

Service Manual

IP Proprietary Telephone

KX-NT265X

KX-NT265X-B

White Version

Black Version

(for Asia, Oceania, Middle Near East, Europe, Africa
and Latin America)



WARNING

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

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

IMPORTANT INFORMATION ABOUT LEAD FREE, (PbF), SOLDERING

If lead free solder was used in the manufacture of this product the printed circuit boards will be marked PbF.

Standard leaded, (Pb), solder can be used as usual on boards without the PbF mark.

When this mark does appear, please read and follow the special instructions described in this manual on the use of PbF and how it might be permissible to use Pb solder during service and repair work.

Panasonic

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1 ABOUT LEAD FREE SOLDER (PbF: Pb free)

Note:

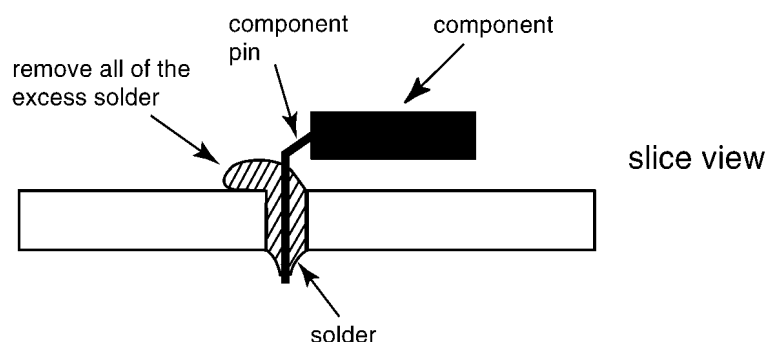
In the information below, Pb, the symbol for lead in the periodic table of elements, will refer to standard solder or solder that contains lead.

We will use PbF solder when discussing the lead free solder used in our manufacturing process which is made from Tin, (Sn), Silver, (Ag), and Copper, (Cu).

This model, and others like it, manufactured using lead free solder will have PbF stamped on the PCB. For service and repair work we suggest using the same type of solder.

Caution

- PbF solder has a melting point that is 50° ~ 70° F, (30° ~ 40°C) higher than Pb solder. Please use a soldering iron with temperature control and adjust it to 700° ± 20° F, (370° ± 10°C).
- Exercise care while using higher temperature soldering irons.:
Do not heat the PCB for too long time in order to prevent solder splash or damage to the PCB.
- PbF solder will tend to splash if it is heated much higher than its melting point, approximately 1100°F, (600°C).
- When applying PbF solder to double layered boards, please check the component side for excess which may flow onto the opposite side (See figure, below).



1.1. SUGGESTED PbF SOLDER

There are several types of PbF solder available commercially. While this product is manufactured using Tin, Silver, and Copper, (Sn+Ag+Cu), you can also use Tin and Copper, (Sn+Cu), or Tin, Zinc, and Bismuth, (Sn+Zn+Bi).

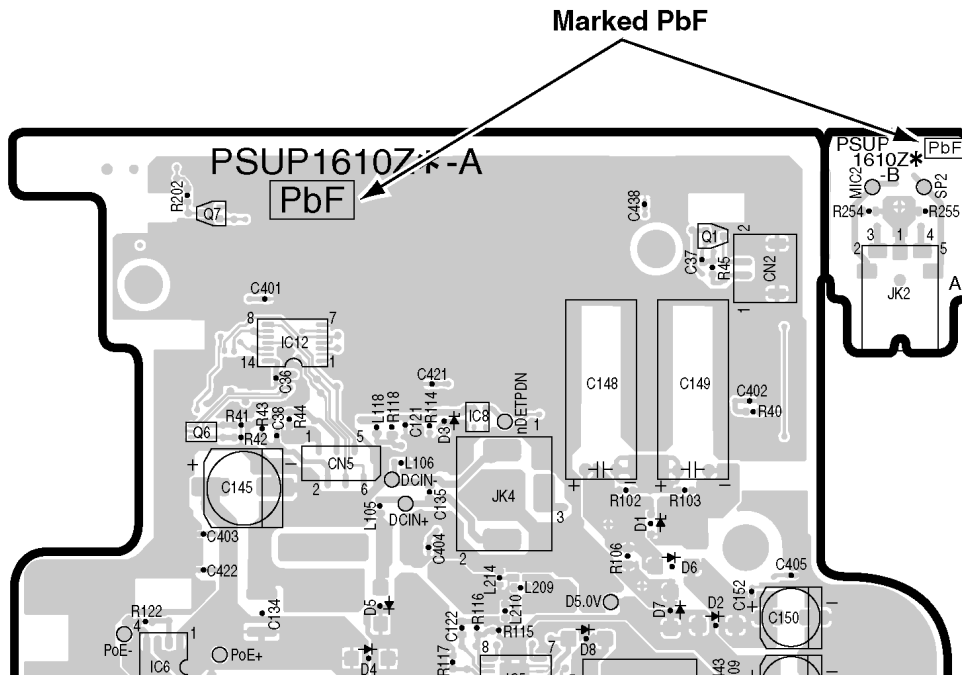
Please check the manufacturer's specific instructions for the melting points of their products and any precautions for using their product with other materials.

The following lead free (PbF) solder wire gauges are recommended for service of this product: 0.3mm, 0.6mm and 1.0mm.

0.3mm X 100g	0.6mm X 100g	1.0mm X 100g

1.2. HOW TO RECOGNIZE THAT Pb FREE SOLDER IS USED

"PbF" is marked to show that Pb free solder is used. (See the figure below.)



2 FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.

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

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

3 SPECIFICATIONS

Rated Specification of the Equipment

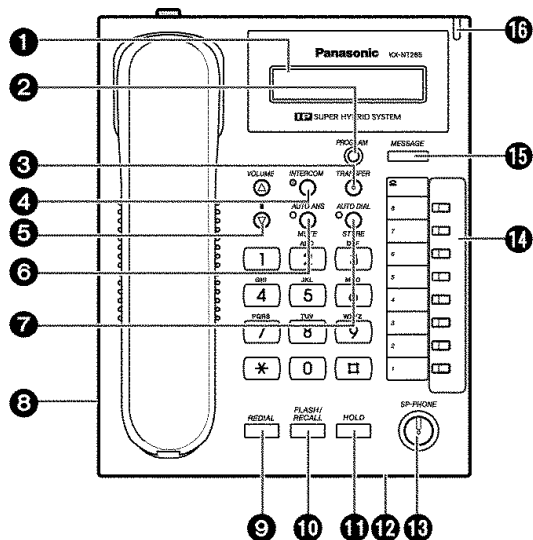
Item	Outline Specification	Remarks
VoIP Protocol	Proprietary extension (MGCP)	
Audio CODEC	G.711 64kbps, G.729A 8kbps	
Volume	Handset vol.: (4 levels Electric vol.) Headset vol.: (4 levels Electric vol.) Speaker vol.: (12 levels Electric vol.) Ringer vol.: (4 levels Electric vol. + Off position)	
Voice Function	Hands - free Call , Off - hook monitor	OHCA is not supported on the specification.
Ethernet Interface	Ethernet port : 10/100Base-TX(RJ45)	The PC port is not supported on the specification.
QoS	IEEE802.1p supported (Priority Q : 2stages)	Not supported on the specification.
Network Protocol	TCP/IP, UDP etc.	
LCD Display	16 characters × 1line	
Power Supply	Power-over-Ethernet (Compliant with IEEE802.3af) Optional AC Adaptor 9V	
Power Consumption	4W at maximum	
Operating Temperature	0°C - 40°C	
Dimensions	Low Angle: 215(D)mm [Operate] × 180(W)mm × 100(H)mm High Angle: 200(D)mm [Operate] × 180(W)mm × 120(H)mm	
Weight	0.78kg	

List of Hardware Configuration

Item	Specification
VoIP	Sanyo LC82162B 216pins LQFP CPU+DSP+MAC+CODEC 51.2MHz operation System bus width : 32bit Internal Memory for DSP SRAM : 4kbyte
Memory	System Memory Flash : 2Mbyte SDRAM : 8Mbyte
Ethernet Interface	Ethernet port : (10/100Base-TX) Micrel KS8721BL is used.
KEY and LED	Number key : 12, Abbreviation : 8, Function key : 13 CO key LED : 2 colors, 8pcs; Function key LED : 5pcs
Power Supply	Input : AC adaptor DC9V/500mA or Power-over-Ethernet DC48V (Compliant with IEEE802.3af) DCDC power supply : Input +9V or 48V (Power-Over-Ethernet) Output +3.3V, +1.8V

Design and specifications are subject to change without notice.

4 LOCATION OF CONTROLS



1 LCD (Liquid Crystal Display)

2 PROGRAM: Used to enter and exit the personal programming mode.

3 TRANSFER: Used to transfer a call to another party.

4 INTERCOM: Used to make or receive intercom calls.

5 VOLUME Control Button: Used to adjust the volume.

6 AUTO ANS (Auto Answer)/MUTE: Used to receive an incoming call in hands-free mode or mute the microphone/handset during a conversation.

7 AUTO DIAL/STORE: Used for System/Personal Speed Dialling or storing programme changes.

8 Headset Jack

9 REDIAL: Used to redial the last dialled number.

10 FLASH/RECALL: Used to disconnect the current call and make another call without hanging up.

11 HOLD: Used to place a call on hold.

12 Microphone: Used for the hands-free conversation.

13 SP-PHONE (Speakerphone): Used for the hands-free operation.

14 Flexible Outside (CO) Line Buttons: Used to make or receive an outside call. Pressing this button seizes an idle outside line automatically. (Button assignment is required.)

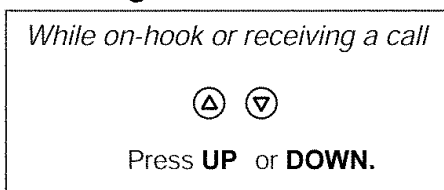
Also used as feature buttons. (Button assignment is required.)

15 MESSAGE: Used to leave a message waiting indication or call back the party who left the message waiting indication.

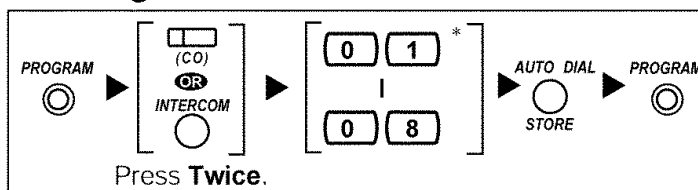
16 Message/Ringer Lamp: When you receive a call, the lamp flashes red. When someone has left you a message, the lamp stays on red.

◆◆ Setting

◆ Ringer volume

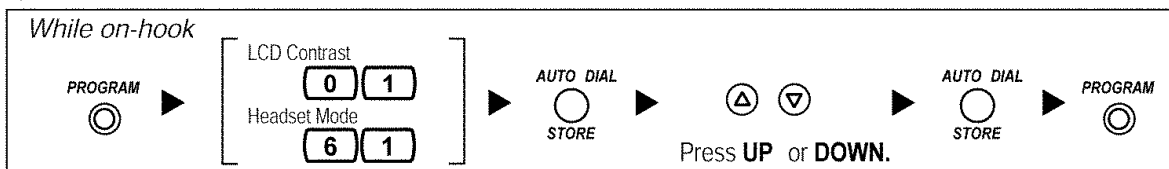


◆ Ring Tone



* The ring tone pattern of patterns 09 to 30 is the same as pattern 01.

