWITCH	
SW29	EVQ11Y05B	SWITCH	
SW30	EVQ11Y05B	SWITCH	
SW31	EVQ11Y05B	SWITCH	
SW41	EVEGB141112B	SWITCH	
SW42	PFSH1A003Z	SWITCH	
		(RESISTORS)	
J26	PQ4R18XJ103	10K	S
J23	ERJ8GEY0R00	0	
J24	ERJ8GEY0R00	0	
J25	ERJ8GEY0R00	0	
R1	ERJ3GEY0R00	0	
R2	ERJ3GEY0R00	0	
R3	ERJ3GEYJ332	3.3K	
R4	ERJ3GEYJ564	560K	
R5	ERJ3GEYJ223	22K	
R6	ERJ3GEYJ682	6.8K	
R7	ERJ3GEYJ331	330	
R8	ERJ3GEYJ331	330	
R9	ERJ3GEYJ101	100	
R10	ERJ3GEYJ472	4.7K	
R11	ERJ3GEYJ331	330	
R12	ERJ3GEYJ563	56K	
R13	ERJ3GEYJ273	27K	
R14	ERJ3GEYJ561	560	
R17	ERJ3GEYJ271	270	
R24	ERJ3GEY0R00	0	
R25	ERJ3GEYJ4R7	4.7	
R43	PQ4R10XJ103	10K	S
R44	ERJ3GEY0R00	0	
R45	ERJ3GEY0R00	0	
R46	ERJ3GEY0R00	0	
R47	ERJ3GEY0R00	0	
R48	ERJ3GEY0R00	0	
		(CAPACITORS)	
C3	ECUV1E104ZFV	0.1	
C5	ECEA0JKA221	220	
C7	ECUV1H331JCV	330P	S
C8	ECUV1H121JCV	120P	
C9	ECUV1H331JCV	330P	S
C10	ECUV1H681JCV	680P	S
C11	ECUV1C104KBV	0.1	
C12	ECUV1H103KBV	0.01	
C13	ECEA1CKS470	47	S

Ref. No.	Part No.	Part Name & Description	Remarks
C14	ECUV1H103KBV	0.01	
C15	ECUV1E104ZFV	0.1	
C16	ECUV1E104ZFV	0.1	
C18	ECUV1C224ZFV	0.22	S
C19	ECUV1E104ZFV	0.1	
		(COILS)	
L1	PQLQR1ET	COIL	S

## 10.6. POWER SUPPLY BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
PCB4	PFLP1282EZL	POWER SUPPLY BOARD ASS'Y (RTL)	△
		(ICS)	
IC101	PFVIFA5317P	IC	
IC201	AN1431T	IC	
IC202	PFVITA7805F	IC	S
		(TRANSISTORS)	
Q101	2SK2651	TRANSISTOR(SI)	△
		(DIODES)	
D101	PFVD1N4005	DIODE(SI)	△ S
D102	PFVD1N4005	DIODE(SI)	△ S
D103	PFVD1N4005	DIODE(SI)	△ S
D104	PFVD1N4005	DIODE(SI)	△ S
D105	PFVDEG01C	DIODE(SI)	S
D106	MA165	DIODE(SI)	
D107	MA4220	DIODE(SI)	
D108	PQVDERA1802	DIODE(SI)	S
D201	PFVDSF5LC20U	DIODE(SI)	S
D202	PFVDD1NL20U	DIODE(SI)	S
		(COIL)	
L101	ELF15N006A	COIL	△
		(COMPONENTS PARTS)	
L103	EXCELDR35	COMPONENTS PARTS	
		(CONNECTORS)	
CN31	PQJP2D98Z	CONNECTOR, 2PIN	△
CN301	PQJP7G30Z	CONNECTOR, 7PIN	△
		(FUSE)	
F101	PQBA2C31TRLW	FUSE	△ S
		(PHOTO ELECTRIC TRANSDUCERS)	
PC101	PFVIPC123	PHOTO ELECTRIC TRANSDUCER	△ S
		(THERMISTOR)	
TH101	PFRT57235S80	THERMISTOR	S
		(TRANSFORMER)	
T101	PFLTsrw292ED	TRANSFORMER	△ S
		(VARIABLE RESISTOR)	
VR201	EVNDJAA03B53	VARIABLE RESISTOR	
		(VARISTOR)	
ZNR101	ERZV10DK751U	VARISTOR (SURGE ABSORBER)	△
		(RESISTORS)	
R101	ERDS1J105	1M	△
R102	ERDS2TJ394	390K	
R103	ERDS2TJ394	390K	
R104	ERG2SJ304	300K	
R105	ERX2SJR22	0.22	
R106	ERG2SJ470	47	

Ref. No.	Part No.	Part Name & Description	Remarks
R107	ERG2SJ304	300K	
R108	ERDS2FJ150	15	
R109	ERDS2TJ100	10	
R121	PQ4R10XJ103	10K	S
R122	PQ4R10XJ271	270	
R124	PQ4R10XJ181	180	S
R125	PQ4R10XJ103	10K	S
R126	PQ4R10XJ562	5.6K	S
R127	PQ4R10XJ182	1.8K	S
R128	PQ4R10XJ101	100	S
R136	PQ4R10XJ104	100K	S
R137	PQ4R10XJ104	100K	S
R202	ERG2SJ152	1.5K	
R203	ERDS2FJ470	47	
R221	PQ4R10XJ222	2.2K	S
R222	PQ4R10XJ222	2.2K	S
R223	PQ4R10XJ101	100	S
R224	PQ4R10XJ273	27K	S
R225	PQ4R10XJ332	3.3K	S
		(CAPACITORS)	
C101	ECQU2A224MG	0.22	△
C102	ECQU2A104MG	0.1	△
C103	PFKDE2GA102K	0.001	S
C105	PFKDE2GA222M	0.0022	△
C106	PFCEA400SX56	56	S
C108	ECKD3A102KBP	0.001	
C109	ECA1VHG470	47	
C110	PFKDD2GA222M	0.0022	S
C119	ECKD3A470KBV	47	S
C121	ECUV1H472KBN	0.0047	
C122	ECUV1C224KBX	0.22	
C123	ECUV1H561KBN	560P	
C124	ECUV1E104KBX	0.1	
C201	PFCEA35F471	470	S
C202	ECKD3A102KBP	0.001	
C203	PFCEA16A470	470	S
C204	PFCEA35A47M	47	S
C205	PFCEA50A47M	0.47	S
C206	ECKD3A102KBP	0.001	
C221	ECUV1E104KBX	0.1	

## 10.7. FIXTURES AND TOOLS

Ref. No.	Part No.	Part Name & Description	Remarks
EC1	PQZZ7K5Z	CONNECTOR, 7P	
EC2	PFZZ18K2Z	CONNECTOR, 18P	
EC3	PQZZ2K1Z	CONNECTOR, 11P	
EC4	PFZZ5K13Z	CONNECTOR, 5P	
EC5	PFZZ12K4Z	CONNECTOR, 12P	
EC6	PFZZ10K4Z	CONNECTOR, 10P	
EC7	PQZZ2K12Z	CONNECTOR, 2P	
EC8	PQZZ12K4Z	CONNECTOR, 12P	
EC9	PQZZ2K13Z	CONNECTOR, 2P	
EC10	PFJE1015Z	LEAD WIRE	
EC11	PFJE1005Z	LEAD WIRE	
	KM79811245C0	BASIC FACSIMILE TECHNIQUE	
		(For training service technicians)	

### Notes:

Tools and Extension Cords are useful for servicing.  
(They make servicing easy.)