ORDER NO. KMF0002386A3

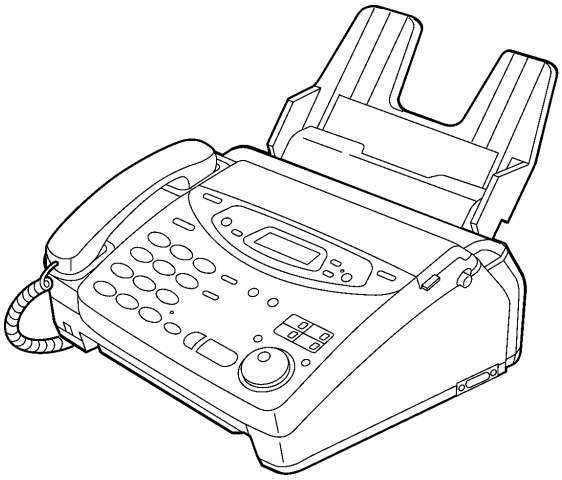
Service Manual

Multi-Function Plain Paper FAX

Simplified

KX-FM131RS

(for Russia)



Please file and use this manual together with the service manual for Model No. KX-FP121AL/KX-FM131AL Order No.KM79910327C3. This Service Manual indicates the main differences between; Original KX-FP121AL/KX-FM131AL and KX-FM131RS.

⚠ 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.

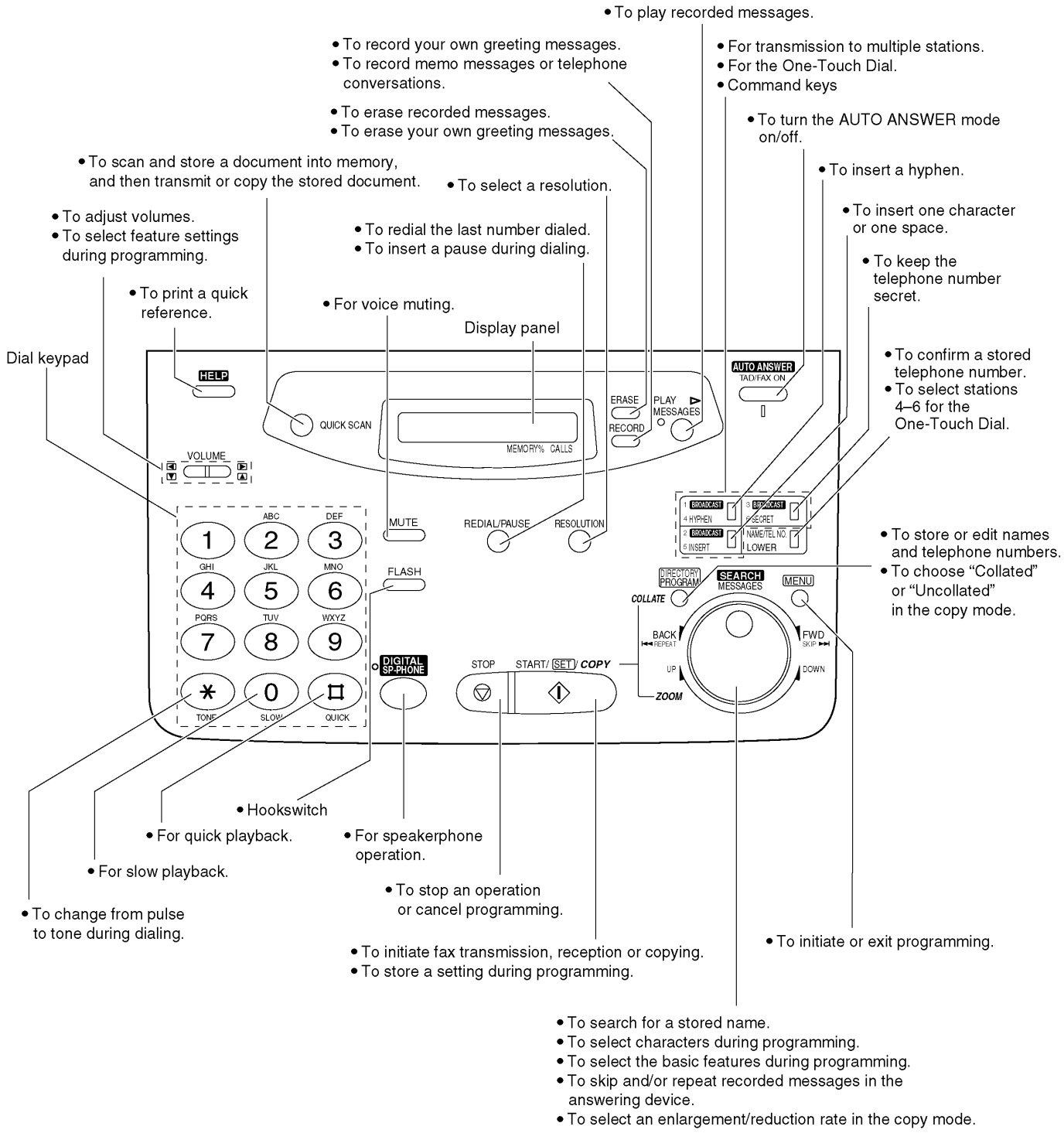
Notice the PC interface-related features for KX-FM131 model (marked with "KX-FM131 only" in the original Service Manual).

Panasonic

1 INTRODUCTION

1.1. CONTROL PANEL

Change from original page 11 (**1.12.2. CONTROL PANEL**)



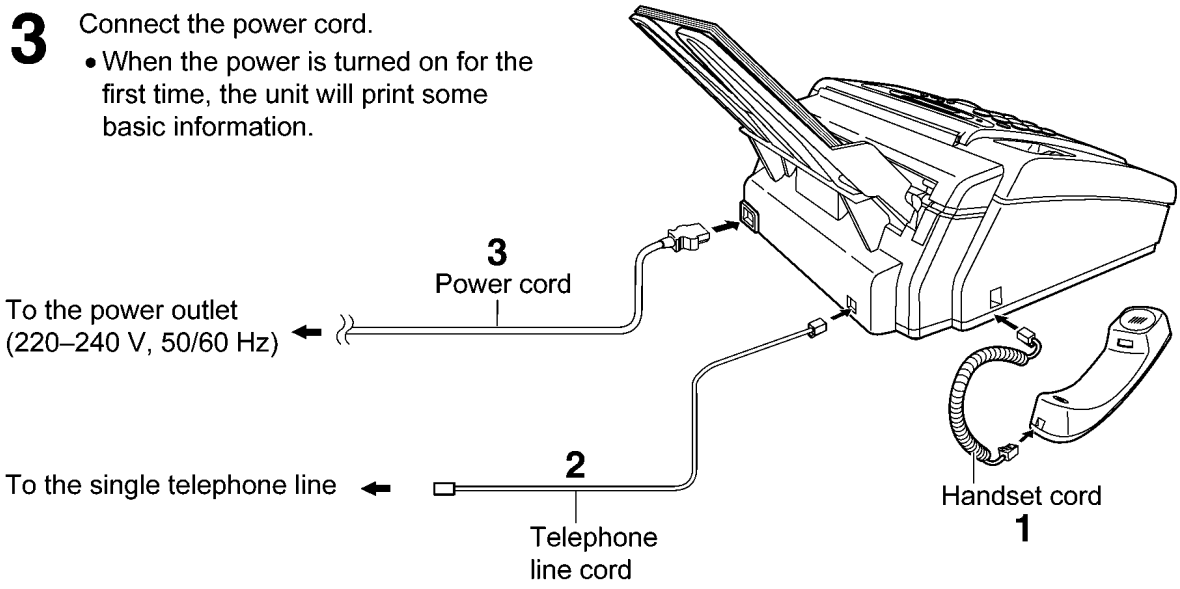
1.2. CONNECTIONS

Change from original page 12 (**1.13. CONNECTIONS**)

1 Connect the handset cord.

2 Connect the telephone line cord.

3 Connect the power cord.
- When the power is turned on for the first time, the unit will print some basic information.



Note

When you operate this product, the power outlet should be near the product and easily accessible.

2 TROUBLESHOOTING GUIDE

2.1. Program Mode Table

Change from original pages 64~65 (**2. Program Mode Table** in **2.3.3.3.2. Remote programming**)

Code	Function	Set Value	Default	Remote Setting
001	Set date and time	mm/dd/yy hh:mm	Jan/01/99	NG
002	Your logo	---------	None	NG
003	Your telephone number	---------	None	NG
004	Transmission report mode	1:Error / 2:ON / 3:OFF	Error	OK
006	FAX ring count	**1~4**	**1**	NG
	TAD/FAX ring count	**1~4/TOLL SAVER/RINGER OFF**	**1**	NG
	Not available in TEL/FAX mode	---------	---------	NG
010	Recording time	1:VOX/2:1MIN	VOX	OK
011	Remote ANS ID	---------	ID=111	NG
013	Dialing mode	1: Tone / 2:Pulse	Tone	OK
014	PC link	1:ON / 2:OFF	ON	OK
018	Film remain	---------	---------	NG
022	Auto journal print	1:ON / 2:OFF	ON	OK
023	Overseas mode	ON / OFF	OFF	OK
025	Delayed transmission	ON / OFF	OFF	NG
030	Silent FAX recognition ring	3 to 6 rings	3	OK
031	Ring detection	**1:OFF / 2:A / 3:B / 4:C / 5:D**	OFF	OK
036	Rx reduction	1:72% / 2:86% / 3:92% / 4:100%	92%	OK
039	LCD contrast	1:Normal / 2:Darker	Normal	NG
041	Remote FAX activation code	ON / OFF	ON ID=*9	NG
042	Message alert	1:ON / 2:OFF	OFF	OK
043	REC. time alert	1:ON / 2:OFF	OFF	OK
044	Receive alert	1:ON / 2:OFF	ON	OK
046	Friendly receive	1:ON / 2:OFF	ON	OK
047	FAX voice guidance	1:ERROR/2:ON/3:OFF	ON	OK
054	Common greeting MSG. REC. time	1:16s/2:60s	16s	OK
058	Original setting	1:NORMAL / 2:LIGHT / 3:DARKER	NORMAL	OK
060	Message transfer	ON / OFF	OFF	NG
061	Transfer greeting	CHECK / RECORD / ERASE	CHECK	NG
067	ICM monitor	1:ON / 2:OFF	ON	OK
068	ECM selection	1:ON / 2:OFF	ON	OK
070	Pager call	ON / OFF	OFF	NG
076	FAX tone	1:ON / 2:OFF	ON	OK
077	Auto answer mode	1:TAD/FAX 2: FAX Only 3:TEL/FAX	TAD/FAX	OK
078	TEL/FAX delayed ring	**1 to 4 rings**	**1**	OK
079	Film detection	1:ON / 2:OFF	ON	OK
080	Set default	YES / NO	NO	NG
501	Pause time set	001~600 x 100msec	**050**	OK
502	Recall time	01~99 x 10 msec	**70**	OK
503	Dial speed	1:10pps / 2:20 pps	10pps	OK
510	Vox time	1:6sec / 2:4sec	6sec	OK
511	Vox sense	1:HIGH / 2:LOW	HIGH	OK
520	CED frequency select	1:2100Hz / 2:1100Hz	2100	OK
521	International mode select	1:ON / 2:OFF	ON	OK
522	Auto standby select	1:ON / 2:OFF	ON	OK
523	Receive equalizer select	1:0km / 2:1.8km / 3:3.6km / 4:7.2km	0km	OK
524	Transmission equalizer select	1:0km / 2:1.8km / 3:3.6km / 4:7.2km	0km	OK
533	Setting the number of times that message transfer is redialed.	00~99	**03**	OK
534	Setting of the message transfer/pager call redial interval	001~999	**030**	OK
550	Memory clear	---------	---------	NG
551	ROM check	---------	---------	NG
552	DTMF signal tone test	1:ON / 2:OFF	OFF	OK
553	Monitor on FAX communication	1:OFF / 2:Phase B / 3:ALL	OFF	OK
554	Modem test	---------	---------	NG
555	Scanner test	---------	---------	NG
556	Motor test	---------	---------	NG
557	LED test	---------	---------	NG
558	LCD test	---------	---------	NG

Code	Function	Set Value	Default	Remote Setting
559	Document jam detection	1:ON / 2:OFF	ON	OK
561	Key test	---------	---------	NG
570	Break % select	1:61% / 2:67%	**61%**	OK
571	ITS auto redial time set	00~99	**14**	OK
572	ITS auto redial line disconnection time set	001~999sec	**30**	OK
573	Remote turn-on ring number	01~99	15	OK
580	TAM continuous tone detection	1:ON / 2:OFF	ON	OK
590	FAX auto redial time set	00~99	**05**	OK
591	FAX auto redial line disconnection time set	001~999sec	**045**	OK
592	CNG transmit select	1:OFF / 2:ALL / 3:AUTO	ALL	OK
593	Time between CED and 300 bps	1:75ms / 2:500ms / 3:1sec	75ms	OK
594	Overseas DIS detection	1:1st / 2:2nd	1st	OK
595	Receive error limit value	001~999	100	OK
596	Transmit level set	-15~00dBm	**-10**	OK
598	Receiving Sensitivity	20~48	43	OK
599	ECM frame size	1:256 / 2:64	256 byte	OK
602	Warning list printing	1:ON / 2:OFF	ON	OK
624	AT ring time out	1:3sec / 2:5sec	3sec	OK
717	Transmit speed select	1:14400/ 2:12000/ 3:9600/ 4:7200/ 5:4800/ 6:2400	14400bps	OK
718	Receive speed select	1:14400/ 2:12000/ 3:9600/ 4:7200/ 5:4800/ 6:2400	14400bps	OK
719	Ringer off in TEL/FAX mode	1:ON / 2:OFF	ON	OK
721	Pause tone detect	1:ON / 2:OFF	ON	OK
722	Redial tone detect	1:ON / 2:OFF	ON	OK
724	PC-FAX ATD busy tone detect	1:ON / 2:OFF	ON	OK
731	CPC mode	1:A / 2:B / 3:OFF	A	OK
732	Auto disconnect	1:350ms / 2:1800ms / 3:OFF	350msec	OK
745	Power on film feed	1:ON / 2:OFF	ON	OK
763	CNG detect time for friendly reception	1:10s / 2:20s / 3:30s	30s	OK
771	T1 timer	1:35s / 2:60s	35s	OK
774	T4 timer	00~99 × 100msec	00	OK
775	Monitoring of message transfer	1:ON / 2:OFF	OFF	OK
784	Voice prompt	1:Start	---------	NG
815	Sensor & VOX test	---------	---------	NG
841	Digital SP-Phone RX & TX check	1:SP-Phone	---------	NG
852	Print test pattern	---------	---------	NG
853	Top margin	1~9	---------	OK
854	Left margin	1~8	---------	OK
861	A4 size set	1:ON / 2:OFF	1	OK
870	Serial port self test	---------	---------	NG
880	History list	1:Start	---------	NG
881	Journal 2	1:Start	---------	NG
882	Journal 3	1:Start	---------	NG
890	TEL/FAX ring back tone	1:ON / 2:OFF	**ON**	OK
991	Setup list	1:Start	---------	OK
994	Journal list	1:Start	---------	OK
995	Journal 2 list	1:Start	---------	OK
996	Journal 3 list	1:Start	---------	OK
998	History list	1:Start	---------	OK
999	Service list	1:Start	---------	OK

OK means "can set".