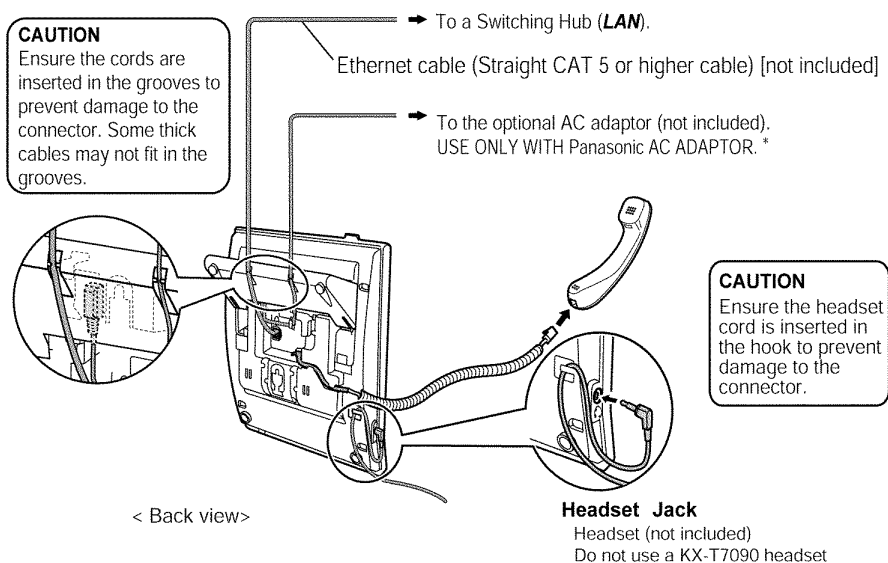
◆ LCD Contrast/Headset Mode



Note:

For further information, refer to the User Manual of the Hybrid IP-PBX.

5 CONNECTION



CAUTION:

- The AC adaptor is used as the main disconnect device. Ensure that the AC outlet is located near the unit and is easily accessible.

Notes:

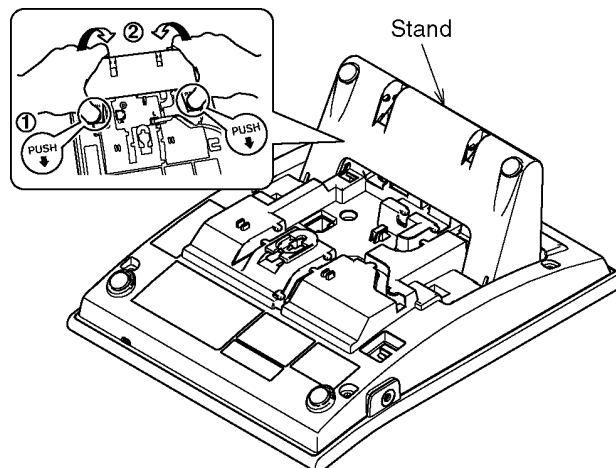
- Consult your dealer for more details about the AC adaptor.

5.1. OPTIONAL ACCESORY

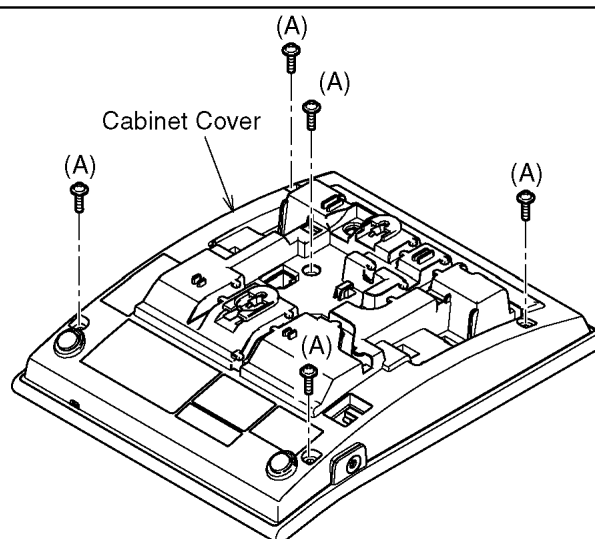
Model No.	Description
KX-A237X	AC adaptor (PQLV1) for Canada and other 100V areas
KX-A237BX	AC adaptor (PQLV1CE) for Russia, Eastern Europe and other 200V areas
KX-A237EJ	AC adaptor (PQLV1E) for Hong Kong, Singapore and Malaysia
KX-A237AL	AC adaptor (PQLV1AL) for Oceania
KX-A237AG	AC adaptor (PQLV1AG) for Argentina
KX-A237BR	AC adaptor (PQLV1LB) for Brazil

6 DISASSEMBLY INSTRUCTIONS

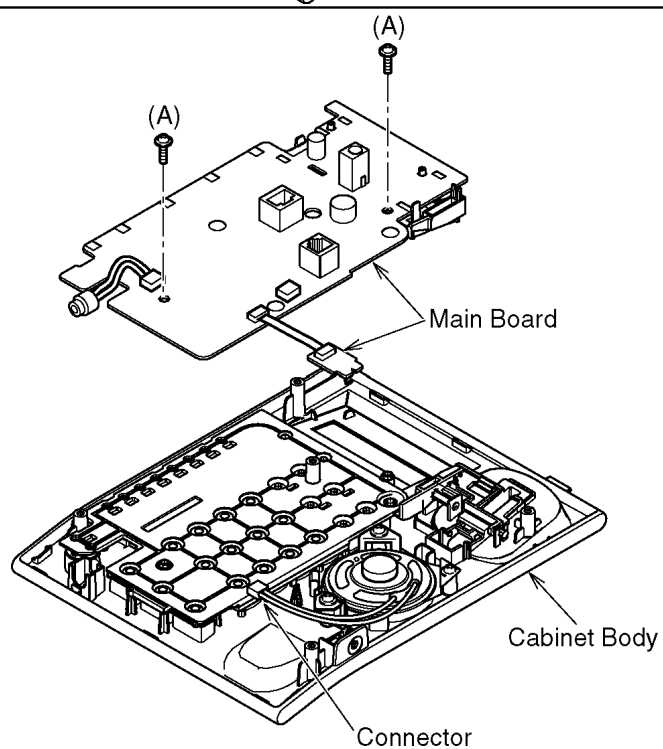
1. Remove the Stand.



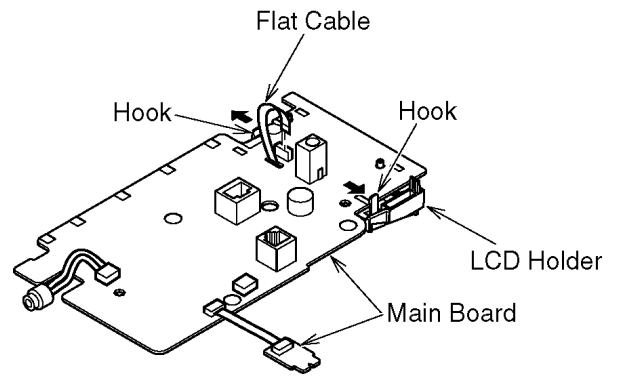
2. Remove 5 Screws.
3. Remove the Cabinet Cover.



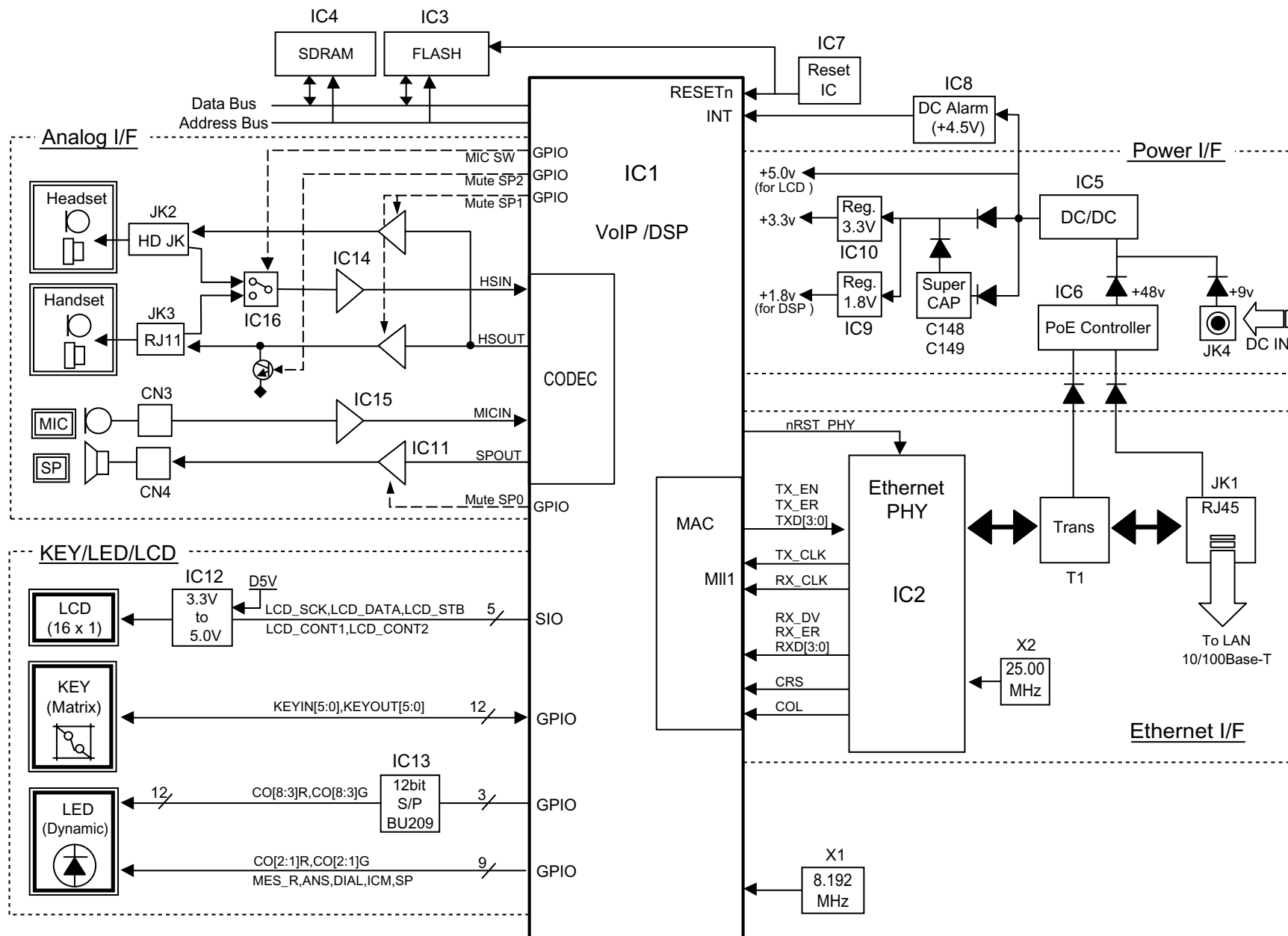
4. Remove the Connector from the Main Board.
5. Remove 2 Screws (A).
6. Remove the Main Board and the LCD from the Cabinet Body.



7. Remove the Flat Cable from the Main Board.
8. Remove the LCD Holder by sliding the Hook in the direction of the arrow from the Main Board.



7 BLOCK DIAGRAM



KX-NT265X/KX-NT265X-B : BLOCK DIAGRAM

8 CIRCUIT OPERATIONS

8.1. VoIP BLOCK

The DSP, MAC, CODEC and the CPU are built into the VoIP (IC1).

The FLASH (IC3) and the SDRAM (IC4) are connected to the CPU. The contents of the FLASH are expanded to the SDRAM at start-up. It also stores each setting.

If the LCD is not displayed in the operation but there is no problem on the LCD, then the failure of the CPU system memory (IC3 and IC4) should be considered, too.