NG means "can not set".

Note:

Refer to **2.4.4. SERVICE FUNCTION TABLE** for descriptions of the individual codes.

Example:

If you want to set value in the "004 Transmission report mode", press the dial key number 1, 2 or 3 corresponding to the Set Value you want to select. (1:ERROR/2:ON/3:OFF)

2.2. Analog Board Section

Change from original pages 79~80 (**2.3.3.5. Analog Board Section**)

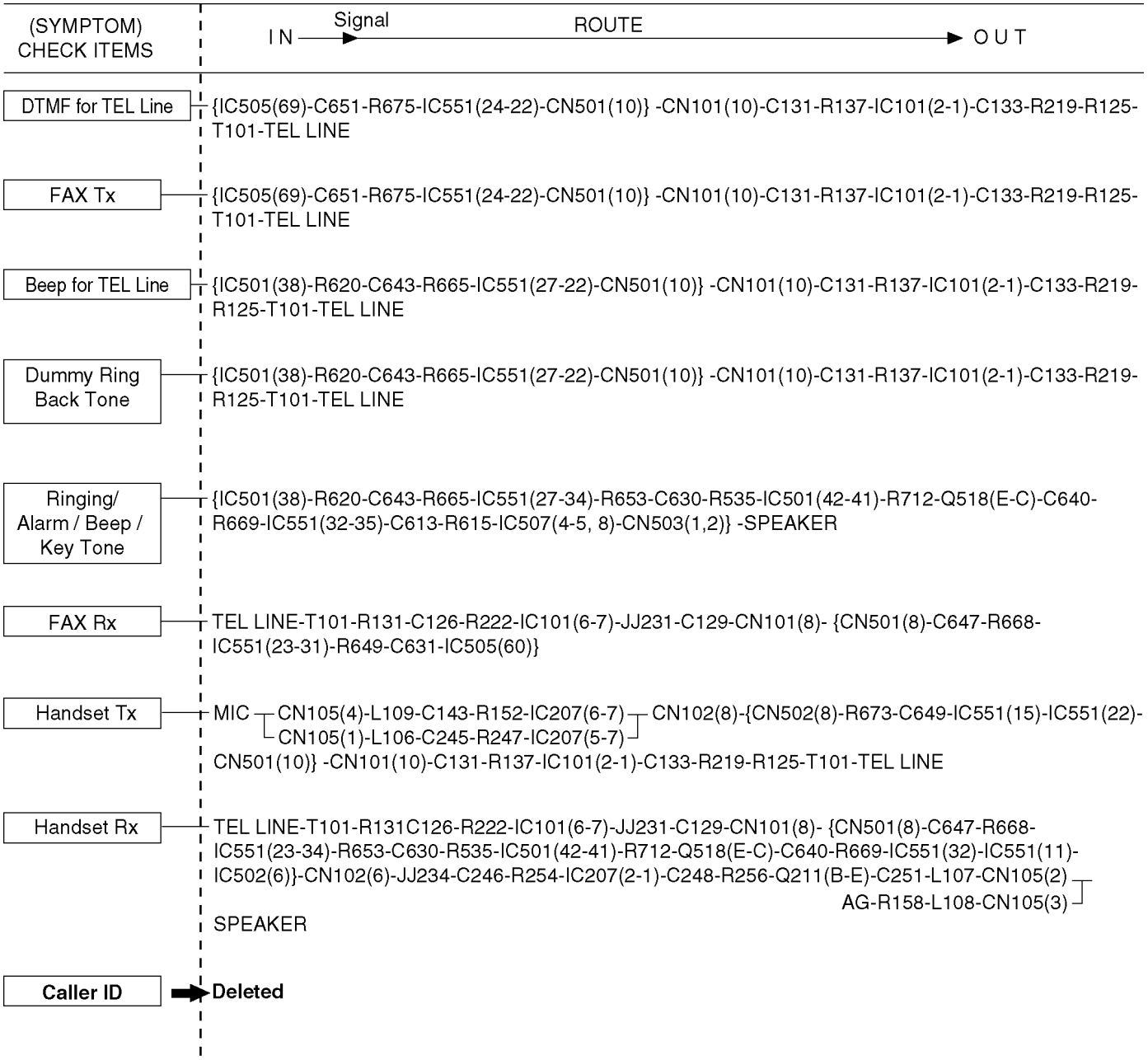
This chapter provides the testing procedures required for the analog parts. A signal route to be tested is determined depending upon purposes. For example, the handset TX route begins at the handset microphone and the signal is output to the telephone line. The signal mainly flowing on this route is analog. You can trace the signal with an oscilloscope. The signal flow on each route is shown in the Check Sheet here. If you find a specific problem in the unit, for example if you cannot communicate with the H/S, trace that signal route locally with the following Check Sheet and locate the faulty point.

CHECK SHEET

(SYMPTOM) CHECK ITEMS	IN → Signal ROUTE → OUT
SP-PHONE Tx	MIC- {CN512(1)-R603-C589-IC505(36-69)-C651-R675-IC551(24-22)-CN501(10)} -CN101(10)-C131-R137-IC101(2-1)-C133-R219-R125-T101-TEL LINE
SP-PHONE Rx	TEL LINE-T101-R131-C126-R222-IC101(6-7)-JJ231-C129-CN101(8)- {CN501(8)-C647-R668-IC551(23-31)-R649-C631-IC505(60-47)-C667-R711-IC511(32-35)-C613-R615-IC507(4-5, 8)-CN503(1, 2)} -SPEAKER
DTMF Monitor – Speaker	{IC505(47)-C667-R711-IC551(32-35)-C613-R615-IC507(4-5, 8)-CN503(1,2)} -SPEAKER
DTMF Monitor – Handset	{IC515(69)-C651-R675-IC551(24-34)-R653-C630-R535-IC501(42-41)-R712-Q518(E-C)-C640-R669-IC551(32)-IC551(11)-IC502(6)}-CN102(6)-JJ234-C246-R254-IC207(2-1)-C248-R256-Q211(B-E)-C251-L107-CN105(2) → SPEAKER AG-R158-L108-CN105(3) → SPEAKER
CNG detection	TEL LINE-T101-R131-C126-R222-IC101(6-7)-JJ231-C129-CN101(8)- {CN501(8)-C647-R668-IC551(23-31)-R649-C631-IC505(60)}
VOX detection	TEL LINE-T101-R131-C126-R222-IC101(6-7)-JJ231-C129-CN101(8)- {CN501(8)-C647-R668-IC551(23-31)-R649-C631-IC505(60)}
Greeting for TEL Line / MSGS for TEL Line	{IC505(69)-C651-R675-IC551(24-22)-CN501(10)} -CN101(10)-C131-R137-IC101(2-1)-C133-R219-R125-T101-TEL LINE
ICM Rec	TEL LINE-T101-R131-C126-R222-IC101(6-7)-JJ231-C129-CN101(8)- {CN501(8)-C647-R668-IC551(23-31)-R649-C631-IC505(60)}
Greeting/ Memo Rec	MIC- {CN512(1)-R603-C589-IC505(36)}
DTMF detection ICM Recording	TEL LINE-T101-R131-C126-R222-IC101(6-7)-JJ231-C129-CN101(8)- {CN501(8)-C647-R668-IC551(23-31)-R649-C631-IC505(60)}

Note:

{ }: Inside the digital board



Note:

{ }: Inside the digital board

2.3. USER MODE (The list below is an example of the SYSTEM SETUP LIST the unit prints out.)

Change from original page 102 (**2.4.3. USER MODE**)

[redacted]

[BASIC FEATURE LIST]

NO.	FEATURE	CURRENT SETTING	
#01	SET DATE & TIME	ЯНВ. 01 1999 00:00	
#02	YOUR LOGO		
#03	YOUR FAX NUMBER		
#04	PRINT SENDING REPORT	ERROR	[ERROR,ON,OFF]
#06	TAD/FAX RING COUNT	1	[1...4,TOLL SAVER,RINGER OFF]
#10	RECORDING TIME	VOX	[VOX,1MIN]
#11	REMOTE TAD ID	ID = 111	
#13	DIALING MODE	TONE	[TONE,PULSE]
#14	PC LINK	ON	[ON,OFF]
#18	FILM REMAIN		

Code

Set Value

[ADVANCED FEATURE LIST]

NO.	FEATURE	CURRENT SETTING	
#22	JOURNAL AUTO PRINT	ON	[ON,OFF]
#23	OVERSEAS MODE	OFF	[ON,OFF]
#25	DELAYED TRANSMISSION	OFF	[ON,OFF]
	DESTINATION =		
	START TIME =	00:00	
#30	SILENT FAX RECOGNITION RING	3	[3...6]
#31	RING DETECTION	OFF	[OFF,A,B,C,D]
#36	RCV REDUCTION	92%	[72,86,92,100]
#39	LCD CONTRAST	NORMAL	[NORMAL,DARKER]
#41	FAX ACTIVATION CODE	ON	[ON,OFF]
	CODE =	*9	
#42	MESSAGE ALERT	OFF	[ON,OFF]
#43	RECORDING TIME ALERT	OFF	[ON,OFF]
#44	MEMORY RECEIVE ALERT	ON	[ON,OFF]
#46	FRIENDLY RECEPTION	ON	[ON,OFF]
#47	VOICE GUIDANCE	ON	[ON,OFF]
#54	GREETING MSG. RECORDING TIME	16s	[16s,60s]

NOTE : If you change from 60sec. to 16sec.
your-greeting will be erased and your new greeting will be limited to 16 seconds.

#58	ORIGINAL SETTING	NORMAL	[NORMAL,LIGHT,DARKER]
#60	MESSAGE TRANSFER	OFF	[ON,OFF]
	DESTINATION =		
#61	TRANSFER GREETING	CHECK	[CHECK,RECORD,ERASE]
#67	ICM MONITOR	ON	[ON,OFF]
#68	ECM SELECTION	ON	[ON,OFF]

NOTE : You cannot change the setting of this feature,
if there are stored documents in memory.

#70	PAGER CALL	OFF	[ON,OFF]
	DESTINATION =		
#76	CONNECTING TONE	ON	[ON,OFF]
#77	AUTO ANSWER MODE	TAD/FAX	[TAD/FAX,FAX ONLY,TEL/FAX]
#78	TEL/FAX DELAYED RING	1	[1...4]
#79	FILM DETECTION	ON	[ON,OFF]
#80	SET DEFAULT		

Set Value

Note:

The above values are the default values.

2.4. SERVICE FUNCTION TABLE

Change from original pages 103~105 (**2.4.4. SERVICE FUNCTION TABLE**)

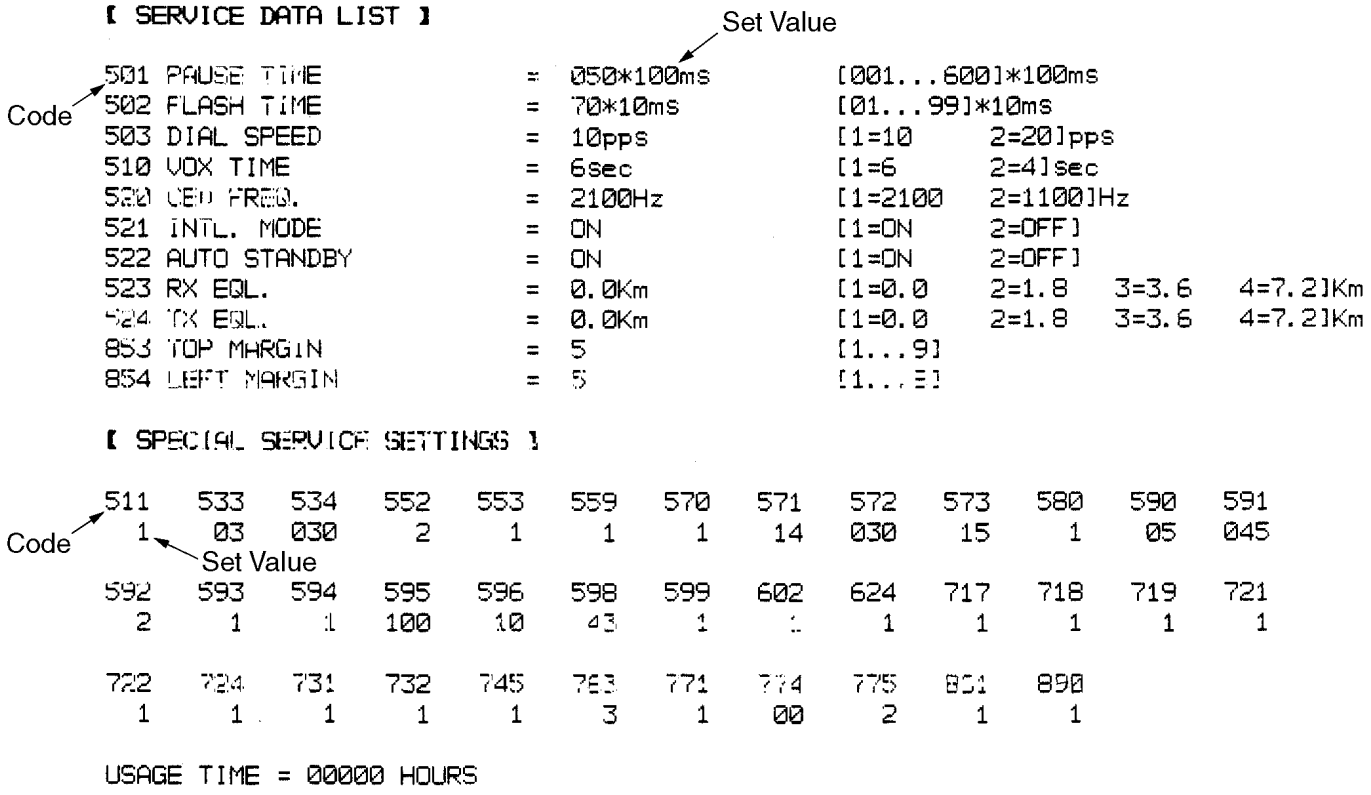
Code	Function	Set Value	Effective Range	Default	Remarks
501	Pause time set	X 100 msec	001~600	**50**	
502	Recall time set	X 10 msec	01~99	**70**	
503	Dial speed select	1:10 pps 2:20 pps	1, 2	1	
510	VOX TIME	1:6 sec 2:4 sec	1, 2	1	
511	Vox sense	1:HIGH 2:LOW	1, 2	1	When the TAM dose not stop recording the ICM because noise is detected on the telephone line, change this setting to “LOW“.
520	CED frequency select	1:2100 Hz 2:1100 Hz	1, 2	1	See the **Symptom/ Countermeasure Table** for long distance and international calls in **2.3.3.3.1. Defective facsimile section**.
521	International mode select	1:ON 2:OFF	1, 2	1	See the **Symptom/ Countermeasure Table** for long distance and international calls in **2.3.3.3.1. Defective facsimile section**.
522	Auto standby select	1:ON 2:OFF	1, 2	1	The resolution reverts to the default when transmission is complete.
523	Receive equalizer select	1:0 km 2:1.8 km 3:3.6 km 4:7.2 km	1~4	1	When the telephone station is far from the unit or reception cannot be performed correctly, adjust accordingly.
524	Transmission equalizer select	1:0 km 2:1.8 km 3:3.6 km 4:7.2 km	1~4	1	When the telephone station is far from the unit or transmission cannot be performed correctly, adjust accordingly.
533	Setting the number of times that massage transfer is redialed.	00~99	00~99	**3**	Selects the number of times that message transfer is redialed (not including the first dialing).
534	Setting the message transfer/pager call redial interval	001~999 sec	001~999	**30**	Sets the interval of message transfer/pager call redial.
550	Memory clear: To reset the value to the default one, except the top margin (853) and left margin (854).				"START" input"
552	DTMF single tone test	1:ON 2:OFF	1, 2	2	See **2.5. TEST FUNCTIONS**.
553	Monitor on FAX communication select	1: OFF 2:PHASE B 3:ALL	1~3	1	
554	Modem test				See **2.5. TEST FUNCTIONS**.
555	Scan check				See **2.5. TEST FUNCTIONS**.
556	Motor test			0	See **2.5. TEST FUNCTIONS**.
557	LED test				See **2.5. TEST FUNCTIONS**.
558	LCD test				See **2.5. TEST FUNCTIONS**.
559	Document jam detection select	1:ON 2:OFF	1, 2	1	See **2.2.1. Paper Jam**.
561	KEY test				See **2.5. TEST FUNCTIONS**.
570	BREAK % select	1:61% 2:67%	1, 2	**1**	Sets the % break of pulse dialing according PBX.
571	ITS auto redial time set	X number of times	00~99	**14**	Selects the number of times that ITS is redialed (not including the first dial).
572	ITS auto redial line disconnection time set	X second	001~999	**30**	Sets the interval of ITS redialing.
573	Remote turn-on ring number set	X number of rings	01~99	15	Sets the number of rings before the unit starts to receive a document in the TEL mode.
580	TAM continuous tone detection	1:ON 2:OFF	1, 2	1	ON : Stops TAM operation when Dial tone, etc. are detected.
590	FAX auto redial time set	X number of times	00~99	**5**	Selects the number of redial times during FAX communication (not including the first dial).
591	FAX auto redial time disconnection time set	X second	001~999	**45**	Sets the FAX redial interval during FAX communication.
592	CNG transmit select	1: OFF 2:ALL 3:AUTO	1~3	2	Lets you select the CNG output during FAX transmission. ALL: CNG is output at phase A. AUTO: CNG is output only when automatic dialing is performed. OFF: CNG is not output at phase A.

Code	Function	Set Value	Effective Range	Default	Remarks
593	Time between CED and 300bps	1: 75 msec 2:500 msec 3:1 sec	1~3	1	See the Symptom/Countermeasure Table for long distance and international calls in **2.3.3.3.1. Defective facsimile section**.
594	Overseas DIS detection select	1:detects at the 1st time 2:detects at the 2nd time	1, 2	1	See the Symptom/Countermeasure Table for long distance and international calls in **2.3.3.3.1. Defective facsimile section**.
595	Receive error limit value set	X Number of times	001~999	100	Sets the number of acceptable error lines when the FAX reconstructs the received data.
596	Transmit level set	X dBm	- 15~00	**10**	Selects the FAX transmission level.
598	Receiving sensitivity	43= -43 dBm	20~48	43	Used when there is an error problem. See the Symptom/Countermeasure Table for long distance and international calls in **2.3.3.3.1. Defective facsimile section**.
599	ECM frame size	1:256 2:64	1, 2	1	
602	Warning LIST Printing	1:ON 2:OFF	1, 2	1	Used to print a caution list when setting the TEL/FAX mode and ring detection.
624	AT ring time out	1:3sec 2:5sec	1, 2	1	
717	Transmit speed selection	1:14400BPS 2:12000BPS 3:9600BPS 4:7200BPS 5:4800BPS 6:2400BPS	1~6	1	Adjusts the speed to start training during FAX transmission.
718	Receive speed selection	1:14400BPS 2:12000BPS 3:9600BPS 4:7200BPS 5:4800BPS 6:2400BPS	1~6	1	Adjusts the speed to start training during FAX reception.
719	Ringer off in TEL/FAX mode	1:ON 2:OFF	1, 2	1	Sets the ringer switch off when a call is received in the TEL/FAX mode.
721	Pause tone detect	1:ON 2:OFF	1, 2	1	Selects the tone detection for pause in dialing.
722	Redial tone detect	1:ON 2:OFF	1, 2	1	Selects the tone detection mode after redialing.
724	PC-FAX ATD busy tone detect	1:ON 2:OFF	1, 2	1	
731	CPC mode	1:A 2:B 3:OFF	1~3	1	Sets the CPC signal detection mode from the converter
732	AUTO disconnect cancel time	1:350 ms 2:1.8 sec 3:OFF	1~3	1	"Sets to "2" when the auto disconnect circuit operates and cuts the line."
745	Power ON film feed	1:ON 2:OFF	1, 2	1	When the power is turned on, the film is wound to take up any slack.
763	CNG detect time for friendly reception	1:10 sec 2:20 sec 3:30 sec	1~3	3	Selects the CNG detection tome of friendly reception.
771	T1 timer	1:35 sec 2:60 sec	1, 2	1	Sets a higher value when the response from the other party needs more time during FAX transmission.
774	T4 timer	× 100 msc	00~99	00	Use this function when delay occurs on the line and communication (ex. mobile comm) does not work well.
775	Monitoring of message transfer	1:ON 2:OFF	1, 2	2	If set to ON a message can be monitored from this unit's SP-PHONE when transferring a message.
784	Voice prompt test				You can hear the voice prompt from speaker after pressing "START" key.
815	Sensor & Vox check				See **2.5. TEST FUNCTIONS**.
841	Digital SP-phone check				See **2.3.3.5.1. Digital Speakerphone**.
852	Print test pattern				See **2.5. TEST FUNCTIONS**.
853	Top margin		1~9	--------	
854	Left margin		1~8	--------	
861	A4 size set	1:ON 2:OFF	1, 2	1	Used only at the factory.
870	Serial port self test				See **2.5. TEST FUNCTIONS**.

Code	Function	Set Value	Effective Range	Default	Remarks
880	History list				See **2.4.6. HISTORY**.
881	Journal 2 list				See **2.4.7.3. PRINTOUT EXAMPLE**.
882	Journal 3 list				See **2.4.7.3. PRINTOUT EXAMPLE**.
890	TEL/FAX 1st ring back tone	1:ON 2:OFF	1, 2	**1**	Selects whether the TEL/FAX 1st ring back tone is ON or OFF in the TEL/FAX mode.

2.5. SERVICE MODE SETTINGS (Example of a printed out list)

Change from original page 106 (**2.4.5. SERVICE MODE SETTINGS**)



Note:

The above values are the default values.

2.6. BUTTON CODE TABLE

Change from original page 117 (**2.5.2. BUTTON CODE TABLE**)

Code	Button Name	Code	Button Name	Code	Button Name
02	RESOLUTION	26	▼ VOLUME	3D	REDIAL/PAUSE
04	START/COPY/SET	31	1	3E	FLASH
05	LOWER	32	2	47	CALLER ID → **Deleted**
08	SP-PHONE	33	3	49	QUICK SCAN
0A	MUTE	34	4	64	STATION 1
0C	RECEIVE MODE	35	5	65	STATION 2
14	RECORD	36	6	66	STATION 3
16	ERASE	37	7	1E	JOG (RIGHT)
18	PLAY MESSAGES	38	8	1F	JOG (LEFT)
20	MENU	39	9		
22	HELP	3A	0	00	NO INPUT
24	DIRECTORY	3B	✳	01	STOP
25	▲ VOLUME	3C	#		

Note:

These codes (00, 01) are only for the data in the History Report.

3 CIRCUIT OPERATIONS

3.1. Descriptions of Pin Distribution (IC501)

Change from original pages 146~148 (**Descriptions of Pin Distribution (IC501)** in **6.3. CONTROL SECTION**)

Descriptions of Pin Distribution (IC501)

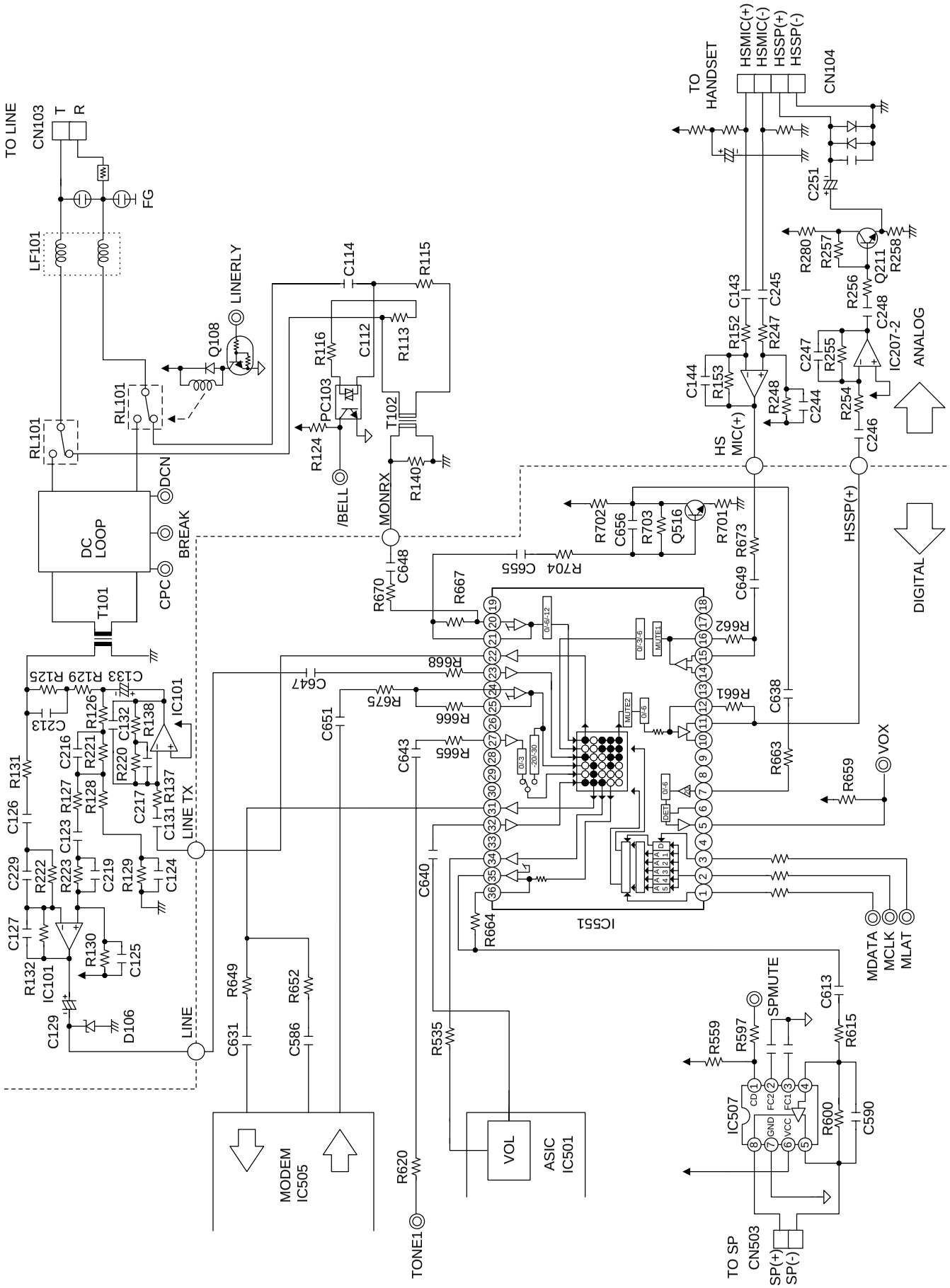
NO.	SIGNAL	I/O	POWER SUPPLIED VOLTAGE	DESCRIPTION
1	AIN1	A	3.3V	CCD IMAGE SIGNAL INPUT
2	AIN2	A	3.3V	THERMISTOR TEMPERATURE WATCH INPUT
3	AIN3	A	3.3V	----------
4	AMON	A	3.3V	ANALOG SIGNAL MONITOR TERMINAL
5	VSSB		GND	POWER SOURCE (ANALOG GND)
6	VDDB		3.3V	POWER SOURCE (ANALOG +3.3V)
7	VDD(3.3V/B)		3.3V/BATT	POWER SOURCE (+3.3V/LITHIUM BATTERY)
8	X32OUT	O	3.3V/BATT	RTC (32.768KHz) CONNECTION
9	X32IN	I	3.3V/BATT	RTC (32.768KHz) CONNECTION
10	VSS		GND	GND
11	XBACEN	I	5V/BATT	BACKUP ENABLE
12	VDD (5V/B)		5V/BATT	POWER SOURCE (+5V/LITHIUM BATTERY)
13	XRAMCS	O	5V/BATT	RAM (IC504) CHIP SELECT
14	XRAMCS2	O	5V/BATT	NOT USED
15	FTG	O	5V	SH SIGNAL OUTPUT FOR CIS
16	F1	O	5V	01 SIGNAL OUTPUT FOR CIS
17	F2/OP	O	5V	OUTPUT PORT (VOLOUTEN)
18	FR/OP	O	5V	OUTPUT PORT (RESERVED)
19	VIDRST/IOP	O	5V	OUTPUT PORT (RESERVED)
20	SPHCLK/IOP	I	5V	INPUT PORT (RESERVED)
21	DARKON/IOP	I	5V	INPUT PORT (JOG1)
22	ADSEL2/IOP	I	5V	INPUT PORT (JOG2)
23	CPC	I	5V	INPUT PORT (RESERVED)
24	BELL	O	5V	OUTPUT PORT (LINE RLY)
25	VDD (5V)		5V	POWER SOURCE (+5V)
26	VSS		GND	POWER SOURCE (GND)
27	RVN	I	5V	INPUT PORT (FILM END SENSOR SIGNAL)
28	IRDATXD/IOP	O	5V	OUTPUT PORT (RESERVED)
29	IRDARXD/ IOP80	I	5V	**OUTPUT PORT (RESERVED)**
30	TXD/IOP	O	5V	RS232C I/F (TXP) KX-FM131 ONLY
31	RXD/IOP	O	5V	RS232C I/F (RXD) KX-FM131 ONLY
32	XRTS/IOP	O	5V	RS232C I/F (XRTS) KX-FM131 ONLY
33	XCTS/IOP	O	5V	RS232C I/F (XCTS) KX-FM131 ONLY
34	XDSR/IOP	O	5V	RS232C I/F (XDSR) KX-FM131 ONLY
35	DCD/IOP	O	5V	RS232C I/F (DCD) KX-FM131 ONLY
36	XDTR/IOP	O	5V	RS232C I/F (XDTR) KX-FM131 ONLY
37	RI/CLK/IOP	O	5V	NOT USED
38	TONE1		5V	TONE OUTPUT
39	TONE2		5V	TONE OUTPUT
40	VOLUREF		5V	ANALOG REF VOLTAGE
41	VOLUOUT		5V	VOLUME OUTPUT
42	VOLUIN		5V	VOLUME INPUT
43	MIDAT/IOP	A	5V	MIDAT
44	MICLK/IOP	A	5V	MICLK
45	MILAT/IOP	A	5V	MILAT
46	XRESCS1	O	5V	OUTPUT PORT (BREAK)
47	IOP90	O	5V	OUTPUT PORT (SPMUTE)
48	VSS		GND	POWER SOURCE (GND)
49	VDD (5V)		5V	POWER SOURCE (+5V)
50	XNMI	I	5V	HIGH FIXED
51	CBUSY2	O	5V	**OUTPUT PORT (RESERVED)**
52	CSO	O	5V	OUTPUT PORT (RESERVED)
53	CBUSY1	I	5V	OUTPUT PORT (RESERVED)
54	CCLK	I	5V	OUTPUT PORT (RESERVED)
55	CSI	I	5V	OUTPUT PORT (RESERVED)
56	IOP91	O	5V	OUTPUT PORT (RESERVED)
57	IOP92	O	5V	OUTPUT PORT (RESERVED)
58	FMEMCS/IOP	O	5V	OUTPUT PORT (FCS)