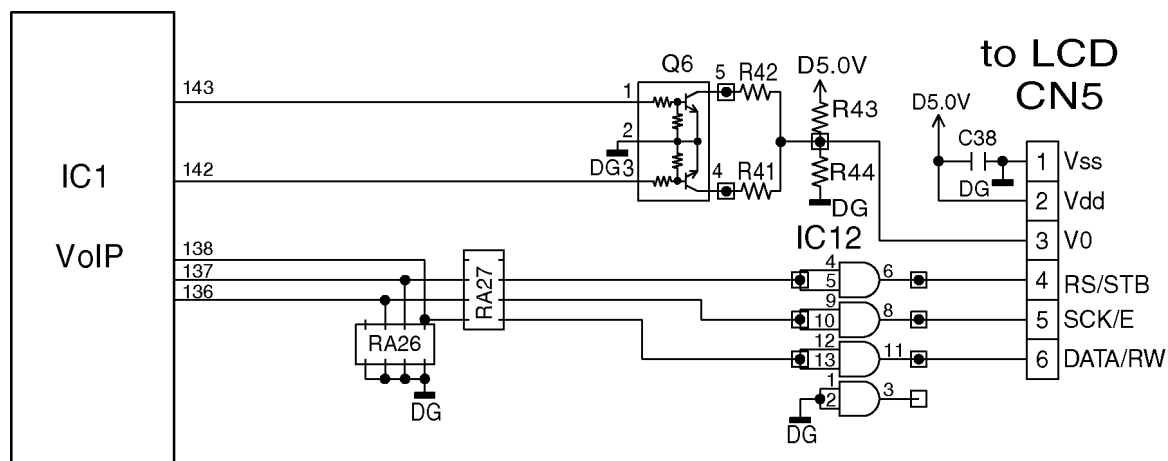
8.2. LCD CIRCUIT

LCD data are outputted from pin138 of IC1 to LCD module.

IC12 is a converter circuit which outputs the voltage (+5V) necessary for LCD driving.

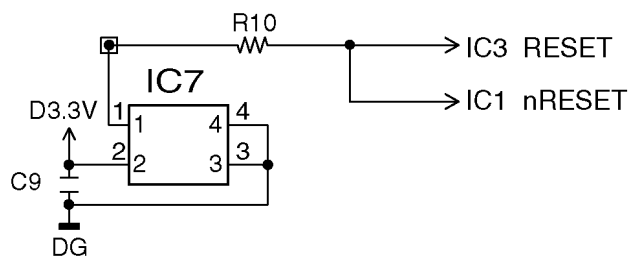
LCD contrast is set by electronic volume in the LCD module.

KX-NT265 uses a 16 characters x 1 line LCD.



8.3. RESET CIRCUIT

Reset signal is outputted from IC7 and inputted into IC1 and IC3.



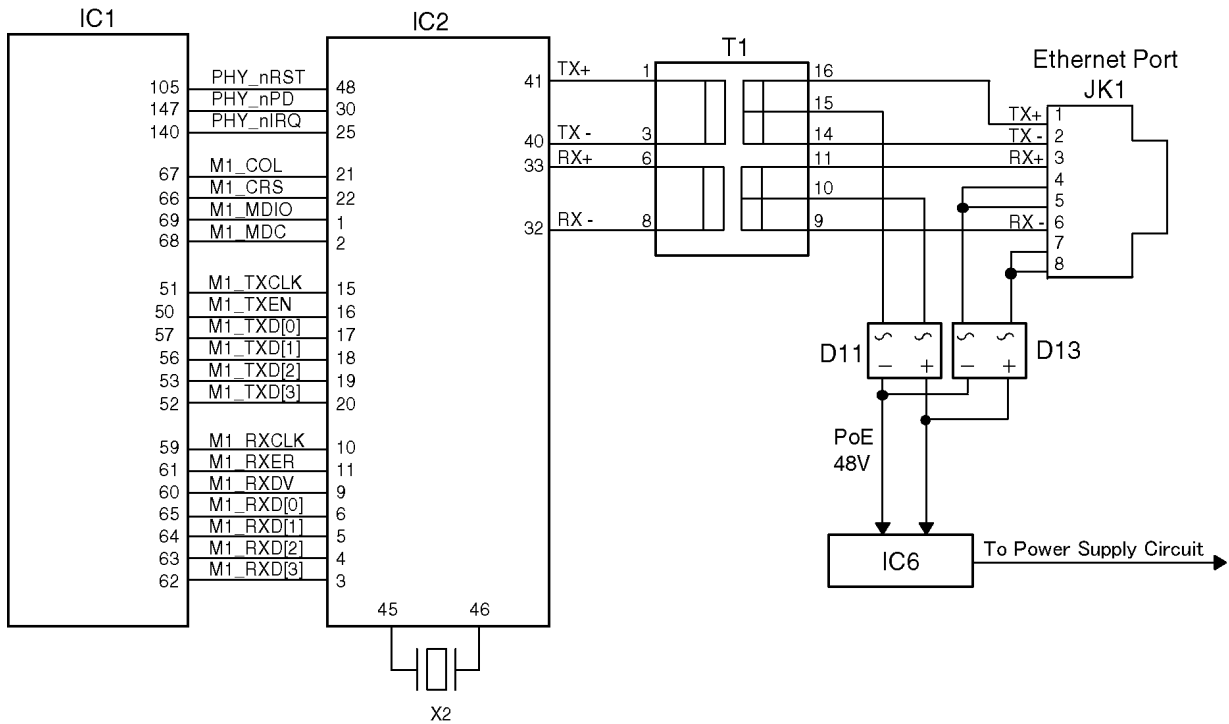
8.4. Ethernet CIRCUIT

The Ethernet IC (IC2) is used for the Ethernet interface.

It is connected from IC2 to the Ethernet port (JK1) through a transformer and so is isolated.

Also, Ethernet port (JK1) gets power from the Ethernet line for PoE (Power-over-Ethernet) as shown below.

It is connected between IC2 and the VoIP (IC1) by high-speed bus called MII (Management Independent Interface) bus operating with 25MHz.



8.5. POWER SUPPLY CIRCUIT

This Power Supply Circuit supports the power supply through an Ethernet line called PoE (Power-over-Ethernet) as well as the input from a regular AC adaptor. It converts the power supply from the both to 5.0V and is supplied to a 3.3V and 1.8V regulator on the MAIN board.

The power supply board consists of the four sections below.

1. IEEE802.3af Authentication Circuit

When the hub or router supporting IEEE802.3af is connected to Ethernet port (JK1), the authentication voltage and the classification voltage are supplied between Pin 1,2 and 3,6 or Pin 4,5 and 7,8 of JK1.

When this voltage is detected automatically by IC6, it applies the corresponding current and is identified on the hub side, so that the hub starts to supply 48V.

In that case, as there is OR with the power from Ethernet port (JK1) and the power from DC jack (JK4) by D4 and D5, the power from Ethernet port is supplied to the switching regulator (IC5) preferentially.

2. Switching Regulator Circuit

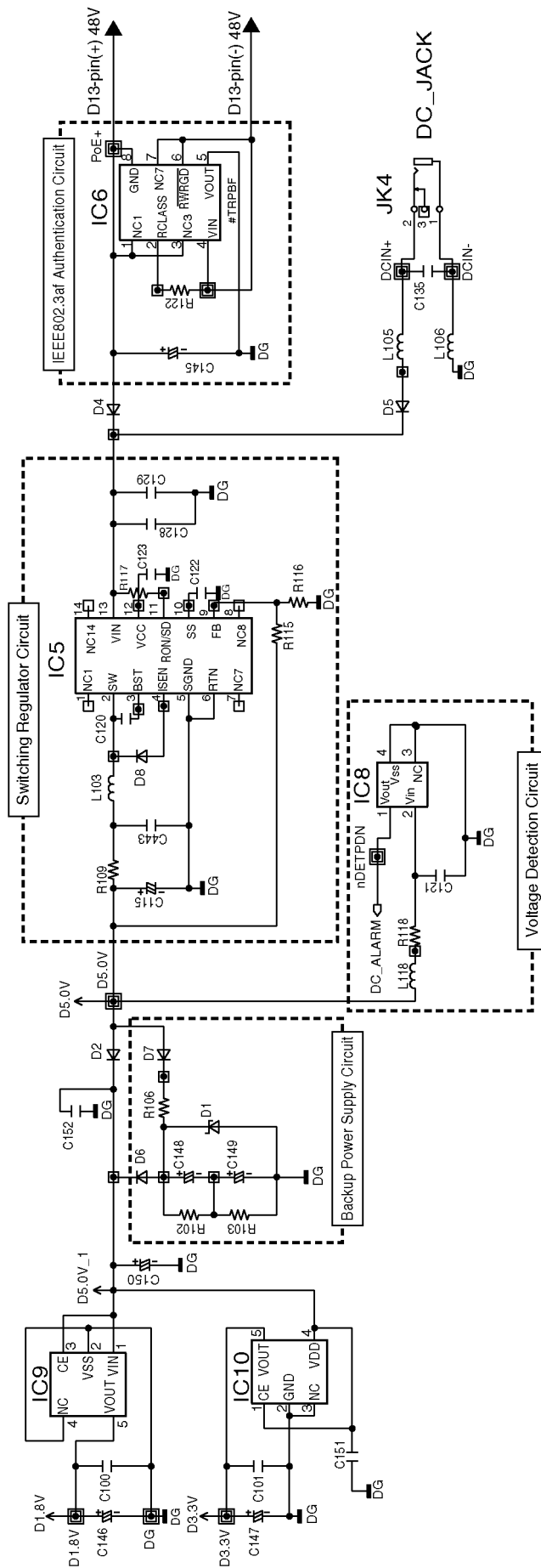
This switches the power from the DC jack or Ethernet port by IC5 to generate 5.0V. The switching frequency is 380kHz.

3. Backup Power Supply Circuit

C148 and C149 are super capacitors and performs backup during a temporary blackout. Usually, the power is stored through D7 to C148 and C149. It is generally 4.7V and clipped by the Zener diode of D1.

4. Voltage Detection Circuit

If the voltage supplied to the Switching Regulator Circuit goes under 4.5V, pin1 of IC8 goes 0V and informs the decreased voltage for VoIP (IC1).



8.6. ANALOG CIRCUIT

This circuit performs the setting of the call path/vol. adjustment in each call mode by a built-in DSP of VoIP (IC1). The audio gain of each call is determined by download data from PBX or by internal data from flash memory (IC3).

See 17.3. ANALOG/KEY/LED block

1. Handset Call

Transmitting signal is inputted from handset microphone, and amplified by IC14 and IC18 → inputted to IC1-pin112 → A/D conversion and Gain adjustment by a built-in DSP of IC1 → then sent to PBX.

Transmitting signal inputted from handset microphone is controlled by transmission switching SW IC16 as follows;

IC16-pin5 L: Handset Call

(IC16-pin5 H: Headset Call)

Transmitting signal inputted from handset microphone is controlled by transmission switching SW IC16 as follows;

Receiving signal inputted from PBX → Gain adjustment by a built-in DSP of IC1 → D/A conversion and outputted from IC1-pin115. → Amplified by IC17 and IC19, and outputted to handset.

2. Headset Call

Transmitting signal is inputted from headset microphone, and amplified by IC14 and IC18 → inputted to IC1-pin112 → A/D conversion and Gain adjustment by a built-in DSP of IC1 → then sent to PBX.

Transmitting signal inputted from headset microphone is controlled by transmission switching SW IC16 as follows;

IC16-pin5 H: Headset Call

(IC16-pin5 L: Handset Call)

Receiving signal inputted from PBX → Gain adjustment by a built-in DSP of IC1 → D/A conversion and outputted from IC1-pin115. → Amplified by IC17 and IC19, and outputted to headset.

3. Speakerphone Call

Speakerphone call realizes all double-call by a built-in DSP (echo canceller) of IC1. For a call in the most appropriate condition, DSP checks voice level of the calling party, acoustics in a room, voice level of the other party and state of the line of contact, and cancels echo in transmitting and receiving at the start of calling. It operates in a half double-call state in a few seconds for the check.

Transmitting signal is inputted from microphone and amplified by IC15 → A/D conversion and Gain adjustment by a built-in DSP of IC1, then sent to PBX through echo canceller.

Receiving signal inputted from PBX → Gain adjustment by DSP through a built-in echo canceller of IC1 → D/A conversion and outputted from IC1-pin116 → Amplified by IC14 and outputted from IC11 (Amp) to speaker.