NO.	SIGNAL	I/O	POWER SUPPLIED VOLTAGE	DESCRIPTION
59	FMEMDO/IOP	O	5V	OUTPUT PORT (ALE)
60	FMEMDI/IOP	O	5V	OUTPUT PORT (CLE)
61	FMEMCLK/IOP	I	5V	INPUT PORT (R/B)
62	XRESCS3/OP	O	5V	OUTPUT PORT (OP RESET)
63	20KOSC/IOP	O	5V	RESERVED
64	XHOLDAK	O	5V	NOT USED
65	VDD (3.3V)		3.3V	POWER SOURCE (+3.3V)
66	XOUT	O	3.3V	SYSTEM CLOCK (24MHz)
67	XIN	I	3.3V	SYSTEM CLOCK (24MHz)
68	VSS		GND	POWER SOURCE (GND)
69	VDD (5V)		5V	POWER SOURCE (+5V)
70	XTEST	O	5V	24MHz CLOCK
71	CPUCLK	O	5V	NOT USED
72	TEST1	I	5V	HIGH FIXED
73	TEST2	I	5V	HIGH FIXED
74	TEST3	I	5V	HIGH FIXED
75	TEST4	I	5V	HIGH FIXED
76	XMDMINT	I	5V	MODEM INTERRUPT
77	XMDMCS	O	5V	MODEM CHIP SELECT
78	VSS		GND	POWER SOURCE (GND)
79	VDD (3.3V)		3.3V	POWER SOURCE (3.3V)
80	XWAIT	I	5V	LOW FIXED
81	HOLD	I	5V	LOW FIXED
82	HSTRD/IOP	O	5V	FLASH MEMORY READ
83	HSTWR/IOP	O	5V	FLASH MEMORY WRITE
84	XOPRBE	O	5V	NOT USED
85	ADR15	O	5V	CPU ADDRESS BUS 15 (NOT USED)
86	ADR14	O	5V	CPU ADDRESS BUS 14 (NOT USED)
87	ADR13	O	5V	CPU ADDRESS BUS 13 (NOT USED)
88	XRAS/IOP	O	5V	DRAM (IC503) ROW ADDRESS STROBE
89	XCAS1/IOP	O	5V	DRAM (IC503) CULUM ADDRESS STROBE
90	XCAS2/IOP	O	5V	OUTPUT PORT (MODRST)
91	VSS		GND	POWER SOURCE (GND)
92	VDD (3.3V)		3.3V	POWER SOURCE (3.3V)
93	XRESCS2	O	5V	OUTPUT PORT (CSBR)
94	DB3	I/O	5V	CPU DATA BUS 3
95	DB2	I/O	5V	CPU DATA BUS 2
96	DB4	I/O	5V	CPU DATA BUS 4
97	DB1	I/O	5V	CPU DATA BUS 1
98	DB5	I/O	5V	CPU DATA BUS 5
99	DB0	I/O	5V	CPU DATA BUS 0
100	DB6	I/O	5V	CPU DATA BUS 6
101	DB7	I/O	5V	CPU DATA BUS 7
102	VSS		GND	POWER SOURCE (GND)
103	VDD (5V)		5V	POWER SOURCE (5V)
104	XROMCS	I/O	5V	ROM (IC502) CHIP SELECT
105	RD	O	5V	CPU RD
106	WR	O	5V	CPU WR
107	ADR0	O	5V	CPU ADDRESS BUS 0
108	ADR1	O	5V	CPU ADDRESS BUS 1
109	ADR2	O	5V	CPU ADDRESS BUS 2
110	ADR3	O	5V	CPU ADDRESS BUS 3
111	ADR4	O	5V	CPU ADDRESS BUS 4
112	ADR5	O	5V	CPU ADDRESS BUS 5
113	ADR6	O	5V	CPU ADDRESS BUS 6
114	ADR7	O	5V	CPU ADDRESS BUS 7
115	ADR8	O	5V	CPU ADDRESS BUS 8
116	ADR9	O	5V	CPU ADDRESS 9
117	ADR10	O	5V	CPU ADDRESS 10
118	ADR11	O	5V	CPU ADDRESS 11
119	ADR12	O	5V	CPU ADDRESS 12
120	VSS		GND	POWER SOURCE (GND)
121	VDD (5V)		5V	POWER SOURCE (+5V)
122	RBA0	O	5V	ROM/RAM BANK ADDRESS 0
123	RBA1	O	5V	ROM/RAM BANK ADDRESS 1
124	RBA2	O	5V	ROM/RAM BANK ADDRESS 2
125	RBA3	O	5V	ROM/RAM BANK ADDRESS 3

NO.	SIGNAL	I/O	POWER SUPPLIED VOLTAGE	DESCRIPTION
126	RBA4	O	5V	ROM/RAM BANK ADDRESS 4
127	RBA5	O	5V	ROM/RAM BANK ADDRESS 5
128	RBA6/IOP96	O	5V	OUTPUT PORT (RESERVED)
129	IOP95	O	5V	OUTPUT PORT (SEN LED ON)
130	IOP94	O	5V	OUTPUT PORT (RESERVED)
131	IOP93	I	5V	OUTPUT PORT (CIS LED ON)
132	XRESET	I	5V	RESET INPUT
133	XORESET	O	5V	RESET OUTPUT
134	VDD (5V)		5V	POWER SOURCE (+5V)
135	VSS		GND	POWER SOURCE (GND)
136	XRESETI	I	5V	RESET INPUT
137	WDERR	O	5V	WATCHED ERROR OUTPUT SIGNAL
138	XRSTSWI	I	5V	INPUT PORT (MPOS)
139	XRSTSWO	O	5V	OUTPUT PORT (VOLIN SEL2)
140	XRESETO	O	5V	NOT USED
141	IOP	O	5V	THERMAL HEAD POWER ON/OFF CONTROL
142	STB1	O	5V	STROBE SIGNAL OUTPUT TO THERMAL HEAD
143	STB2	O	5V	STROBE SIGNAL OUTPUT TO THERMAL HEAD
144	VDD (3.3V)		3.3V	POWER SOURCE (3.3V)
145	VSS		GND	POWER SOURCE (GND)
146	STB3	O	5V	STROBE SIGNAL OUTPUT TO THERMAL HEAD
147	STB4	O	5V	NOT USED
148	STBNP	I	5V	INPUT PORT (BELL)
149	THDAT	O	5V	RECORDED IMAGE OUTPUT
150	THCLK	O	5V	CLOCK OUTPUT FOR DATA TRANSFER
151	THLAT	O	5V	PULSE OUTPUT FOR DATA LATCH
152	RM0/IOP	I	5V	INPUT PORT (P-TOP)
153	RM1/IOP	I	5V	INPUT PORT (DCN)
154	RM2/IOP	I	5V	INPUT PORT (CPC)
155	RM3/IOP	O	5V	OUTPUT (NOT USED)
156	RXE/IOP	I	5V	INPUT PORT (NOT USED)
157	TMO	O	5V	MOTOR A PHASE
158	VDD (5V)		5V	POWER SOURCE (+5V)
159	VSS		GND	POWER SOURCE (GND)
160	TM1/IOP	O	5V	MOTOR B PHASE
161	TM2/IOP	O	5V	MOTOR /A PHASE
162	TM3/IOP	O	5V	MOTOR /B PHASE
163	TXE/IOP	O	5V	MOTOR ENABLE SIGNAL
164	KSTART	O	5V	OPERATION PANEL CONTROL
165	KLATCH	O	5V	OPERATION PANEL CONTROL
166	KSCLK	O	5V	OPERATION PANEL CONTROL
167	KTXD	O	5V	OPERATION PANEL CONTROL
168	KRXD	I	5V	OPERATION PANEL CONTROL
169	ADSEL1	O	5V	CHANNEL SELECT SIGNAL FOR AIN2
170	VSSC		GND	POWER SOURCE (ANALOG GND)
171	VDDC		3.3V	POWER SOURCE (ANALOG +3.3V)
172	VSSA		GND	POWER SOURCE (ANALOG GND)
173	VDDA		3.3V	POWER SOURCE (ANALOG +3.3V)
174	VREFB	A	3.3V	A/D CONVERTER'S ZERO STANDARD VOLTAGE OUTPUT
175	VCL	A	3.3V	ANALOG PART STANDARD VOLTAGE SIGNAL
176	VREFT	A	3.3V	A/D CONVERTER'S FULL SCALE VOLTAGE OUTPUT

3.2. ANALOG UNIT BLOCK DIAGRAM

Change from original page 179 (**6.7.1. ANALOG UNIT BLOCK DIAGRAM**)



3.3. LINE AMPLIFIER AND SIDE TONE CIRCUIT

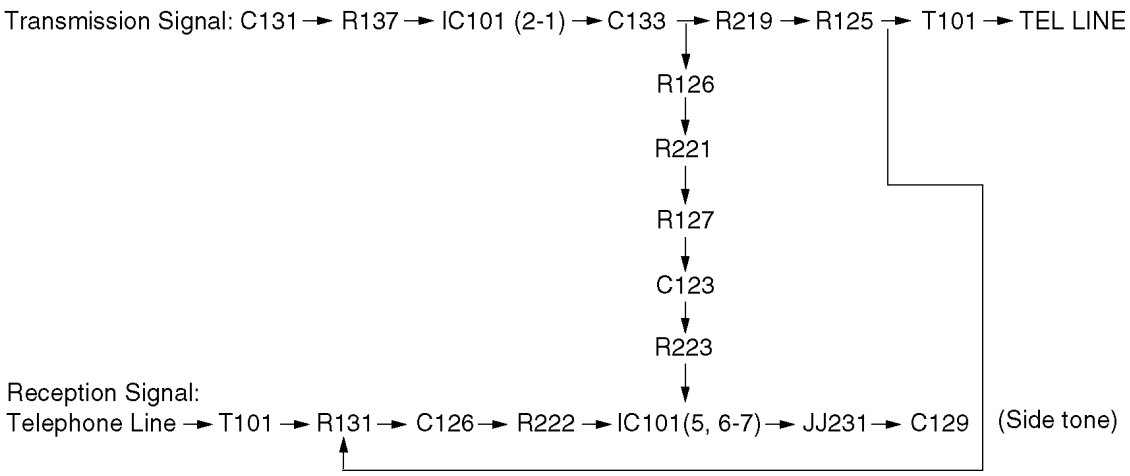
Change from original page 181 (**6.8.5. LINE AMPLIFIER AND SIDE TONE CIRCUIT**)

1. **Circuit Operation**

The reception signal output from the line transformer T101 is input to pin (6) of IC101 via C126 and R131, and then the signal is amplified at pin (7) of IC101 and sent to the reception system at 5dB.

The transmission signal goes through C131 and R137 and enters IC101-pin (2), where the signal is amplified to about 20.8dB. Then, it is output from pin (1) of IC101 and transmitted to T101 via C133, R219 and R125. If the side tone circuit is not applied, the transmission signal will return to the reception amplifier via C126, R131 and R222. When the side tone circuit is active, the signal output from IC101 pin (1) passes through C133, R221, R216, R127, C123, R223 and C219 and goes into the amplifier IC101 pin (5). This circuit is used to cancel the transmission return signal.

Side Tone Circuit



3.4. CALLING LINE IDENTIFICATION CIRCUIT → Deleted

Change from original pages 183~184 (**6.8.8. CALLING LINE IDENTIFICATION CIRCUIT**)

3.5. OPERATION BOARD SECTION

Change from original page 187 (**6.12. OPERATION BOARD SECTION**)

The unit consists of a LCD (Liquid crystal display), KEYs and LEDs (light-emitting diodes). They are controlled by the Gate Array (IC301) and ASIC (IC501: on the DIGITAL BOARD). (Fig.-a)

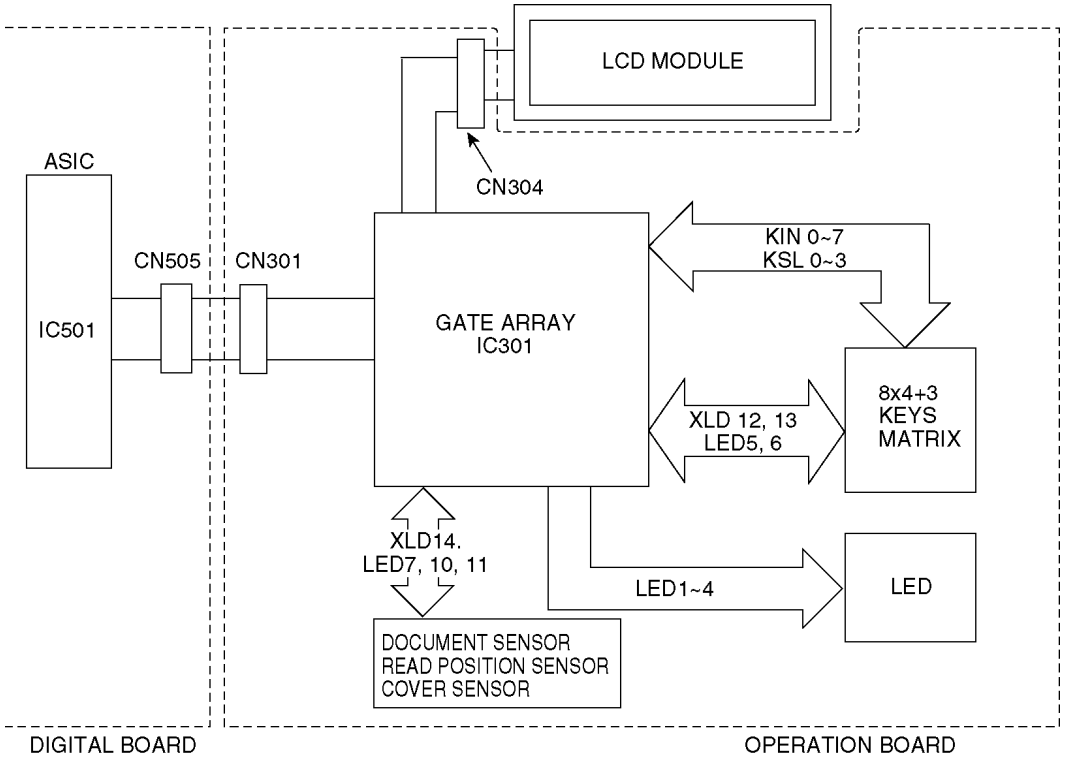


Fig.-a

Key Matrix

	KIN0	KIN1	KIN2	KIN3	KIN4	KIN5	KIN6	KIN7
KSL0	SW301 ✳	SW305 START/SET/COPY	SW309 RECALL	SW313 MUTE	SW317 9	SW321 PROGRAM	SW325 ONE 3, 6	SW329 QUICK SCAN
KSL1	SW302 VOL DOWN	SW306 STOP	SW310 6	SW314 3	SW318 8	SW322 MENU	SW326 LOWER	
KSL2	SW303 VOL UP	SW307 SP-PHONE	SW311 5	SW315 2	SW319 0	SW323 RESOLUTION	SW327 ONE 2, 5	**Deleted**
KSL3	SW304 HELP	SW308 #	SW312 4	SW316 1	SW320 7	SW324 REDIAL/PAUSE	SW328 ONE 1, 4	SW332 AUTO ANSWER

	LED5	LED6
XLD12		SW335 PLAY MESSAGES ← Ref. No. of Operation Board
XLD13	SW334 RECORD	SW333 ERASE

SENSOR

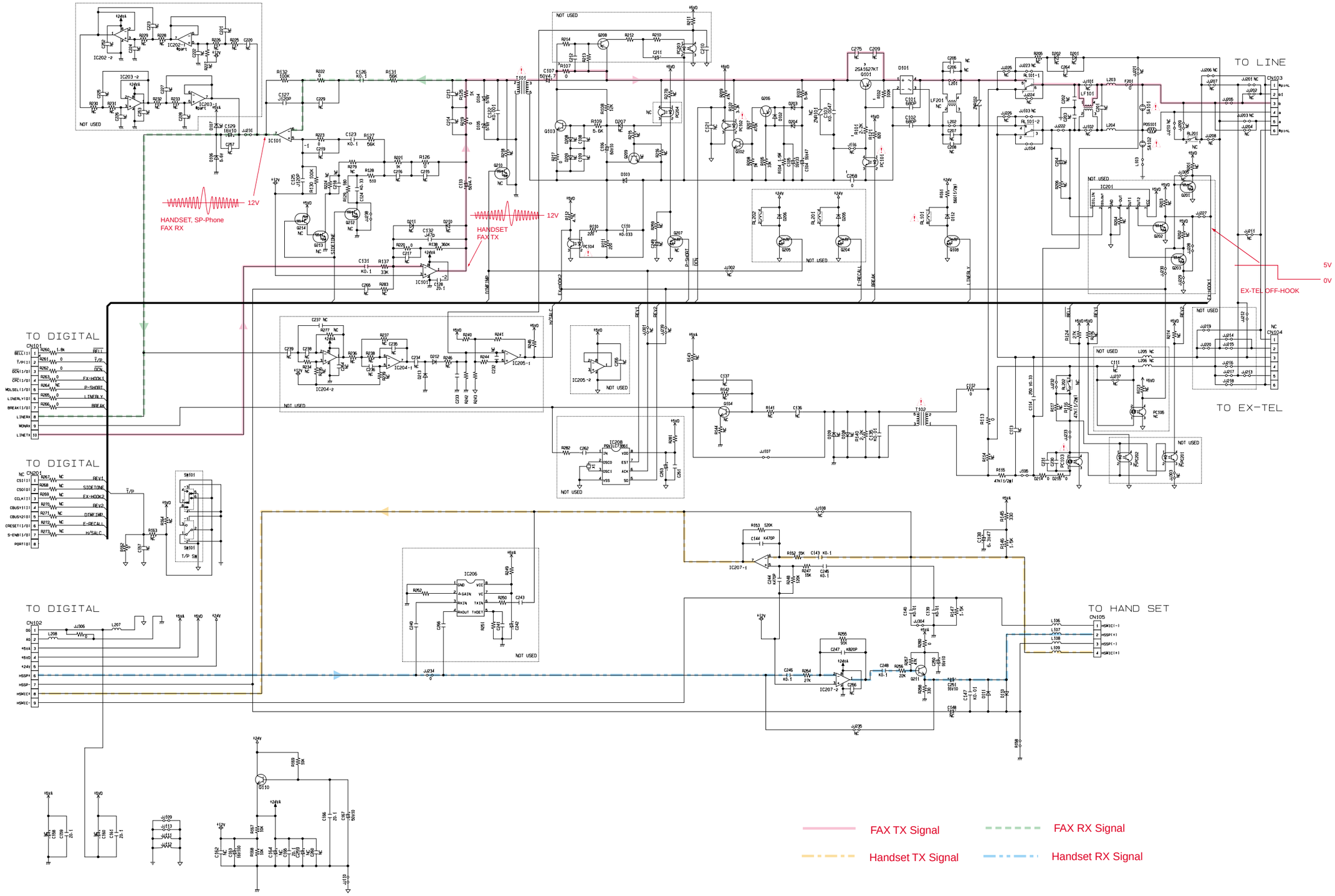
	LED7	LED10	LED11
XLD14	PC301 DOCUMENT SET	PC302 DOCUMENT TOP	PC303 COVER OPEN=1

LED

	LED1	LED2	LED3	LED4
		LED302 PLAY MESSAGES	LED303 AUTO ANSWER	LED 301 SP-PHONE

4 SCHEMATIC DIAGRAM (ANALOG CIRCUIT)

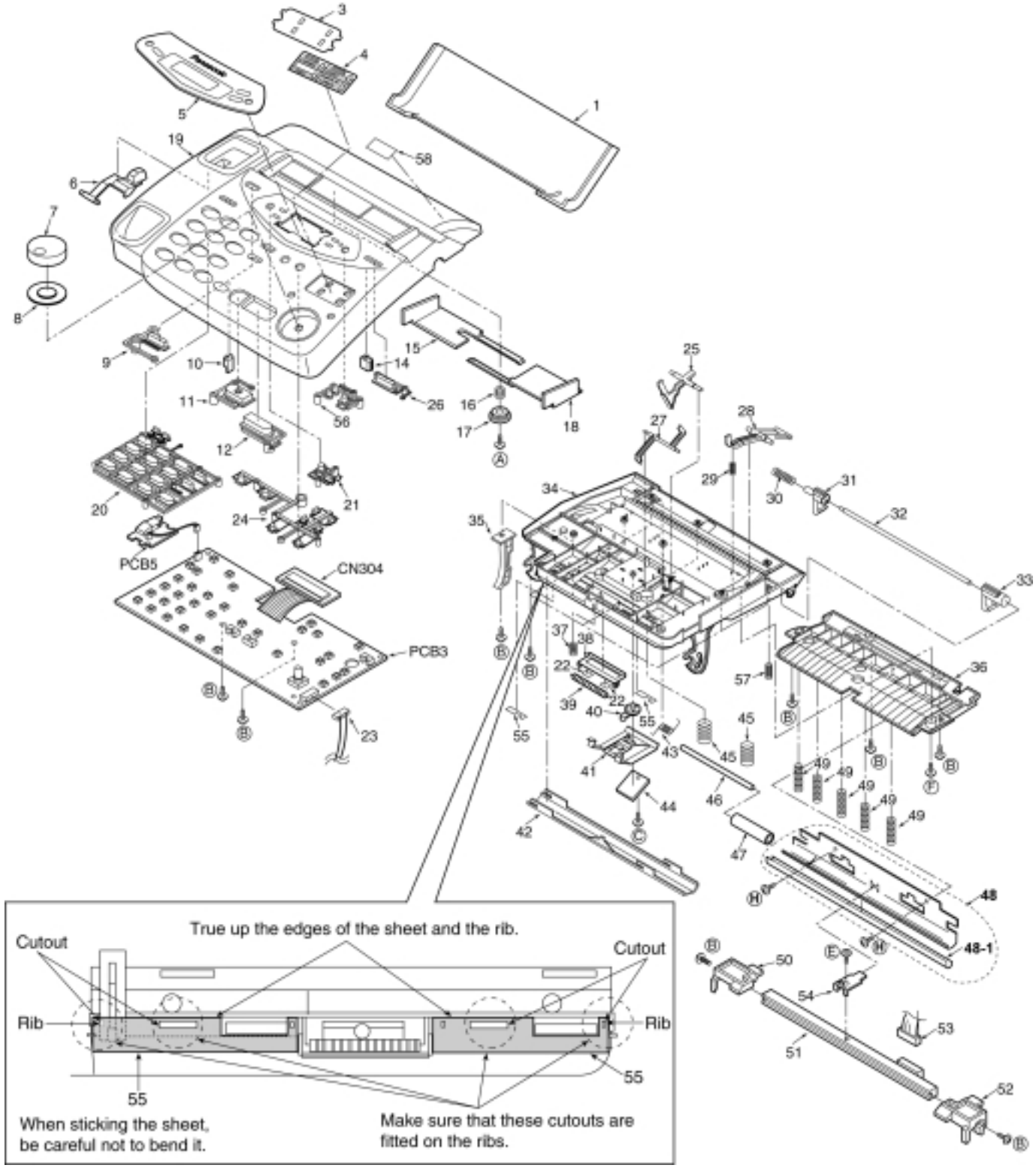
Change from original page 200 (**9.2. SCHEMATIC DIAGRAM (ANALOG CIRCUIT)**)



5 CABINET, MECHANICAL AND ELECTRICAL PARTS LOCATION

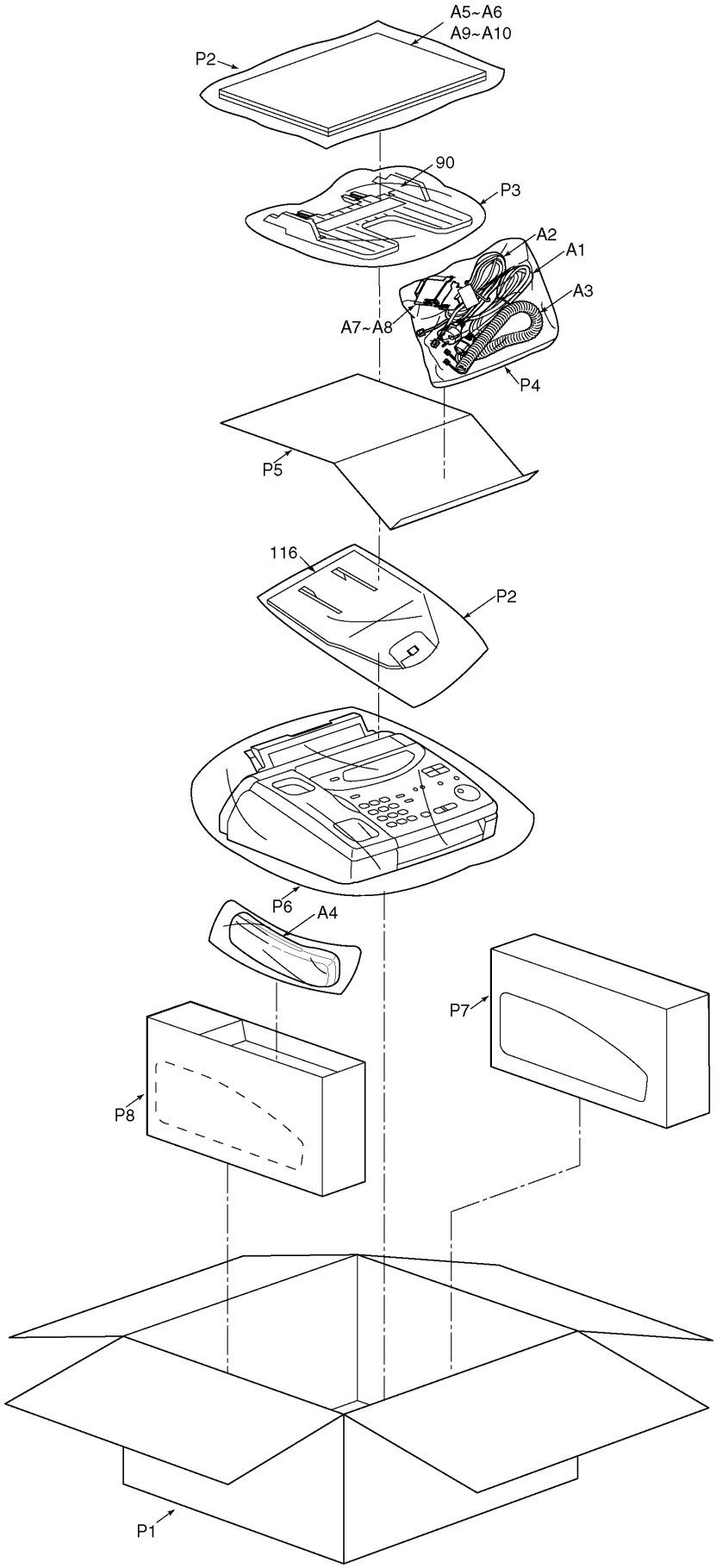
5.1. OPERATION PANEL SECTION

Change from original page 207 (**12.1. OPERATION PANEL SECTION**)



6 ACCESSORIES AND PACKING MATERIALS

Change from original page 213 (**13. ACCESSORIES AND PACKING MATERIALS**)



7 REPLACEMENT PARTS LIST

Change from original pages 214~232 (**14/15 REPLACEMENT PARTS LIST**)

This replacement parts list is for KX-FM131RS only.

Refer to the simplified manual (cover) for other areas.

Notes:

1. 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 govering parts and product retention.

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

2. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacture´s specified parts.