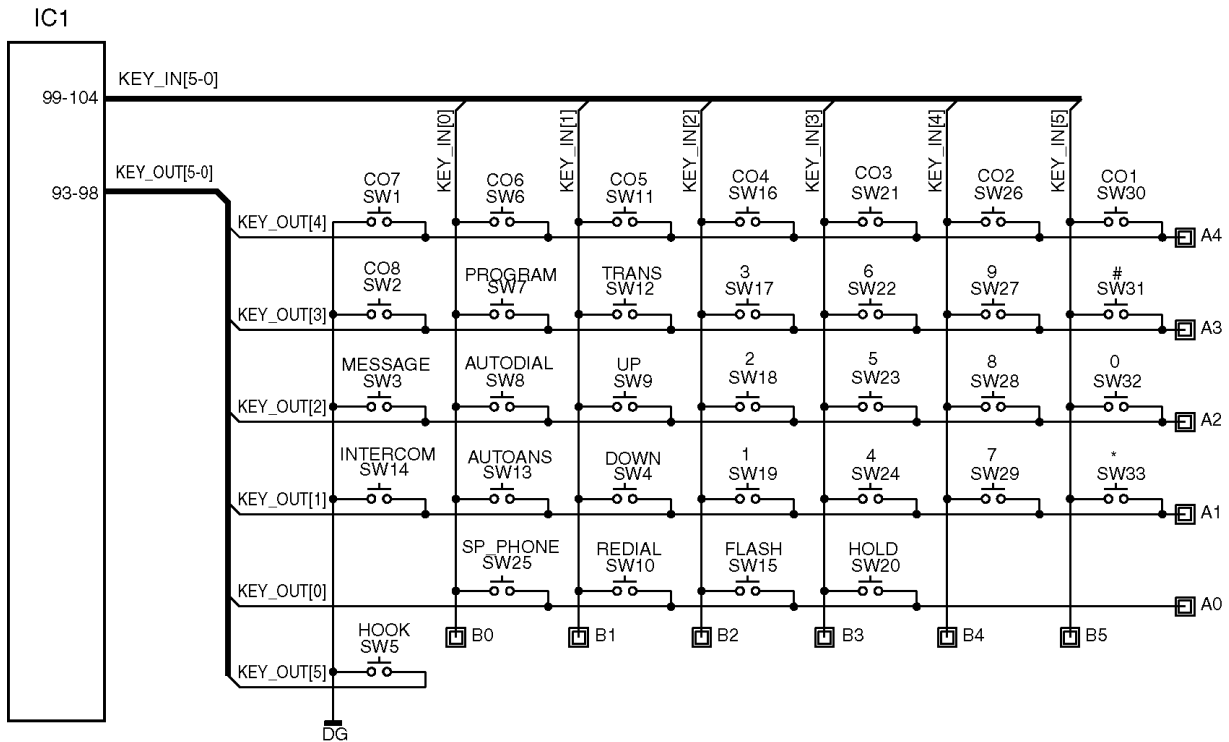
Power Amp IC11 is controlled as follows;

IC11-pin1 L → ON

IC11-pin1 H → OFF

8.7. KEY INPUT CONTROL CIRCUIT

The key data is under the matrix control by pin93 to 104 of IC1. The key information outputted from KEYOUT [5-0] is inputted into KEYIN [5-0], when the key is pressed.



8.8. LED CIRCUIT

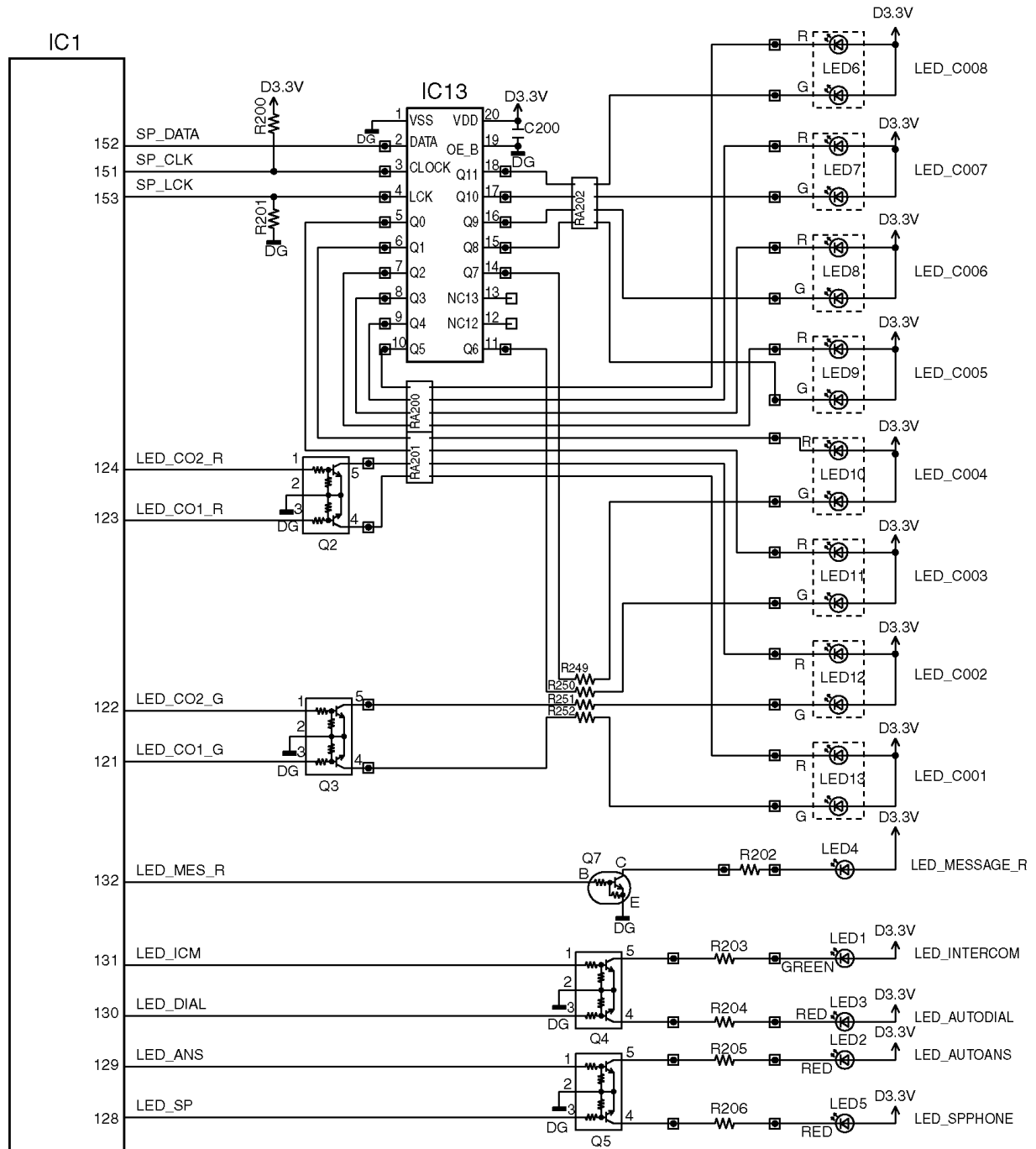
The lighting of the LED is controlled by IC1.
The LEDs light up in a static lighting system.

<Controlled by I/O ports of IC1>

- LED1 : INTERCOM
- LED2 : AUTOANSWER
- LED3 : AUTODIAL
- LED4 : MESSAGE
- LED5 : SP PHONE
- LED12 : CO2
- LED13 : CO1

<Controlled by serial I/F of IC13>

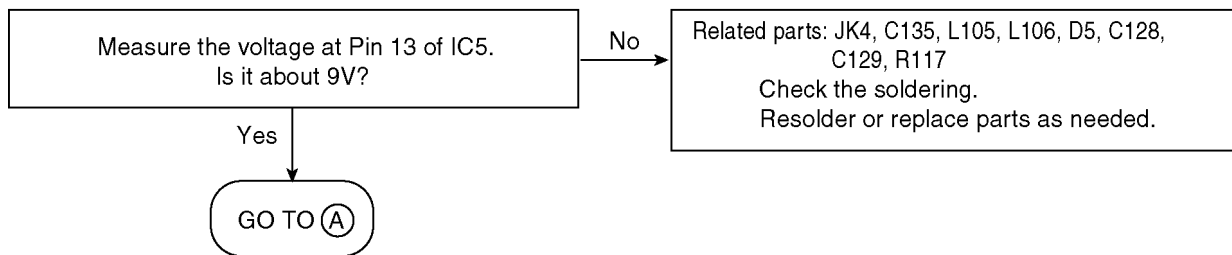
- LED[6-11] : CO[8-3]