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

4. RESISTORS & CAPACITORS
   Unless otherwise specified;
   All resistors are in ohms (Ω) K=1000Ω, M=1000kΩ
   All capacitors are in MICRO FARADS (µF) P=µµF
   *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

7.1. CABINET AND ELECTRICAL PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND ELECTRICAL PARTS	
		(12.1. OPRATION PANEL SECTION)	
1	PFKS1028Z1	TRAY, DOCUMENT	
2	Not Used		
3	PFGV1007Z	COVER, TEL CARD	
4	PFGD1041Z	CARD, TEL	
5	PFGP1152W	PANEL, LCD	
6	PFBH1009Z2	BUTTON, HOOK	
7	PFBE1002Z4	JOG DIAL	S
8	PFHX1199Z	SHEET, JOG	
9	PFBC1031Z1	BUTTON, HELP	
10	PFGP1131Z	LED COVER, A	
11	PFBC1037Z1	BUTTON, STOP	
12	PFBC1030Z1	BUTTON, START	
13	Not Used		
14	PFGP1132Z	LED COVER, B	
15	PFKR1012Z1	GUIDE, DOCUMENT	
16	PFUS1034Z	SPRING, DOCUMENT GUIDE	
17	PFDG1002Z	GEAR, DOCUMENT GUIDE	
18	PFKR1013Z1	GUIDE, DOCUMENT	
19	PFGG1036E1	OPERATION PANEL	
20	PFBX1069Z1	BUTTON, DIAL	
21	PFBX1072Y1	BUTTON, IQ FAX	
22	Not Used		
23	PFJS11Q26Z	CONNECTOR,11P	
24	PFBX1070Z1	BUTTON, 8 KEY	
25	PFDE1084Y	LEVER, DOC. DETECTION	
26	PFBC1032Z1	LEVER, AUTO ANSWER	
27	PFDE1085Z	LEVER	
28	PFDE1086Z	LEVER, COVER OPEN SENSOR	
29	PFUS1027Z	SPRING, DOC. LEVER	
30	PFUS1110Z	SPRING, LOCK LEVER	
31	PFDE1070Z	LEVER, LOCK (LEFT)	
32	PFDF1040Y	SHAFT, LOCK LEVER	
33	PFDE1071Z2	LEVER, LOCK (RIGHT)	
34	PFUV1022Y	COVER, OPERATION PANEL	
35	PFHR1115Z	ARM, DUMPER	
36	PFUV1023Z	HEAD BASE	
37	PFUS1182Z	SPRING, SHEIDING	
38	PFUS1093Z	SPRING, SUPPORT ROLLER	
39	PQDR10005Y	ROLLER, SUPPORT EXIT PRINT	
40	PFHR1019Z	LEVER, SEPARATION ADJ.	
41	PFUS1153Z	SPRING, DOCUMENT FEED	
42	PFMH1046Y	PLATE, WHITE	
43	PFUS1156Z	SPRING, ERATH	
44	PFHG1061Z	RUBBER, SEPARATE	
45	PFUS1025Z	SPRING, ROLLER	
46	PFDF1005Z	SHAFT, SUPPORT ROLLER	
47	PFDR1013Z	ROLLER, SUPPORT	
48	PFZUFP101M	RIBBON GUIDE ASS'Y	
48-1	PFHX1115Z	SHEET, RIBBON GUIDE	
49	PFUS1152Z	SPRING, THERMAL HEAD	
50	PFHR1128Z	GUIDE (RIGHT)	
51	PFJHS016Z	THERMAL HEAD	
52	PFHR1127Z	GUIDE (LEFT)	
53	PFJS12Q25Z	CONNECTOR, 12P	
54	PFMH1059Z	HEAD FULCRUM	
55	PFHX1258Z	SHEET, SHUTTER	
56	PFBX1071Z1	BUTTON, TAM	
57	PFUS1154Y	SPRING, POP UP	
58	PFHX1246Z	COVER, SCREW	
		(12.2. UPPER CABINET SECTION)	
90	PFKS1030Z1	PAPER TRAY ASS´Y	S
91	PFDG1038Z1	GEAR, RIBBON FLANGE 2	
92	PFDG1037Z	GEAR, RIBBON FLANGE 1	
93	PFPE1032Z	INK RIBBON (100m)	
94	PFHR1152Z	FILM CARTRIDGE	
95	PFZEFP101M	P. SEPARATION HOLDER ASS´Y	
95-1	PFHG1055Y	RUBBER, P.SEPARATION	
95-2	PFHR1118Z	RUBBER, P.SEPARATION HOLDER	
95-3	PFHX1270Z	SHEET, SEPARATION RUBBER	
96	Not Used		

Ref. No.	Part No.	Part Name & Description	Remarks
97	PFJS10Q28Z	CONNECTOR, 10P	
98	PFUS1068Z	SPRING, P.SEPARATION HOLDER	
99	PF0U1016Y	CIS (CONTACT IMAGE SENSOR)	
100	PFDG1082Z	GEAR, PLATEN ROLLER	
101	PFDJ1011Z	PLATEN SUPPORT	
102	PFDN1028Z	ROLLER, PLATEN	
103	PFDG1027Y	GEAR, PLATEN DRIVE	
104	PFUS1158Z	SPRING, PAPER TRAY	S
105	Not Used		
106	PFDJ1014Z	SPACER, SUB ROLLER	
107	PFDR1008Z	ROLLER, DUMPER	
108	PFDG1071Z	GEAR, SENDING	
109	PFDN1030Z	ROLLER, DOCUMNET FEED	
110	PFDJ1007Z	SPACER, ROLLER	
111	PFGT1567Z-M	NAME PLATE	
112	PFKM1043R1	UPPER CABINET	
113	PFDG1105Z	GEAR, IDLER	
114	Not Used		
115	PFHR1117Z1	HOLDER, CIS	
116	PFZXFP101M	PAPER STACKER ASS´Y	
116-1	PFKS1031Z1	STACKER	
116-2	PFKS1021Z1	SUB STACKER	
117	PQJM128Z	MICROPHONE	
118	PFJS02Q30Z	CONNECTOR, 2P	
119	PQHG556Z	RUBBER, MIC COVER	
120	PFQT1538Z	CARTRIDGE LABEL	
121	PFQT1250Z	CAUTION LABEL	
		(12.2.1. PICKUP BASE SECTION)	
130	PFKS1029Z	PLATE, CASSETTE	
131	PFDE1090Z1	LEVER, CASSETTE	
132	PFHR1116Y1	PICKUP BASE	
133	PQDJ10002Z	SPACER, ROLLER	
134	PFDN1027Z	ROLLER, PICKUP	
135	PFDG1083Y	GEAR, PICKUP ROLLER	
136	XUC2FY	RETAINING RING	
137	PFDG1098Z	GEAR, RIBBON DRIVE	
138	PFUA1021Z	PLATE, BACK TENSION	
139	PFHG1057Z	FELT, BACK TENSION	
140	PFDG1102Z	GEAR	
141	PFUS1183Z	SPRING, BACK TENSION	
142	PFDG1029Y	GEAR, RIBBON DRIVE	
143	PFDG1103Z	GEAR, BACK TENSION IDLER	
		(12.3. LOWER/P.C.B. SECTION)	
160	PFHG1050Z	RUBBER, LEG	S
161	PFMD1033Y	FRAME, BOTTOM	
162	PFJP03S04Z	CONNECTOR, 3P	⚠
163	PQLB1E1	FERRITE CORE	
164	PQJS02Q59Y	CONNECTOR, 2P	
165	PFJS08Q27Z	CONNECTOR, 8P	
166	PFMH1075Z	SPRING, SPEAKER	
167	PFAS50P003Z	SPEAKER	
168	PFJS02R60Z	CONNECTOR, 2P	
169	PFUS1166Z	SPRING, P.TOP SENSOR	
170	PFDE1089Y	LEVER, P.TOP SENSOR	
171	PFMD1032Z	COVER	
172	PQDJ10002Z	SPACER, ROLLER	
173	PFDN1029Z	ROLLER, SEPARATION	
174	PQUS10055Z	SPRING, ONE WAY	
175	PFHX1264Y	SPACER, ROLLER	
176	PFDE1059Z	DELAY	
177	PFDG1085Z	GEAR, SEPARATION ROLLER	
178	XUC2FY	RETAINING RING	
179	XWC4B	WASHER	

Ref. No.	Part No.	Part Name & Description	Remarks
180	PFHX1263Z	SHEET, ROLLING	
181	PFHX1246Z	COVER, SCREW	
182	Not Used		
183	PFHX1148Z	VIBRATION SHEET	
184	PFHX1272Z	SHEET, CIS LED	
185	PQHM112Z	CLAMPER	
186	PFNW1006Z	WASHER	
187	PFMH1082Z	SUB PLATE	
188	PFJS11Q48Z	CONNECTOR, 11P	
		(12.4. MOTOR SECTION)	
200	PFUA1020Z	WIND GEAR CHASSIS	
201	PFDX1011Y	GEAR, TORQUE LIMITTER	
202	PFDG1109Z	GEAR, M	
203	PFDG1106Z	GEAR,RIBBOM DRIVE	
204	PFDG1108Z	GEAR, L	
205	PFDG1107Z	GEAR, K	
206	PFJQ1014Z	DC MOTOR	
207	PFUS1157Z	SPRING, EARTH	
208	PFMD1042Z	MOTER PLATE	
209	PFJS03Q32Z	CONNECTOR, 3P	
210	PQST2A04Z	SEESAW SWITCH	
211	PFUA1019V	MAIN GEAR CHASSIS	
212	PFDG1090Z	GEAR, F	
213	PFDG1110Z	GEAR, G	
214	PFDG1087Z	GEAR, B	
215	PFDG1022Z	GEAR, D	
216	PFHR1119Y	ARM, X	
217	PFUS1147Z	SPRING, GEAR C	
218	PFDG1021Z	GEAR, C	
219	PFDG1111Z	GEAR, H	
220	PFDG1112Z	GEAR, I	
221	PFHR1120Z	ARM, Y	
222	PFDG1113Z	GEAR, J	
223	PFDG1086Y	GEAR, A	
224	PFHR1121Z	ARM, Z	
225	PFDG1089Z	GEAR, E	
226	PFUS1159Z	SPRING, GEAR ARM	
227	PFHX1266Z	WASHER	
		(13 ACCESSORIES AND PACKING MATERIALS)	
A1	PQJA10038Y	POWER CORD	S ⚠
A2	PQJA10075Z	CORD, TEL	⚠
A3	PFJA1029Z	CORD, HANDSET	
A4	PFJXE0805Z	HANDSET	
A5	PFQX1395Z	INSTRUCTION BOOK	
A6	PFQW1344Z	LEAFLET	
A7	PFKS1032Z1	A4 SPACER (LEFT)	
A8	PFKS1033Z1	A4 SPACER (RIGHT)	
A9	PFJK102A3131	CD-ROM	
A10	PFQX1396Z	INSTRUCTION BOOK for CD-ROM	
P1	PFPK1649Z-M	PACKING CASE	
P2	XZB32X45A04	BAG,POLYETHYLENE	
P3	PQPP10005Z	BAG,POLYETHYLENE	
P4	XZB20X35A04	BAG,POLYETHYLENE	
P5	PFPD1077Z	PAD	
P6	PFPH1011Z	PACKING SHEET	
P7	PFPN1185Z	PAD (RIGHT)	
P8	PFPN1184Z	PAD (LEFT)	

7.2. DIGITAL BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
		DIGITAL BOARD PARTS	

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	PFWP1FM131RS	DIGITAL BOARD ASS´Y (RTL)	
		(ICS)	
IC501	PFVIM66410G1	IC	
IC502	PFWIFM131RS	IC (ROM)	
IC503	PFVIMS5148F	IC	
IC504	PFVIGM6256FF	IC	S
IC505	PFVIR675813	IC	
IC506	PFVIT2003APS	IC	
IC507	PQVINJM2113M	IC	
IC509	PFVIS80842AN	IC	
IC510	PFVIKM29W4AT	IC	
IC511	PFVISN75189A	IC	
IC512	PFVISN75188E	IC	
IC513	PFVIMM1385EN	IC	
IC550	PFVITVT245FT	IC	
IC551	AN6383SB	IC	
		(TRANSISTORS)	
Q501	PQVTDTC114EU	TRANSISTOR(SI)	
Q502	2SB1322	TRANSISTOR(SI)	S
Q504	2SB1197K	TRANSISTOR(SI)	
Q506	2SD1994A	TRANSISTOR(SI)	
Q507	2SD874A	TRANSISTOR(SI)	
Q508	2SD874A	TRANSISTOR(SI)	
Q509	2SC4155S	TRANSISTOR(SI)	
Q512	2SC4155S	TRANSISTOR(SI)	
Q513	2SC4155S	TRANSISTOR(SI)	
Q514	2SB709A	TRANSISTOR(SI)	
Q515	PQVTDTC114EU	TRANSISTOR(SI)	
Q517	PQVTDTC143E	TRANSISTOR(SI)	
Q518	2SC4155S	TRANSISTOR(SI)	
Q519	2SC4155S	TRANSISTOR(SI)	
IC508	PFVTSI4431DY	TRANSISTOR(SI)	
		(DIODES)	
D501	PFVDRMRLS245	DIODE(SI)	
D502	MA7160	DIODE(SI)	
D503	PFVDRMRLS245	DIODE(SI)	
D504	RLS71	DIODE(SI)	
D505	RLS71	DIODE(SI)	
D506	RLS71	DIODE(SI)	
D507	RLS71	DIODE(SI)	
D508	RLS71	DIODE(SI)	
DA501	MA141WK	DIODE(SI)	
DA502	MA143	DIODE(SI)	
		(BATTERY)	
BAT501	PQPCR2032H09	BATTERY	S
		(CONNECTORS)	
CN501	PQJP10A19Z	CONNECTOR, 10P	

Ref. No.	Part No.	Part Name & Description	Remarks
CN502	PQJP09A19Z	CONNECTOR, 9P	
CN503	PQJP02G100Z	CONNECTOR, 2P	
CN504	PQJP10G30Y	CONNECTOR, 10P	
CN505	PQJP11G30Y	CONNECTOR, 11P	
CN506	PQJP5G30Y	CONNECTOR, 5P	
CN507	PQJP2G30Y	CONNECTOR, 2P	
CN508	PQJP12G30Y	CONNECTOR, 12P	
CN510	PQJP11G30Y	CONNECTOR, 11P	
CN512	PQJP2G30Z	CONNECTOR, 2P	
		(COILS)	
L501	PQLQR1ET	COIL	
L502	PQLQR1ET	COIL	
L504	PQLQR2KA113T	COIL	
L507	PQLQR1RM601	COIL	
L508	PQLQR1RM601	COIL	
L509	PQLQR1RM601	COIL	
L510	PQLQR1RM601	COIL	
L511	PQLQR1RM601	COIL	
L512	PQLQR1RM601	COIL	
L513	PQLQR1RM601	COIL	
L514	PQLQR2KA113T	COIL	
L515	PQLQR2KA113T	COIL	
L517	PQLQR2KA20T	COIL	
L518	PQLQR2KA113T	COIL	
R632	PQLQR2KA20T	COIL	
R694	PQLQR2KA20T	COIL	
R709	PQLQR2KA20T	COIL	
		(CRYSTAL OSCILLATIONS)	
X501	PFVCCFS32Z	CRYSTAL OSCILLATOR	
X502	PQVCJ2400N5Z	CRYSTAL OSCILLATOR	
X503	PFVC32256ZAT	CRYSTAL OSCILLATOR	
		(COMPONENTS COMBINATIONS)	
RA501	EXRV8V101JV	COMPONENTS PARTS	
RA502	EXRV8V101JV	COMPONENTS PARTS	
RA503	EXRV8V101JV	COMPONENTS PARTS	
RA504	EXRV8V101JV	COMPONENTS PARTS	
RA505	EXRV8V101JV	COMPONENTS PARTS	
RA506	EXRV8V101JV	COMPONENTS PARTS	
RA507	EXRV8V471JV	COMPONENTS PARTS	
RA508	EXRV8V471JV	COMPONENTS PARTS	
		(RESISTORS)	
C630	ERJ6GEY0R00	0	
L503	PQ4R18XJ000	0	
L505	PQ4R18XJ220	22	
L506	PQ4R18XJ100	10	
R503	ERJ3GEYJ562	5.6k	
R504	ERJ3GEYJ472	4.7k	
R505	ERJ3GEYJ472	4.7k	
R506	ERJ3GEYJ102	1k	
R507	ERJ3GEYJ473	47k	
R508	ERJ3GEYJ821	820	
R509	ERDS1VJ152	1.5k	
R510	ERJ3GEYJ473	47k	