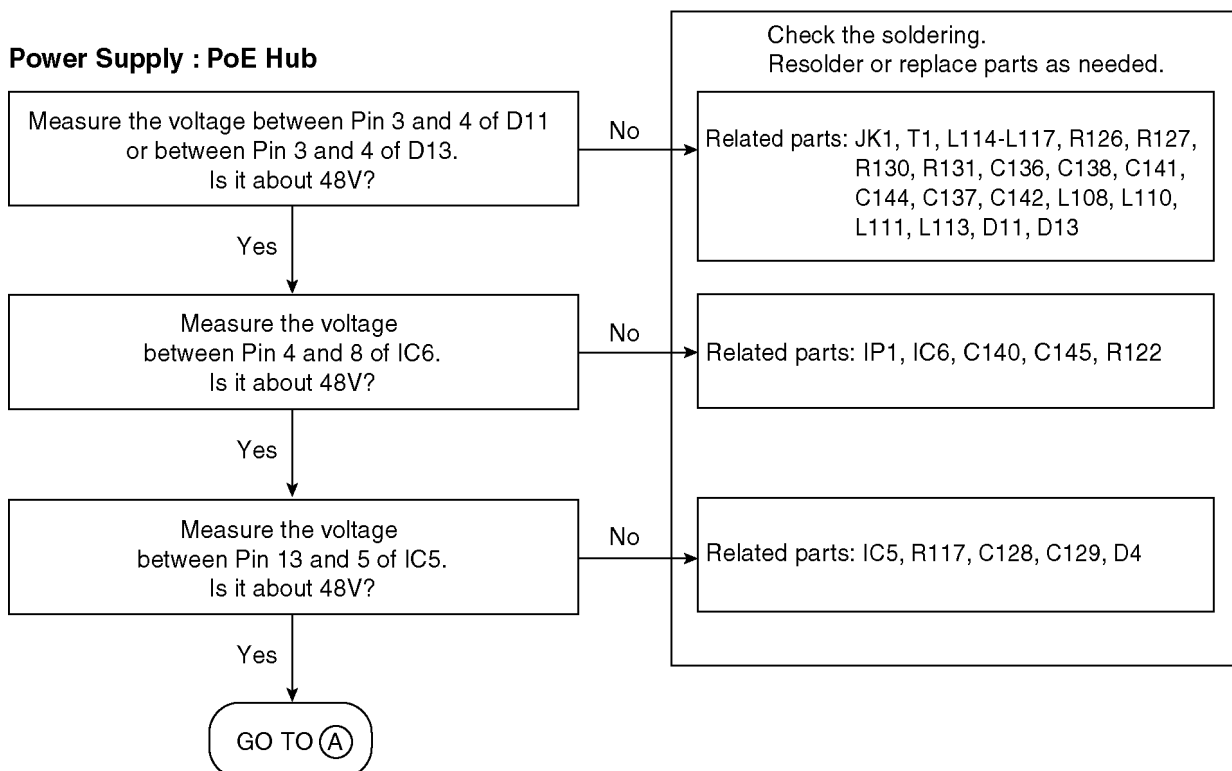
9 TROUBLESHOOTING GUIDE

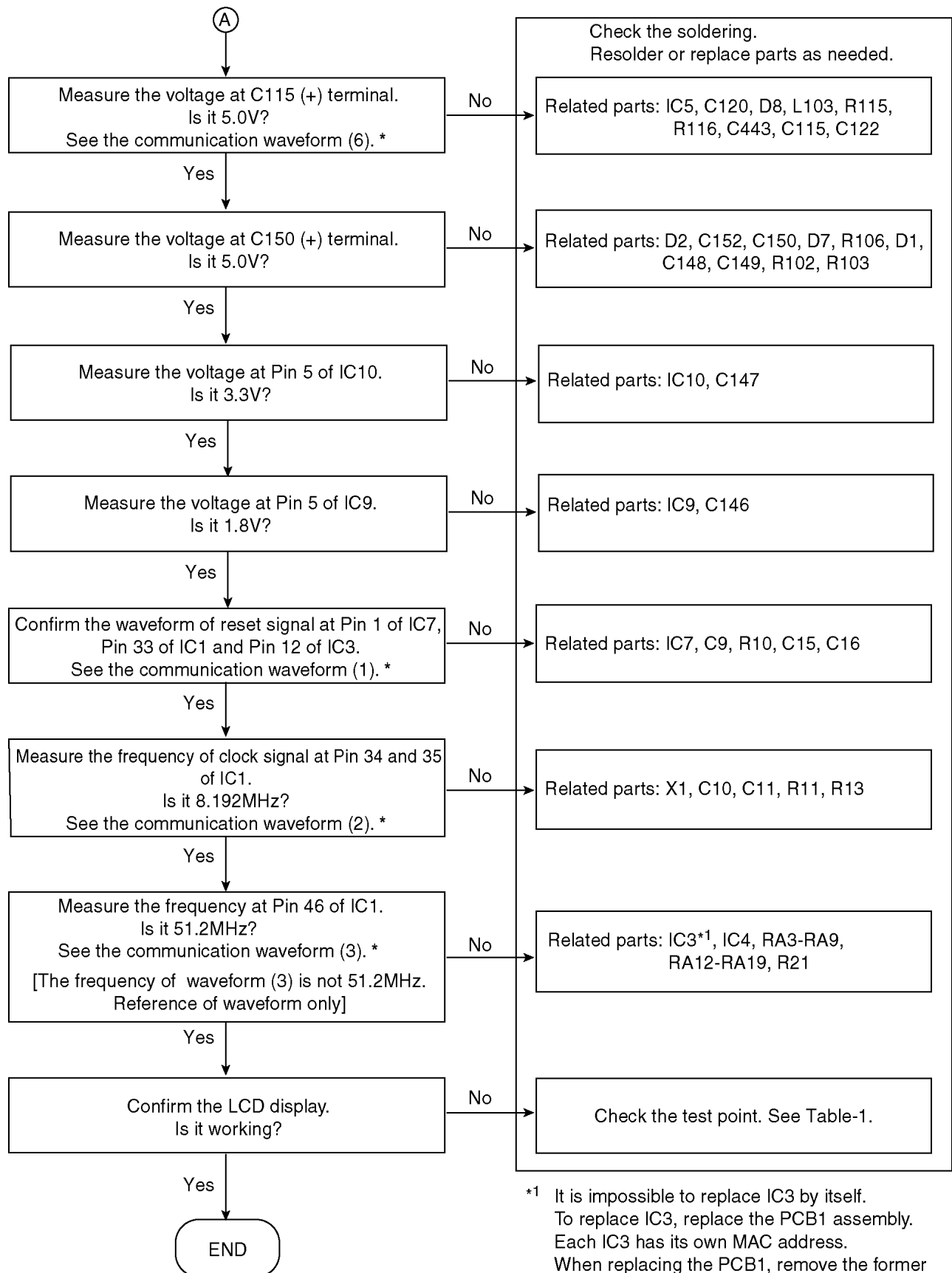
9.1. NO OPERATION

Power Supply : AC adaptor



Power Supply : PoE Hub





*** Note:**

Refer to **waveform(1)-(3)and(6)** in **17.4. WAVEFORM** (P.48).

Table-1: PORT OUTPUT AT ERROR

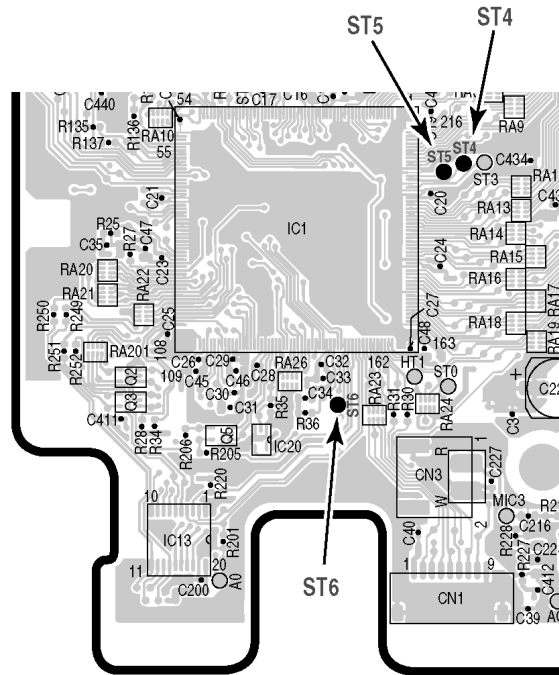
No.	Test Point			Error Item	Related Parts	Handling
	ST4	ST5	ST6			
1	0	1	1	NOT ERROR (VoIP Block is operating.)	-----	-----
2	0	0	1	IPL PROGRAM CHECK SUM ERROR	IC3	(B)
3	0	1	0	WORKING PROGRAM CHECK SUM ERROR	IC3	(B)
4	1	0	0	SDRAM (IC4) ERROR	IC4	(C)
5	1	0	1	Reserved	-----	-----
6	1	1	0	Flash ROM (IC3) ERROR	IC3	(B)
7	1	1	1	VoIP (IC1) ERROR	IC1	(A)

Remarks: 0 = 0V, 1 = 3.3V

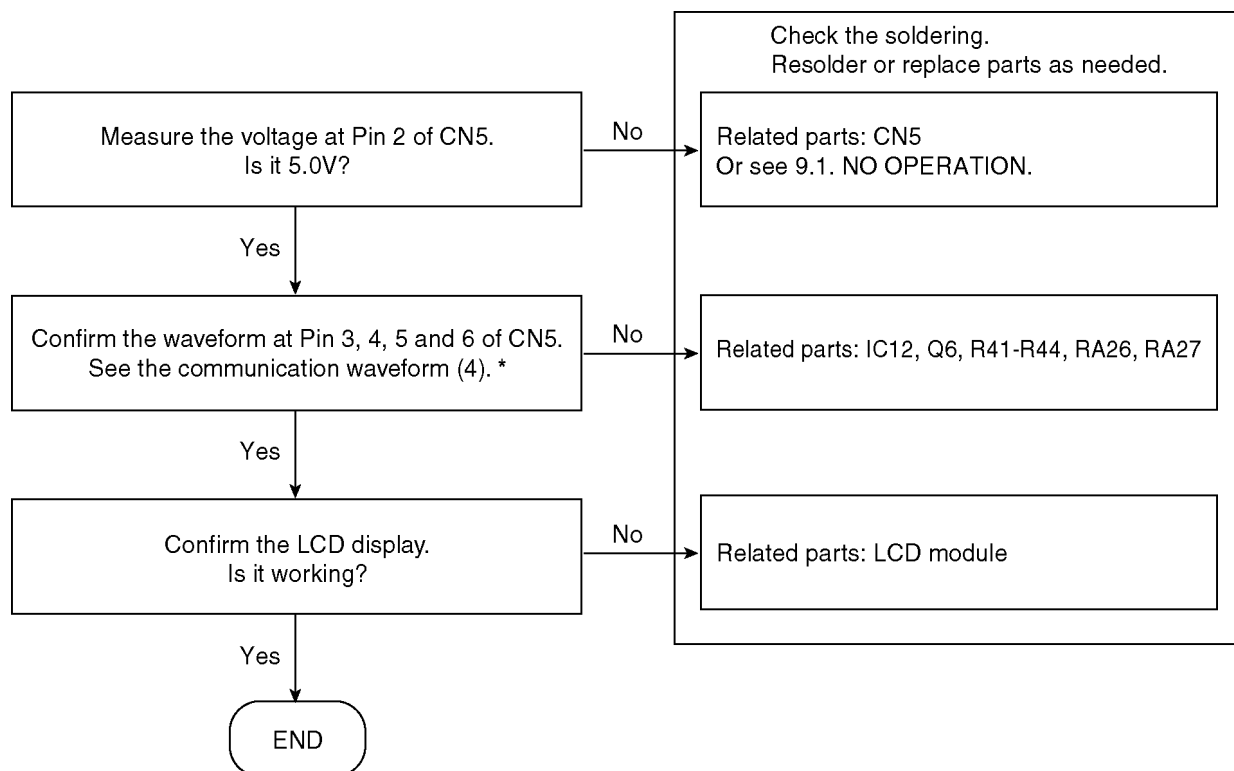
Handling (A): Check the soldering. Resolder or replace parts as needed.

Handling (B): Check the soldering. Resolder parts or replace the PCB1 assembly as needed.

Handling (C): Check the soldering. Resolder or replace parts as needed.