Ref. No.	Part No.	Part Name & Description	Remarks
R511	ERJ3GEYJ223	22k	
R512	ERJ3GEYJ823	82k	
R515	ERJ3GEYJ102	1k	
R516	ERJ3GEYJ102	1k	
R519	ERJ3GEYJ203	20k	
R520	ERJ3GEYJ102	1k	
R522	ERJ3GEYJ103	10k	
R525	ERJ3GEYJ472	4.7k	
R527	ERJ3GEYJ222	2.2k	
R528	ERJ3GEY0R00	0	
R529	ERJ3GEY0R00	0	
R533	ERJ3GEYJ103	10k	
R534	ERJ3GEYJ103	10k	
R535	ERJ3GEYJ102	1k	
R536	ERJ3GEYJ102	1k	
R543	ERJ3GEY0R00	0	
R544	ERJ3GEY0R00	0	
R545	ERJ3GEYJ101	100	
R546	ERJ3GEYJ105	1M	
R547	PQ4R10XJ220	22	
R548	ERJ3GEYJ682	6.8k	
R549	ERJ3GEYJ822	8.2k	
R550	PQ4R10XJ4R7	4.7	
R551	ERJ3GEYJ682	6.8k	
R552	ERJ3GEYJ153	15k	
R553	PQ4R10XJ150	15	
R554	ERJ3GEYJ392	3.9k	
R555	ERJ3GEYJ392	3.9k	
R556	ERJ3GEYJ222	2.2k	
R557	ERJ3GEYJ472	4.7k	
R558	ERJ3GEYJ103	10k	
R561	ERJ3GEYJ223	22k	
R563	ERJ3GEYJ104	100k	
R564	ERJ3GEYJ104	100k	
R565	ERJ3GEYJ563	56k	
R566	ERJ3GEY0R00	0	
R567	ERJ3GEYJ104	100k	
R568	ERJ3GEYJ222	2.2k	
R569	ERJ3GEYJ102	1k	
R570	ERJ3EKF1101	11	
R571	ERJ3EKF4701	47	
R573	ERJ3GEYJ472	4.7k	
R574	ERJ3GEYJ272	2.7k	
R575	ERJ3GEYJ103	10k	
R576	ERJ3GEYJ221	220	
R577	ERJ3GEYJ103	10k	
R581	ERJ3GEYJ103	10k	
R583	ERJ3GEYJ562	5.6k	
R584	ERJ3GEYJ563	56k	
R587	ERJ3GEYJ151	150	
R592	ERJ3GEYJ103	10k	
R593	ERJ3GEYJ222	2.2k	
R594	ERJ3GEYJ102	1k	
R595	ERJ3GEYJ103	10k	
R597	ERJ3GEY0R00	0	
R598	ERJ6GEY0R00	0	
R599	ERJ3GEYJ103	10k	
R600	ERJ3GEYJ103	10k	
R603	ERJ3GEYJ102	1k	
R605	ERJ3GEYJ103	10k	
R615	ERJ3GEYJ153	15k	
R617	ERJ3GEYJ222	2.2k	
R618	ERJ3GEYJ222	2.2k	

Ref. No.	Part No.	Part Name & Description	Remarks
R620	ERJ3GEYJ222	2.2k	
R621	ERJ3GEYJ472	4.7k	
R624	ERJ3GEYJ101	100	
R625	ERJ3GEYJ101	100	
R626	ERJ3GEYJ101	100	
R628	ERJ3GEYJ101	100	
R629	ERJ3GEYJ101	100	
R630	ERJ3GEYJ101	100	
R631	ERJ3GEYJ101	100	
R633	ERJ3GEYJ101	100	
R634	ERJ3GEYJ101	100	
R635	ERJ3GEYJ101	100	
R636	ERJ3GEYJ101	100	
R637	ERJ3GEYJ101	100	
R649	ERJ3GEYJ103	10k	
R652	ERJ3GEYJ102	1k	
R653	ERJ3GEY0R00	0	
R654	ERJ3GEY0R00	0	
R659	ERJ3GEYJ124	120k	
R660	ERJ3GEYJ104	100k	
R661	ERJ3GEYJ913	91k	
R662	ERJ3GEYJ153	15k	
R664	ERJ3GEYJ474	470k	
R665	ERJ3GEYJ123	12k	
R666	ERJ3GEYJ273	27k	
R667	ERJ3GEYJ274	270k	
R668	ERJ3GEYJ822	8.2k	
R669	ERJ3GEY0R00	0	
R670	ERJ3GEYJ103	10k	
R671	ERJ3GEYJ224	220k	
R672	ERJ3GEYJ224	220k	
R673	ERJ3GEYJ153	15k	
R675	ERJ3GEYJ103	10k	
R676	ERJ3GEYJ103	10k	
R679	ERJ3GEYJ472	4.7k	
R680	ERJ3GEYJ103	10k	
R681	ERJ3GEYJ103	10k	
R682	ERJ3GEYJ103	10k	
R683	ERJ3GEYJ103	10k	
R684	ERJ3GEYJ103	10k	
R685	ERJ3GEYJ103	10k	
R686	ERJ3GEYJ103	10k	
R687	ERJ3GEYJ103	10k	
R689	ERJ6GEY0R00	0	
R690	ERJ3GEYJ101	100	
R691	ERJ3GEYJ101	100	
R692	ERJ3GEYJ101	100	
R693	ERJ3GEY0R00	0	
R695	ERJ3GEYJ101	100	
R696	ERJ3GEYJ101	100	
R697	ERJ3GEYJ154	150k	
R698	ERJ3GEYJ114	110k	
R705	ERJ3GEY0R00	0	
R706	ERJ3GEYJ103	10k	
R707	ERG1SJ391	390	
R708	PQ4R18XJ8R2	8.2	
R711	ERJ3GEYJ123	12k	
R712	ERJ3GEYJ222	2.2k	
R713	ERJ3GEYJ473	47k	
R715	ERJ3GEYJ104	100k	
R717	ERJ3GEYJ4R7	4.7	
R719	ERJ3GEY0R00	0	

Ref. No.	Part No.	Part Name & Description	Remarks
R800	ERJ3GEY0R00	0	
		(CAPACITORS)	
C501	ECUV1H104ZFV	0.1	S
C504	PQCUV1H473MD	0.047	S
C505	ECUV1H104ZFV	0.1	S
C506	ECEA1CK101	100	S
C507	ECUV1H561JCV	560P	
C508	ECUV1H102KBV	0.001	
C509	ECUV1H102KBV	0.001	
C510	ECUV1H222KBV	0.0022	
C511	ECUV1H102KBV	0.001	
C512	ECUV1C104KBV	0.1	
C513	ECUV1H102KBV	0.001	
C514	ECUV1H104ZFV	0.1	S
C515	ECUV1H104ZFV	0.1	S
C516	ECUV1H104ZFV	0.1	S
C517	ECUV1H104ZFV	0.1	S
C519	ECUV1C224ZFV	0.22	
C520	ECUV1H104ZFV	0.1	S
C522	ECUV1H104ZFV	0.1	S
C523	ECUV1C104KBV	0.1	
C525	ECUV1H120JCV	12P	
C526	ECUV1H104ZFV	0.1	S
C527	ECUV1H104ZFV	0.1	S
C528	ECUV1H180JCV	18P	
C529	ECUV1H104ZFV	0.1	S
C531	ECUV1H104ZFV	0.1	S
C533	ECUV1H104ZFV	0.1	S
C536	ECUV1H104ZFV	0.1	S
C538	ECUV1H104ZFV	0.1	S
C540	ECUV1H104ZFV	0.1	S
C542	ECUV1H104ZFV	0.1	S
C543	ECUV1H104ZFV	0.1	S
C544	ECUV1H104ZFV	0.1	S
C545	ECUV1H104ZFV	0.1	S
C546	ECUV1H104ZFV	0.1	
C548	ECUV1H104ZFV	0.1	
C549	PQCUV1H105JC	1	S
C550	ECUV1H150JCV	15P	
C551	ECUV1H150JCV	15P	
C552	PQCUV1H105JC	1	S
C553	ECEA1VKA330	33	
C554	ECEA1VKA330	33	
C555	ECEA1VKA100	10	
C557	ECUV1H472KBV	0.0047	
C558	ECUV1H472KBV	0.0047	
C559	ECUV1H330JCV	33P	
C560	ECUV1H104ZFV	0.1	S
C561	ECUV1H104ZFV	0.1	S
C562	ECUV1H104ZFV	0.1	S
C564	ECUV1C224ZFV	0.22	
C567	ECEA1CKS100	10	S
C568	ECEA1CKS100	10	S
C569	ECUV1H333KDV	0.033	S
C573	ECUV1H104ZFV	0.1	S
C574	ECUV1H104ZFV	0.1	S
C575	ECUV1H333KDV	0.033	S
C578	ECUV1H100DCV	10P	S
C581	ECUV1H100DCV	10P	S
C583	PQCUV1H105JC	1	S
C584	ECUV1H104ZFV	0.1	S

Ref. No.	Part No.	Part Name & Description	Remarks
C585	ECEA1CKS100	10	S
C586	ECUV1H102KBV	0.001	
C587	PQCUV1H105JC	1	S
C589	ECUV1H103KBV	0.01	
C590	ECUV1H472KBV	0.0047	
C591	ECUV1H104ZFV	0.1	S
C594	ECEA1CKS100	10	S
C596	ECUV1C104KBV	0.1	
C597	ECUV1H104ZFV	0.1	S
C599	ECEA1CKS100	10	S
C600	ECUV1H103KBV	0.01	
C601	ECUV1H101JCV	100P	
C604	ECUV1H104ZFV	0.1	S
C605	ECUV1H104ZFV	0.1	S
C606	ECUV1H104ZFV	0.1	S
C609	ECUV1H104ZFV	0.1	S
C610	ECEA1CKS100	10	S
C611	ECEA1CKS100	10	S
C612	ECEA1CKS100	10	S
C613	ECUV1C683KBV	0.068	
C614	ECUV1H104ZFV	0.1	S
C615	ECUV1H104ZFV	0.1	S
C616	ECEA1CK101	100	S
C617	ECEA0JK221	220	S
C618	ECUV1H104ZFV	0.1	S
C623	ECUV1C104KBV	0.1	
C624	ECUV1H120JCV	12P	
C631	ECUV1C104KBV	0.1	
C633	ECUV1C563KBV	0.056	
C634	ECUV1H104ZFV	0.1	S
C636	ECUV1H101JCV	100P	
C637	ECUV1H272KBV	0.0027	
C639	ECUV1H680JCV	68P	
C640	ECUV1C563KBV	0.056	
C641	ECUV1H561JCV	560P	
C642	ECUV1H101JCV	100P	
C643	ECUV1C104KBV	0.1	
C644	ECUV1H104ZFV	0.1	S
C645	ECEA0JKA331	330	
C646	ECEA0JKA331	330	
C647	ECUV1C104KBV	0.1	
C648	PQCUV1E104MD	0.1	S
C649	ECUV1C104KBV	0.1	
C651	PQCUV1C224KB	0.22	
C652	ECUV1H681JCV	680P	
C653	ECUV1H681JCV	680P	
C654	ECUV1H681JCV	680P	
C657	PQCUV1H104ZF	0.1	
C658	PQCUV1H104ZF	0.1	
C659	ECUV1H104ZFV	0.1	S
C660	PQCUV1H105JC	1	S
C665	ECUV1H104ZFV	0.1	S
C666	ECUV1H104ZFV	0.1	S
C667	ECUV1C393KBV	0.039	
		(FUSES)	
F501	XBAPF001312	FUSE	
F502	PFRB001251KC	FUSE	
F503	PFRB002122KZ	FUSE	
		(PHOTO ELECTRIC TRANSDUCERS)	

Ref. No.	Part No.	Part Name & Description	Remarks
PS501	PFVIRM574SL	PHOTO ELECTRIC TRANSDUCER	
PS502	PFVIRM574SL	PHOTO ELECTRIC TRANSDUCER	
		(CERAMIC FILTERS)	
L516	PFVF1B601ST	CERAMIC FILTER	
R627	PFVF1B601ST	CERAMIC FILTER	

7.3. ANALOG BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
		ANALOG BOARD PARTS	
PCB2	PFLP1210RSY	ANALOG BOARD ASS´Y (RTL)	⚠
		(ICS)	
IC101	PQVINJM4558M	IC	S
IC207	PQVINJM4558M	IC	S
		(TRANSISTORS)	
Q101	2SA1627	TRANSISTOR(SI)	
Q102	2SC4155R	TRANSISTOR(SI)	
Q103	2SC2235	TRANSISTOR(SI)	
Q108	PQVTDTC143E	TRANSISTOR(SI)	
Q110	2SD1921Q	TRANSISTOR(SI)	
Q206	2SB1218A	TRANSISTOR(SI)	
Q211	2SC4155R	TRANSISTOR(SI)	
		(DIODES)	
D101	PFVDDGS1ZB60	DIODE(SI)	
D102	1SS131	DIODE(SI)	
D103	PQVDHZS2B1	DIODE(SI)	
D104	MA4056	DIODE(SI)	
D105	MA4056	DIODE(SI)	
D106	MA4056	DIODE(SI)	
D110	1SS131	DIODE(SI)	
D111	1SS131	DIODE(SI)	
D112	1SS131	DIODE(SI)	
D203	MA700A	DIODE(SI)	
D204	1SS131	DIODE(SI)	
		(CONNECTORS)	
CN101	PQJS10A10Z	CONNECTOR, 10P	
CN102	PQJS09A10Z	CONNECTOR, 9P	
		(JACKS)	
CN103	PFJJ1T01Z	JACK	
CN105	PQJJ1TB18Z	JACK	

Ref. No.	Part No.	Part Name & Description	Remarks
		(COILS)	
L207	PQLQR2BT	COIL	S
L208	PQLQR2BT	COIL	S
LF101	PFLE003	COIL	S
		(CERAMIC FILTERS)	
L106	PFVF2A102ST	CERAMIC FILTER	
L107	PFVF2A102ST	CERAMIC FILTER	
L108	PFVF2A102ST	CERAMIC FILTER	
L109	PFVF2A102ST	CERAMIC FILTER	
L203	PFVF2A102ST	CERAMIC FILTER	
L204	PFVF2A102ST	CERAMIC FILTER	
		(RESISTORS)	
JJ304	ERJ6GEY0R00	0	
JJ305	ERJ6GEY0R00	0	
JJ306	ERJ6GEY0R00	0	
R101	ERDS2TJ222	2.2k	
R102	ERDS2TJ104	100k	
R103	PQ4R10XJ562	5.6k	S
R104	PQ4R10XJ155	1.5M	S
R105	PQ4R10XJ333	33k	S
R108	PQ4R10XJ123	12k	S
R109	PQ4R10XJ562	5.6k	S
R110	PQ4R10XJ221	220	S
R111	PQ4R10XJ221	220	S
R112	PQ4R10XJ472	4.7k	S
R115	ERDS1TJ473	47k	
R116	ERDS1TJ473	47k	S
R121	PQ4R10XJ821	820	S
R122	PQ4R10XJ332	3.3k	S
R124	PQ4R10XJ273	27k	
R125	PQ4R10XJ102	1k	S
R126	ERJ6GEY0R00	0	
R127	PQ4R10XJ563	56k	S
R128	PQ4R10XJ511	510	S
R129	PQ4R10XJ181	180	S
R130	PQ4R10XJ104	100k	S
R131	PQ4R10XJ563	56k	S
R132	PQ4R10XJ104	100k	S
R137	PQ4R10XJ333	33k	S
R138	ERJ6GEYJ364	360k	
R140	PQ4R10XJ222	2.2k	S
R145	PQ4R10XJ331	330	S
R146	PQ4R10XJ152	1.5k	S
R147	PQ4R10XJ152	1.5k	S
R152	PQ4R10XJ153	15k	S
R153	PQ4R10XJ124	120k	S
R161	ERDS1TJ561	560	
R162	ERJ6GEY0R00	0	
R167	PQ4R10XJ103	10k	S
R168	PQ4R10XJ103	10k	S
R169	PQ4R10XJ103	10k	S
R207	PQ4R10XJ474	470k	S
R208	PQ4R10XJ105	1M	S
R209	PQ4R10XJ473	47k	S