9.2. LCD DOES NOT OPERATE

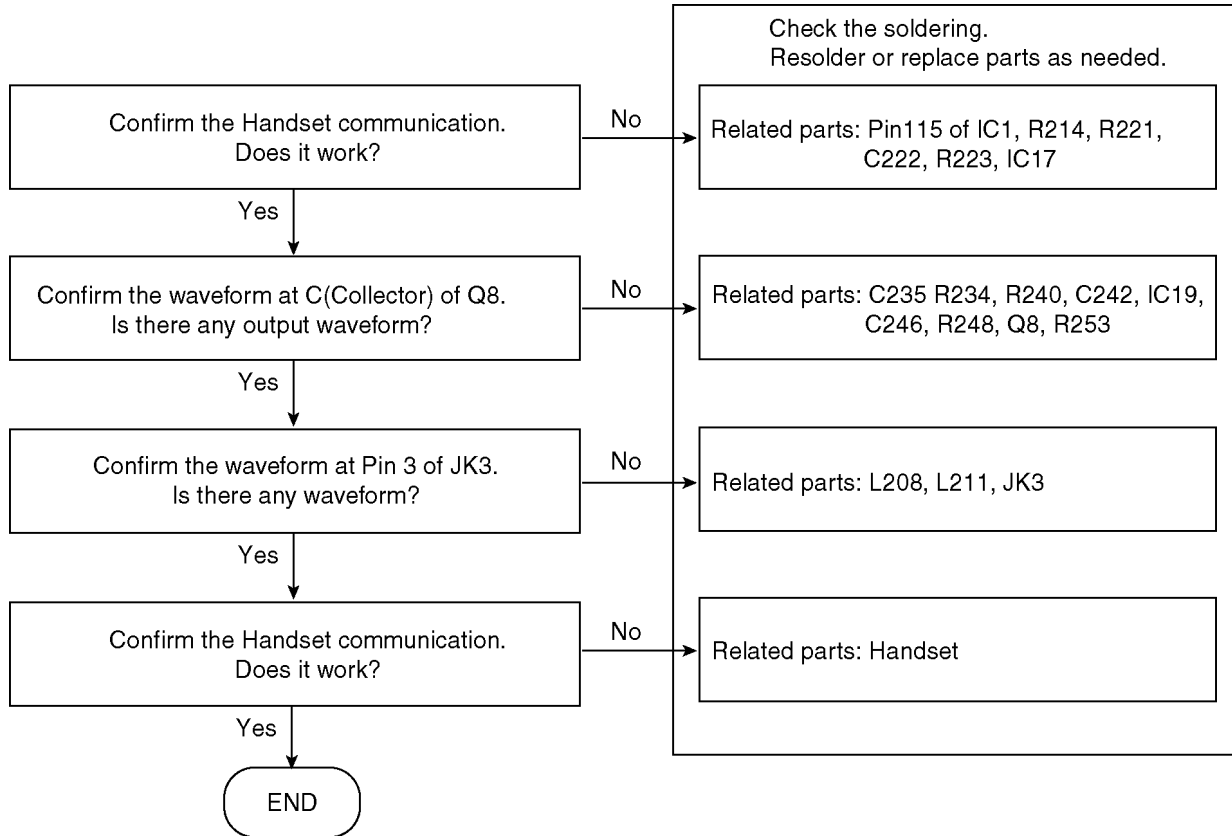


*** Note:**

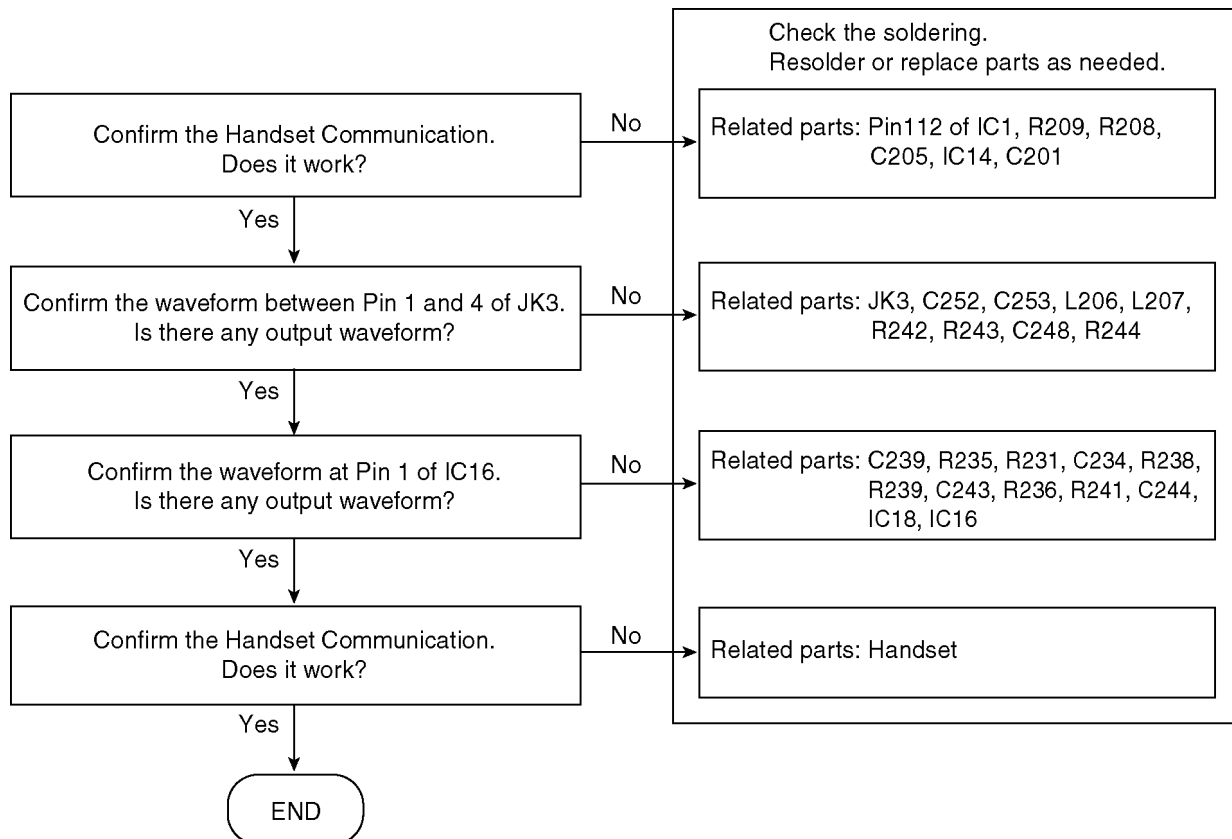
Refer to **waveform (4)** in **17.4. WAVEFORM** (P.48).

9.3. HANDSET DOES NOT WORK

Receive

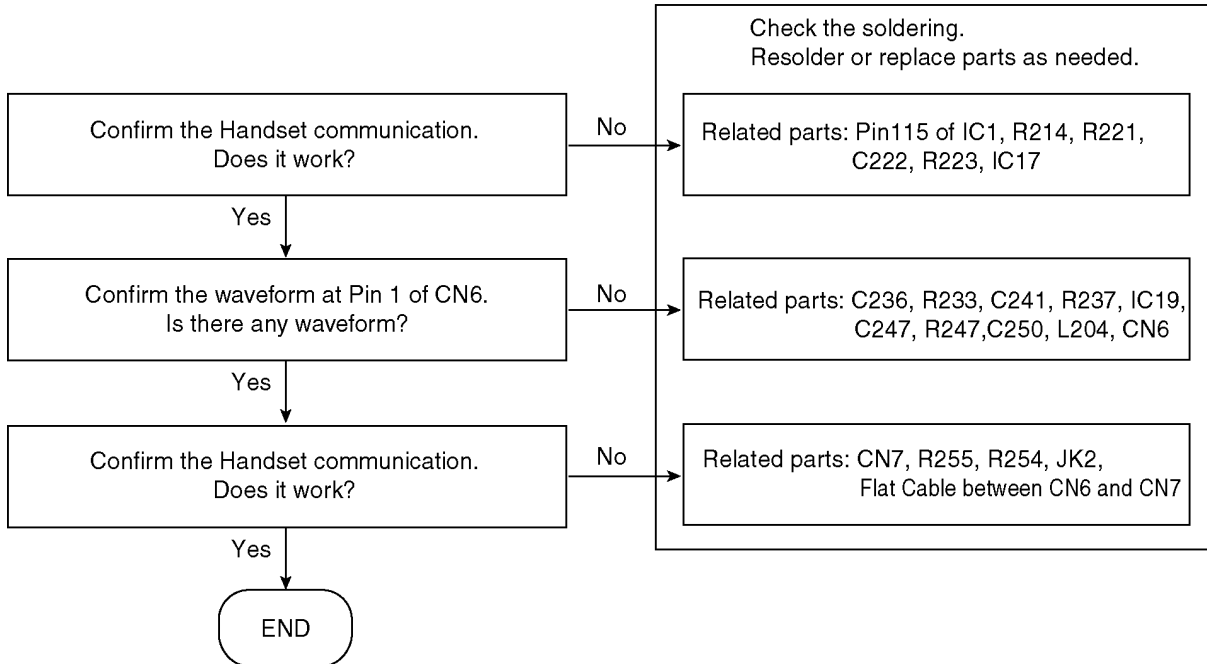


Send

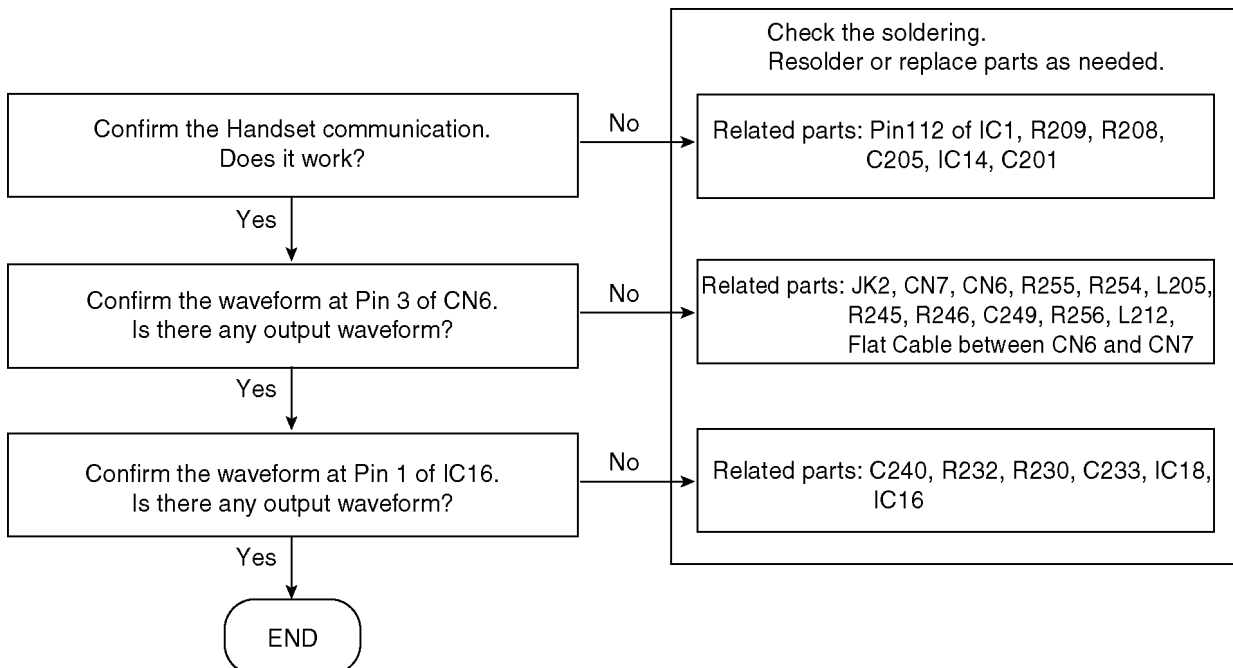


9.4. HEADSET DOES NOT WORK

Receive

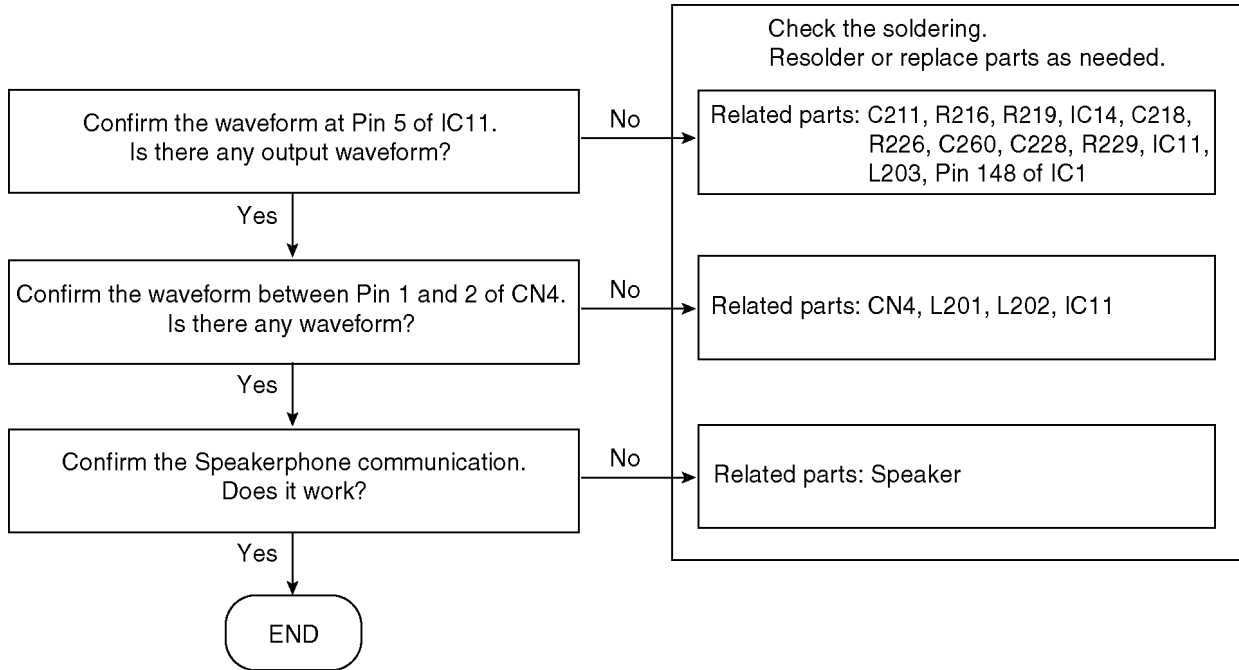


Send

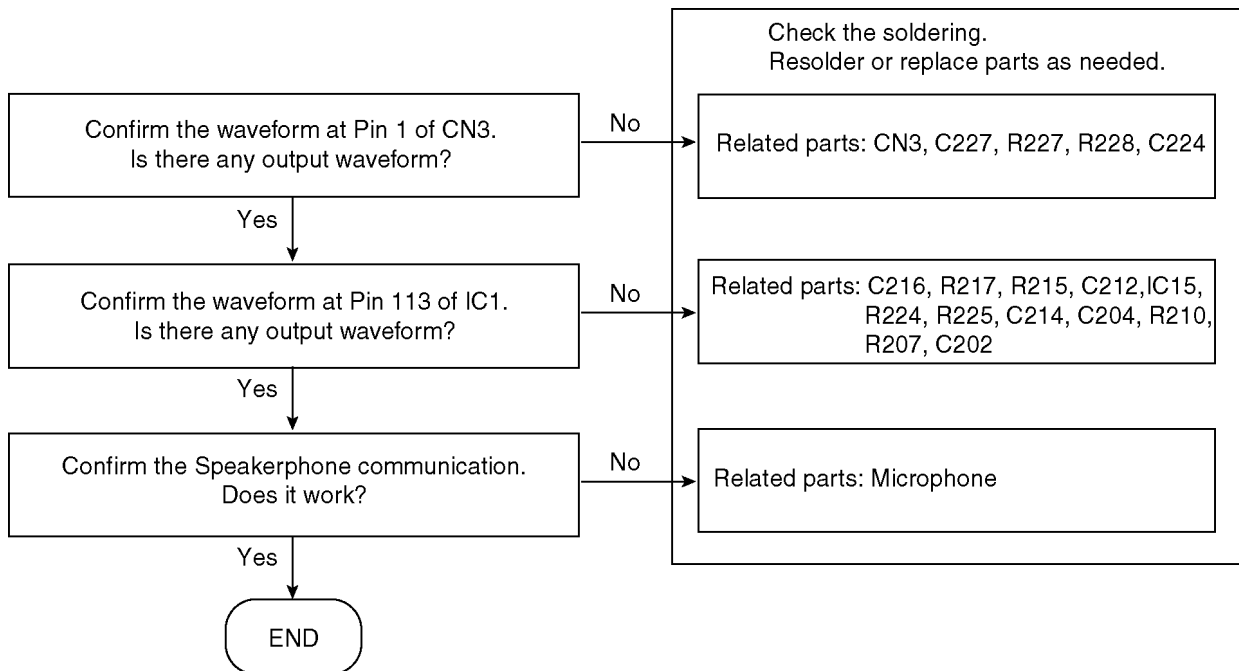


9.5. SPEAKER-PHONE DOES NOT WORK

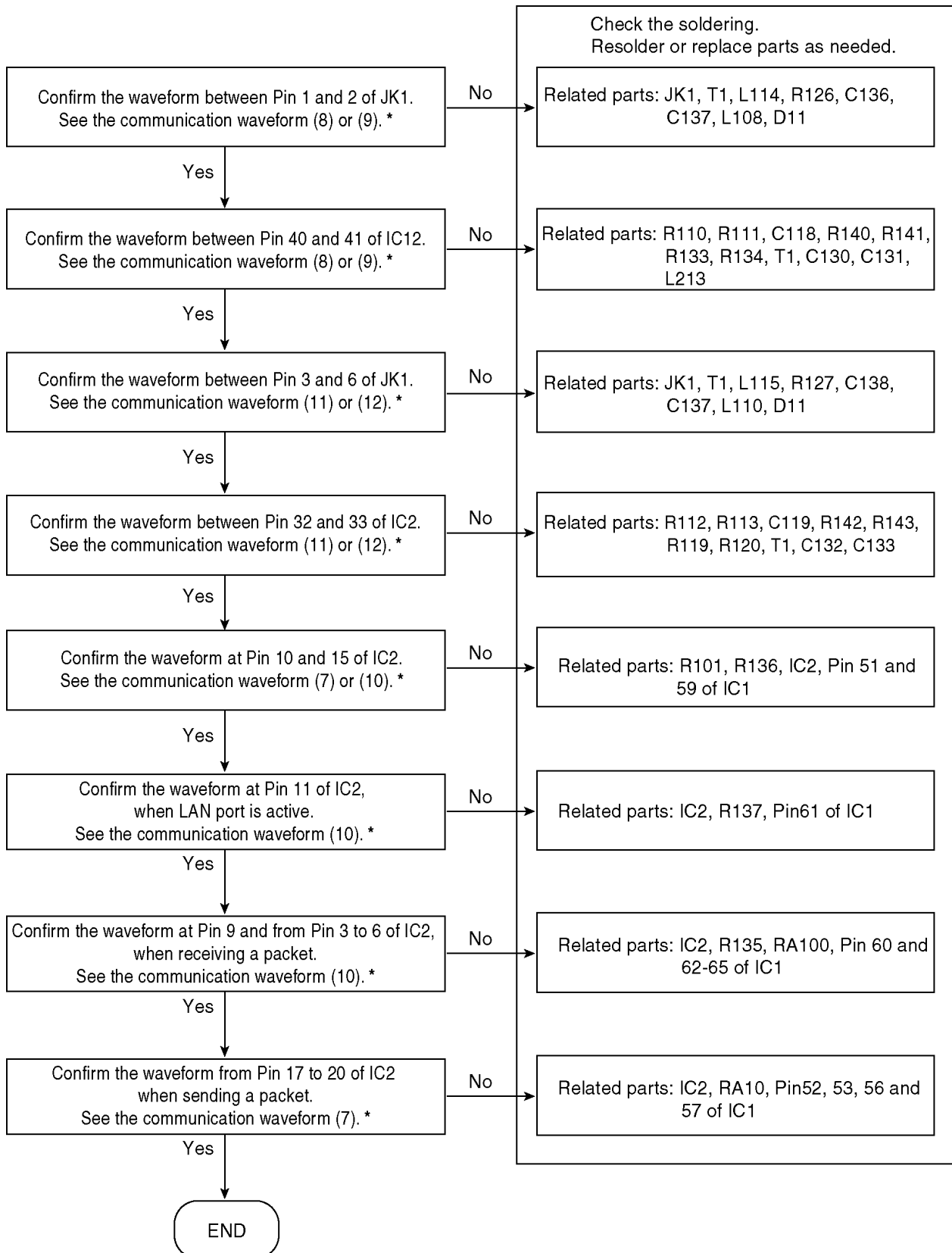
Receive



Send



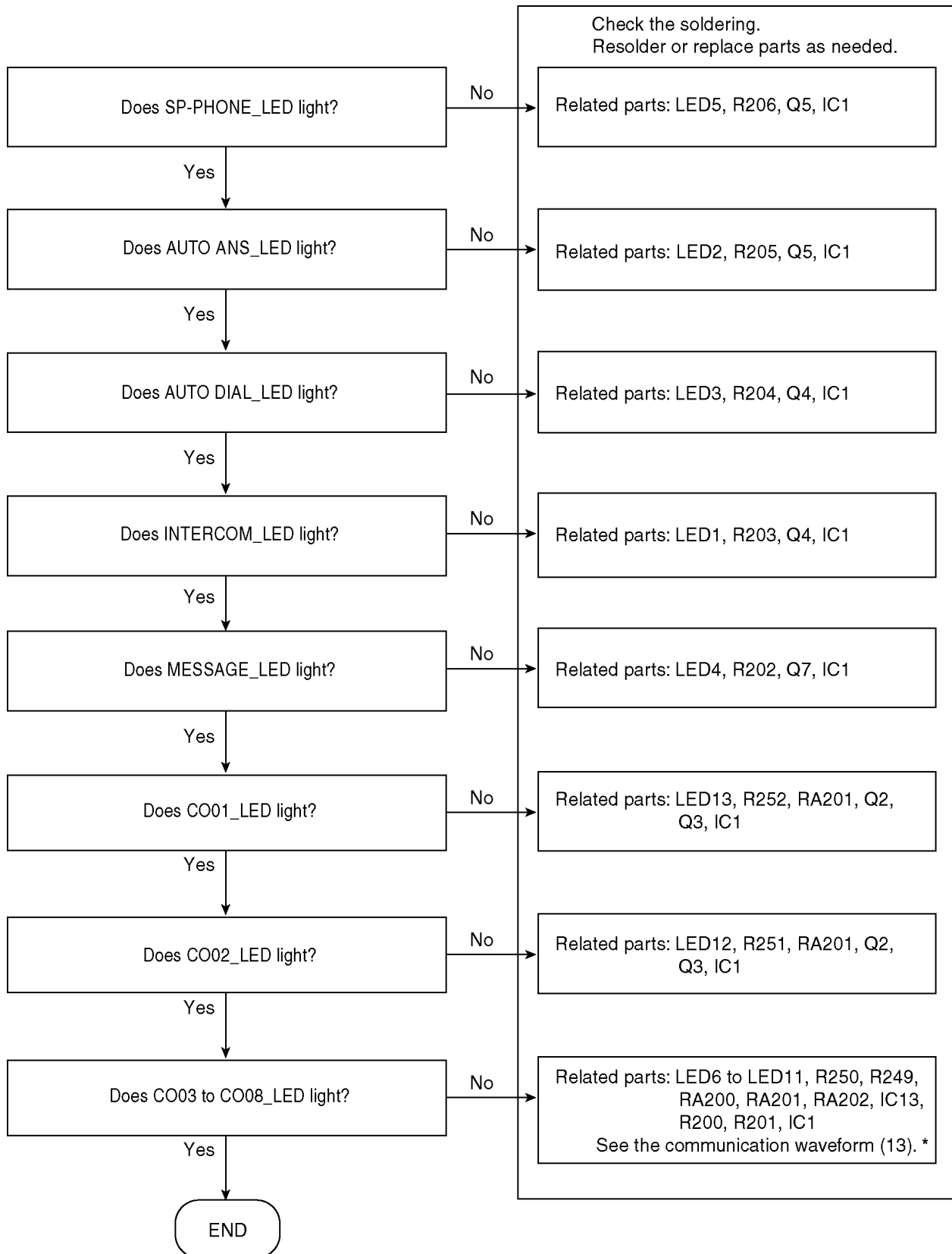
9.6. Ethernet DOES NOT WORK (Ethernet PORT)



*** Note:**

Refer to **waveform (7) -(12) in 17.4. WAVEFORM (P.48).**

9.7. LED DOES NOT LIGHT



*** Note:**

Refer to **waveform (13)** in **17.4. WAVEFORM** (P.48).

This unit has the KEYS and LEDs TEST mode.

By using this mode, you can easily check KEYS and LEDs.

- To TEST mode-

- 1) Pushing three button (dial 3, 7 and CO1) together. Then turn on a power supply.
- 2) Press Dial 8.

- LCD displays "LED GREEN MODE"

LED TEST

- 3) Press Dial 4.

- LCD displays "NNNNNNNNNNNNNNNNNN" .

- All Red LEDs lit.

- 4) Press Dial 5

- LCD displays "|||||".

- All Green LEDs lit.

- 5) Press Dial 6.

- LCD displays "BBBBBBBBBBBBBBBB".

- All LEDs go Off.

KEY TEST

- 6) Press each keys. (except dial 12 keys.)

- LCD display each KEY name.