Ref. No.	Part No.	Part Name & Description	Remarks
R217	ERDS1VJ000	0	
R219	ERJ6GEY0R00	0	
R220	ERJ6GEY0R00	0	
R221	PQ4R10XJ102	1k	S
R222	ERJ6GEY0R00	0	
R223	ERJ6GEY0R00	0	
R247	PQ4R10XJ153	15k	S
R248	PQ4R10XJ124	120k	S
R254	PQ4R10XJ273	27k	S
R255	PQ4R10XJ913	91k	S
R256	PQ4R10XJ223	22k	S
R257	PQ4R10XJ473	47k	S
R258	PQ4R10XJ331	330	S
R260	PQ4R10XJ182	1.8k	S
R261	ERJ6GEY0R00	0	
R262	ERJ6GEY0R00	0	
R263	ERJ6GEY0R00	0	
R265	ERJ6GEY0R00	0	
R266	ERJ6GEY0R00	0	
R280	ERJ6GEY0R00	0	
		(CAPACITORS)	
C101	ECKD2H681KB	680P	S
C102	ECKD2H681KB	680P	S
C103	PQCUV1H472KB	0.0047	
C104	ECEA1EK470	47	S
C105	ECEA1EKS330	33	S
C106	ECEA1HKS100	10	S
C107	ECEA1HKS4R7	4.7	S
C110	PQCUV1H333JC	0.033	S
C114	ECQE2E334KZ	0.33	S
C122	PQCUV1H102J	0.001	S
C123	PQCUV1E104MD	0.1	S
C124	PQCUV1C334KB	0.33	
C125	PQCUV1H121JC	120P	
C126	PQCUV1E104MD	0.1	S
C127	PQCUV1H121JC	120P	
C128	PQCUV1H104ZF	0.1	
C129	ECEA1CKS100	10	S
C131	PQCUV1E104MD	0.1	S
C132	PQCUV1H470JC	47P	
C133	ECEA1HKS4R7	4.7	S
C135	PQCUV1H103KB	0.01	
C138	ECEA1EU470	47	S
C139	PQCUV1H103KB	0.01	
C140	PQCUV1H103KB	0.01	
C143	PQCUV1H104KB	0.1	
C144	PQCUV1H471JC	470P	S
C147	PQCUV1H103KB	0.01	
C159	PQCUV1E104MD	0.1	S
C161	PQCUV1E104MD	0.1	S
C163	ECEA1EU101	100	S
C165	PQCUV1H104ZF	0.1	
C166	PQCUV1H104ZF	0.1	
C167	ECEA1HU100	10	
C244	PQCUV1H471JC	470P	S

Ref. No.	Part No.	Part Name & Description	Remarks
C245	PQCUV1H104KB	0.1	
C246	PQCUV1H104KB	0.1	
C247	PQCUV1H821JC	820P	S
C248	PQCUV1H104KB	0.1	
C250	ECEA1HU100	10	S
C251	ECEA1HU100	10	S
		(COMPONENTS PARTS)	
JJ111	EXCELDR35	COMPONENTS PARTS	
JJ112	EXCELDR35	COMPONENTS PARTS	
		(PHOTO ELECTRIC TRANSDUCERS)	
PC101	PQVIPS2532-1	PHOTO ELECTRIC TRANSDUCER	S ⚠
PC102	PQVIPC817CD	PHOTO ELECTRIC TRANSDUCER	⚠
PC103	PQVITLP620K	PHOTO ELECTRIC TRANSDUCER	⚠
PC104	PQVIPC817CD	PHOTO ELECTRIC TRANSDUCER	⚠
		(VARISTORS)	
SA101	PQVDRA311PT3	VARISTOR	S ⚠
SA102	PFRZ001Z	VARISTOR	⚠
ZNR102	ERZVA7D121	VARISTOR	
		(TRANSFORMERS)	
T101	PFLT8E003	TRANSFORMER	⚠
T102	PFLT8E004	TRANSFORMER	⚠
		(OTHERS)	
POS101	PFRT002	THERMISTOR	
RL101	ATXD20328	RELAY	⚠

7.4. OPERATION BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
		OPERATION BOARD PARTS	
PCB3	PFLP1172MZ-A	OPERATION BOARD ASS´Y (RTL)	
		(ICS)	
IC301	MN53007QAF	IC	
		(DIODES)	
D301	1SS119	DIODE(SI)	
D302	1SS119	DIODE(SI)	
LED301	LNJ801LPDJA	DIODE(SI)	
LED302	LNJ801LPDJA	DIODE(SI)	
LED303	LNJ801LPDJA	DIODE(SI)	
		(CONNECTORS)	
CN301	PQJP11G43Y	CONNECTOR, 11P	
CN303	PQJP2G30Z	CONNECTOR, 2P	
		(LIQUID CRYSTAL DISPLAY)	

Ref. No.	Part No.	Part Name & Description	Remarks
CN304	PFAVM190	LIQUID CRYSTAL DISPLAY	
		(RESISTORS)	
R301	ERJ3GEYJ471	470	
R302	ERJ3GEYJ471	470	
R303	ERJ3GEYJ181	180	
R304	ERJ3GEYJ181	180	
R305	ERJ3GEYJ181	180	
R306	ERJ3GEY0R00	0	
R307	ERJ3GEYJ181	180	
R308	ERJ3GEYJ181	180	
R309	ERJ3GEYJ181	180	
R310	ERJ3GEY0R00	0	
R311	ERJ3GEY0R00	0	
R312	ERJ3GEY0R00	0	
R313	ERJ3GEY0R00	0	
R314	ERJ3GEY0R00	0	
R315	ERJ3GEY0R00	0	
R316	ERJ3GEY0R00	0	
R317	ERJ3GEY0R00	0	
R318	ERJ3GEYJ103	10k	
R319	ERJ3GEY0R00	0	
R320	ERJ3GEYJ103	10k	
R321	ERJ3GEYJ101	100	
R322	ERJ3GEYJ273	27k	
R323	ERJ3GEYJ101	100	
R324	ERJ3GEYJ472	4.7k	
R326	ERJ3GEYJ102	1k	
R327	ERJ3GEYJ563	56k	
R328	ERJ3GEYJ331	330	
R329	ERJ3GEYJ221	220	
R330	ERJ3GEYJ331	330	
R331	ERJ3GEYJ221	220	
R342	ERJ3GEY0R00	0	
R343	PQ4R18XJ000	0	
		(CAPACITORS)	
C301	ECUV1C104KBV	0.1	S
C303	ECEA1AKS101	100	
C306	ECUV1H331JCV	330P	
C308	ECUV1H331JCV	330P	
C309	ECUV1C104KBV	0.1	S
C310	ECUV1C104KBV	0.1	S
C311	ECUV1H103KBV	0.01	
C316	ECUV1C104KBV	0.1	S
		(PHOTO ELECTRIC TRANSDUCERS)	
PS301	CNA1006N	SENSOR	
PS302	CNA1006N	SENSOR	
PS303	CNA1006N	SENSOR	
		(SWITCHES)	
SW301	EVQ11Y05B	SWITCH, DIAL "*"	
SW302	EVQ11Y05B	SWITCH, VOLUME DOWN	
SW303	EVQ11Y05B	SWITCH, VOLUME UP	
SW304	EVQ11Y05B	SWITCH, HELP	
SW305	EVQ11Y05B	SWITCH, START/SET/COPY	
SW306	EVQ11Y05B	SWITCH, STOP	

Ref. No.	Part No.	Part Name & Description	Remarks
SW307	EVQ11Y05B	SWITCH, SP-PHONE	
SW308	EVQ11Y05B	SWITCH, "#"	
SW309	EVQ11Y05B	SWITCH, REDIAL/PAUSE	
SW310	EVQ11Y05B	SWITCH, DIAL "6"	
SW311	EVQ11Y05B	SWITCH, DIAL "5"	
SW312	EVQ11Y05B	SWITCH, DIAL "4"	
SW313	EVQ11Y05B	SWITCH, MUTE	
SW314	EVQ11Y05B	SWITCH, DIAL "3"	
SW315	EVQ11Y05B	SWITCH, DIAL "2"	
SW316	EVQ11Y05B	SWITCH, DIAL "1"	
SW317	EVQ11Y05B	SWITCH, DIAL "9"	
SW318	EVQ11Y05B	SWITCH, DIAL "8"	
SW319	EVQ11Y05B	SWITCH, DIAL "0"	
SW320	EVQ11Y05B	SWITCH, DIAL "7"	
SW321	EVQ11Y05B	SWITCH, PROGRAM	
SW322	EVQ11Y05B	SWITCH, MENU	
SW323	EVQ11Y05B	SWITCH, RESOLUTION	
SW324	EVQ11Y05B	SWITCH, QUICK SCAN	
SW325	EVQ11Y05B	SWITCH, ONE 3,6	
SW326	EVQ11Y05B	SWITCH, LOWER	
SW327	EVQ11Y05B	SWITCH, ONE 2,5	
SW328	EVQ11Y05B	SWITCH, ONE 1,4	
SW329	EVQ11Y05B	SWITCH, IQ FAX	
SW331	EVQ11Y05B	SWITCH, CALLER ID	
SW332	EVQ11Y05B	SWITCH, AUTO ANSWER	
SW333	EVQ11Y05B	SWITCH, ERASE	
SW334	EVQ11Y05B	SWITCH, RECORD	
SW335	EVQ11Y05B	SWITCH, PLAY MESSAGE	
SW351	EVQVEHF1712B	SWITCH, JOG DIAL	

7.5. POWER SUPPLY BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
		POWER SUPPLY BOARD PARTS	
PCB4	PFLP1227EZL	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
D109	PQVDERA1506	DIODE(SI)	S
D201	PFVDSF5LC20U	DIODE(SI)	S
D202	PFVDD1NL20U	DIODE(SI)	S

Ref. No.	Part No.	Part Name & Description	Remarks
		(CONNECTORS)	
CN31	PQJP2D98Z	CONNECTOR, 2PIN	⚠
CN301	PQJP8G30Z	CONNECTOR, 8PIN	⚠
		(COIL)	
L101	PFLES11V0523	COIL	⚠
		(RESISTORS)	
J8	PQ4R10XJ000	0	S
R101	ERDS1J105	1M	
R102	PQ4R10XJ823	82k	S
R103	PQ4R10XJ823	82k	S
R104	ERG2DJ204	200k	S
R105	ERX2SJR22	0.22	
R106	ERG1SJ470	47	
R107	PQ4R10XJ680	68	S
R108	ERDS2FJ150	15	
R109	ERDS2FJ100	10	
R110	ERG2DJ204	200k	S
R121	PQ4R10XJ103	10k	S
R122	PQ4R10XJ391	390	S
R123	PQ4R10XJ221	220	S
R125	PQ4R10XJ103	10k	S
R126	PQ4R10XJ562	5.6k	S
R127	PQ4R10XJ182	1.8k	S
R128	PQ4R10XJ124	120k	S
R129	PQ4R10XJ124	120k	S
R130	PQ4R10XJ154	150k	S
R131	PQ4R10XJ154	150k	S
R132	PQ4R10XJ154	150k	S
R133	PQ4R10XJ154	150k	S
R205	ERG2SJ681	680	S
R221	PQ4R10XJ222	2.2k	S
R222	PQ4R10XJ222	2.2k	S
R223	PQ4R10XJ101	100	S
R224	PQ4R10XJ273	27k	S
R225	PQ4R10XJ332	3.3k	S
		(PHOTO ELECTRIC TRANSDUCERS)	
PC101	0N3171	PHOTO ELECTRIC TRANSDUCER	⚠
		(CAPACITORS)	
C101	ECQU2A224MG	0.22	⚠
C102	ECQU2A104MV	0.1	⚠
C103	ECKNTS222ME	0.0022	⚠
C104	ECKNTS222ME	0.0022	⚠
C105	ECKNTS222ME	0.0022	⚠
C106	PFCEA400SX56	56	S
C107	ECKD3A470KBP	47P	
C108	ECKD3A102KBP	0.001	
C109	ECA1VHG470	47	
C121	ECUV1H472KBN	0.0047	
C122	ECUV1C224KBX	0.22	
C123	PQCUV1H681JC	680P	S
C124	ECUV1H104KBW	0.1	S
C201	EEUFA1V471	470	
C202	ECKD3A102KBP	0.001	
C203	PFCEA16A1000	1000	S
C204	PFCEA35A47M	47	S
C205	PFCEA50A1M	1	S
		(FUSE)	
F101	PFBAHU215315	FUSE	S ⚠
		(COMPONENTS PARTS)	
L103	EXCELDR35	COMPONENTS PARTS	
		(VARIABLE RESISTOR)	
VR201	EVNDJAA03B53	VARIABLE RESISTOR	
		(VARISTOR)	
ZNR101	ERZV10DK751U	VARISTOR	⚠
		(OTHERS)	
T101	ETS29AK428AC	TRANSFORMER	⚠
TH101	PFRRT09L8R2F	THERMISTOR	S

7.6. HOOK BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
		HOOK BOARD PARTS	
PCB5	PFLP1169MZ-B	OPERATION BOARD ASS´Y (RTL)	
		(CONNECTOR)	
CN401	PFJS02Q24Z	CONNECTOR, 2P	
		(SWITCH)	
SW401	ESE14A211	SWITCH	

7.7. RS232C BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
		RS232C BOARD PARTS	
PCB6	PFLP1228MZ	RS232C BOARD ASS´Y (RTL)	
		(CONNECTORS)	
CN1	PFJS25A05Y	CONNECTOR, 25P	
CN2	PQJP11G43Y	CONNECTOR, 11P	

7.8. FIXTURES AND TOOLS

Ref. No.	Part No.	Part Name & Description	Remarks
		FIXTURES AND TOOLS	
EC1	PQZZ2K1Z	EXTENSION CORD, 2P	
EC2	PFZZ5K13Z	EXTENSION CORD, 5P	
EC3	PQZZ12K4Z	EXTENSION CORD, 12P	

Ref. No.	Part No.	Part Name & Description	Remarks
EC4	PQZZ2K12Z	EXTENSION CORD, 2P	
EC5	PFZZ11K12Z	EXTENSION CORD, 11P	
EC6	PFZZ10K1Z	EXTENSION CORD, 10P	
EC7	PQZZ8K18Z	EXTENSION CORD, 8P	
EC8	PFZZ9K1Z	EXTENSION CORD, 9P	
EC9	PFZZ10K3Z	EXTENSION CORD, 10P	
EC10	PQZZ2K1Z	EXTENSION CORD, 2P	
EC11	PQZZ2K1Z	EXTENSION CORD, 2P	
EC12	PFZZ11K12Z	EXTENSION CORD, 11P	
EC21	PFZZFM131RS	VOICE PROMPT ROM(See FLASH MEMORY (IC510) in 2.3.3.4.1. Digital Block Diagram)	
	KM79811245C0	BASIC FACSIMILE TECHNIQUE	
		(for training service technicians)	

Note:

Tools and Extension Cords are useful for servicing.

(They make servicing easy.)

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