Key	LCD Display
PROG.	PROGRAM
MESSAGE	MESSAGE
VoL. Δ	UP
VoL. ∇	DOWN
INTERCOM	INTERCOM
TRANSFER	TRANSFER
AUTO ANS	AUTO ANSWER
AUTO DIAL	AUTO DIAL
REDIAL	REDIAL
FLASH/RECALL	FLASH
HOLD	HOLD
SP-PHONE	SP-PHONE
CO1 – CO8	CO1 – CO8

- Quit TEST mode-

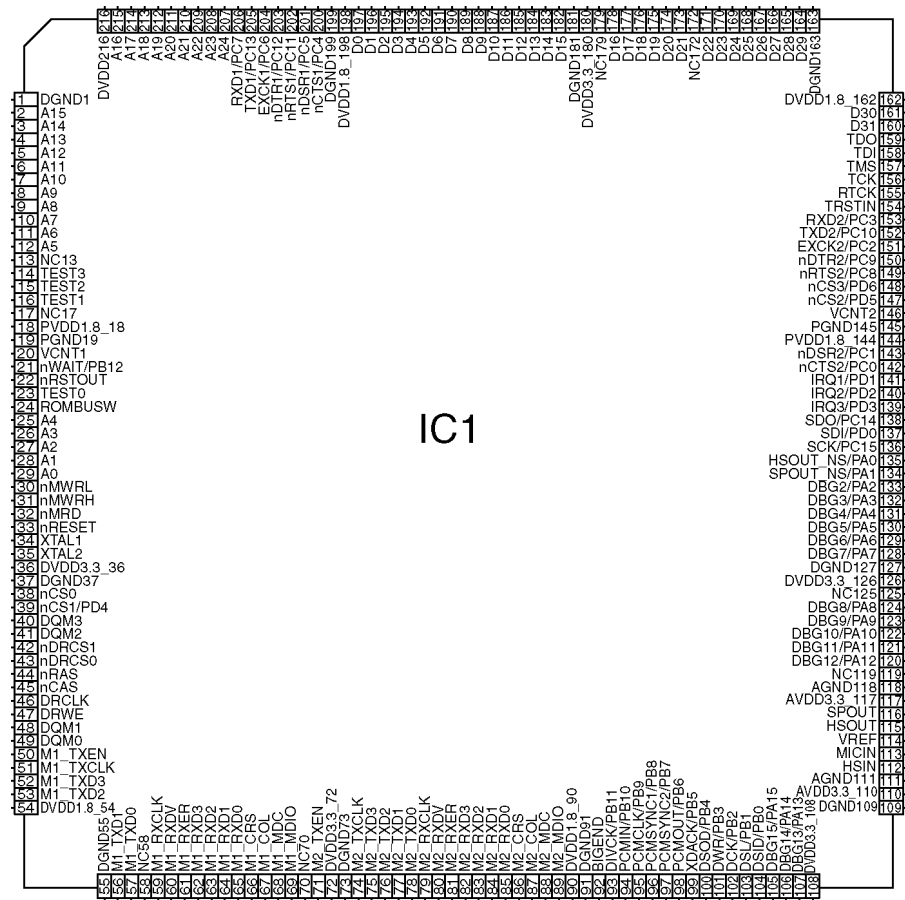
Disconnect and connect AC adaptor.

or

Disconnect and connect Ethernet cable.

10 IC DATA

10.1. IC1 (VoIP)



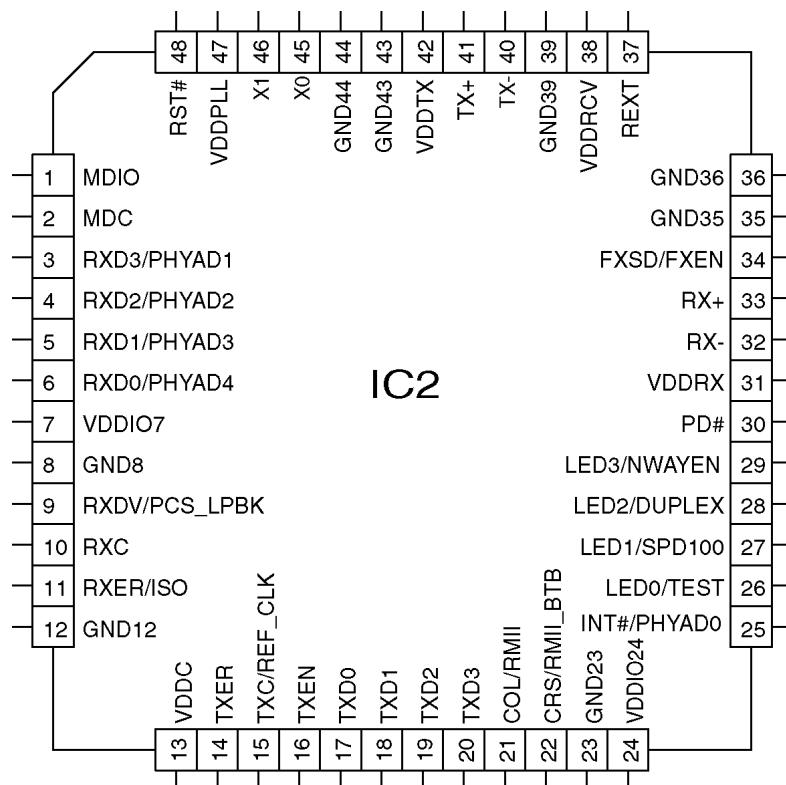
Pin.No.	Terminal Name	I/O Setting	Contents of Control	Remark
1	DGND	-	Digital system ground	
2	A15	O	Address bus	
3	A14	O	Address bus	
4	A13	O	Address bus	
5	A12	O	Address bus	
6	A11	O	Address bus	
7	A10	O	Address bus	
8	A9	O	Address bus	
9	A8	O	Address bus	
10	A7	O	Address bus	
11	A6	O	Address bus	
12	A5	O	Address bus	
13	NC	-	No internal connection	
14	TEST3	I	Test pin	
15	TEST2	I	Test pin	
16	TEST1	I	Test pin	
17	NC	-	No internal connection	
18	PVDD18	-	PLL power supply (+1.8V)	
19	PGND	-	PLL ground	
20	VCNT1	O	PLL1 VCO control (+1.8V)	
21	WAITn/PB12	I/O	External wait signal or I/O port	
22	RSTOUTn	O	Watchdog timer reset output	
23	TEST0	I	Test pin	
24	ROMBUSW	I	Memory bus width selection	
25	A4	O	Address bus	
26	A3	O	Address bus	
27	A2	O	Address bus	
28	A1	O	Address bus	
29	A0	O	Address bus	
30	MWRLn	O	External memory write signal	

Pin.No.	Terminal Name	I/O Setting	Contents of Control	Remark
31	MWRHn	O	External memory write signal	
32	MRDn	O	External memory read signal	
33	RESETn	I	Reset	
34	XTAL1	I	Crystal oscillator connection (8.192MHz)	
35	XTAL2	O	Crystal oscillator connection (8.192MHz)	
36	DVDD33	-	Digital system power supply (+3.3V)	
37	DGND	-	Digital system ground	
38	CS0n	O	External memory chip select 0	
39	CS1n/PD4	I/O	External memory chip select 1 or I/O port	
40	DQM3	O	SDRAM byte mask 3	
41	DQM2	O	SDRAM byte mask 2	
42	DRCS1n	O	SDRAM chip select 1	
43	DRCS0n	O	SDRAM chip select 0	
44	RASn	O	Row address strobe	
45	CASn	O	Column address strobe	
46	DRCLK	O	SDRAM clock	
47	DRWE	O	SDRAM write enable	
48	DQM1	O	SDRAM byte mask 1	
49	DQM0	O	SDRAM byte mask 0	
50	M1_TXEN	O	MAC1 transmit enable	
51	M1_TXCLK	I	MAC1 transmit clock	
52	M1_TXD3	O	MAC1 transmit data	
53	M1_TXD2	O	MAC1 transmit data	
54	DVDD18	-	Digital system power supply (+1.8V)	
55	DGND	-	Digital system ground	
56	M1_TXD1	O	MAC1 transmit data	
57	M1_TXD0	O	MAC1 transmit data	
58	NC	-	No internal connection	
59	M1_RXCLK	I	MAC1 receive clock	
60	M1_RXDV	I	MAC1 receive data valid	
61	M1_RXER	I	MAC1 receive data error	
62	M1_RXD3	I	MAC1 receive data	
63	M1_RXD2	I	MAC1 receive data	
64	M1_RXD1	I	MAC1 receive data	
65	M1_RXD0	I	MAC1 receive data	
66	M1_CRS	I	MAC1 carrier sense	
67	M1_COL	I	MAC1 collision detection	
68	M1_MDC	O	MAC1 MII control clock	
69	M1_MDIO	I/O	MAC1 MII control data	
70	NC	-	No internal connection	
71	M2_TXEN	O	MAC2 transmit enable	
72	DVDD33	-	Digital system power supply (+3.3V)	
73	DGND	-	Digital system ground	
74	M2_TXCLK	I	MAC2 transmit clock	
75	M2_TXD3	O	MAC2 transmit data	
76	M2_TXD2	O	MAC2 transmit data	
77	M2_TXD1	O	MAC2 transmit data	
78	M2_TXD0	O	MAC2 transmit data	
79	M2_RXCLK	I	MAC2 receive clock	
80	M2_RXDV	I	MAC2 receive data valid	
81	M2_RXER	I	MAC2 receive data error	
82	M2_RXD3	I	MAC2 receive data	
83	M2_RXD2	I	MAC2 receive data	
84	M2_RXD1	I	MAC2 receive data	
85	M2_RXD0	I	MAC2 receive data	
86	M2_CRS	I	MAC2 carrier sense	
87	M2_COL	I	MAC2 collision detection	
88	M2_MDC	O	MAC2 MII control clock	
89	M2_MDIO	I/O	MAC2 MII control data	
90	DVDD18	-	Digital system power supply (+1.8V)	
91	DGND	-	Digital system ground	
92	BIGEND	I	Endian selection	
93	DIVCK/PB11	I/O	Divided clock output or I/O port	
94	PCMIN/PB10	I/O	PCM data input or I/O port	
95	PCMCLK/PB9	I/O	PCM clock output or I/O port	
96	PCMSYNC1/PB8	I/O	PCM synchronous signal 1 or I/O port	
97	PCMSYNC2/PB7	I/O	PCM synchronous signal 2 or I/O port	

Pin.No.	Terminal Name	I/O Setting	Contents of Control	Remark
98	PCMOUT/PB6	I/O	PCM data output or I/O port	
99	XDACK/PB5	I/O	Debugging control signal or I/O port	
100	DSOD/PB4	I/O	Debugging control signal or I/O port	
101	DWR/PB3	I/O	Debugging control signal or I/O port	
102	DCK/PB2	I/O	Debugging control signal or I/O port	
103	DSL/PB1	I/O	Debugging control signal or I/O port	
104	DSID/PB0	I/O	Debugging control signal or I/O port	
105	DBG15/PA15	I/O	debugging data output or I/O port	
106	DBG14/PA14	I/O	debugging data output or I/O port	
107	DBG13/PA13	I/O	debugging data output or I/O port	
108	DVDD33	-	Digital system power supply (+3.3V)	
109	DGND	-	Digital system ground	
110	AVDD33	-	Analog system power supply (+3.3V)	
111	AGND	-	Analog system ground	
112	HSIN	I	Handset input	
113	MICIN	I	Microphone input	
114	VREF	O	Analog block reference voltage output	
115	HSOUT	O	Handset output	
116	SPOUT	O	Speaker output	
117	AVDD33	-	Analog system power supply (+3.3V)	
118	AGND	-	Analog system ground	
119	NC	-	No internal connection	
120	DBG12/PA12	I/O	Debugging data output or I/O port	
121	DBG11/PA11	I/O	Debugging data output or I/O port	
122	DBG10/PA10	I/O	Debugging data output or I/O port	
123	DBG9/PA9	I/O	Debugging data output or I/O port	
124	DBG8/PA8	I/O	Debugging data output or I/O port	
125	NC	-	No internal connection	
126	DVDD33	-	Digital system power supply (+3.3V)	
127	DGND	-	Digital system ground	
128	DBG7/PA7	I/O	Debugging data output or I/O port	
129	DBG6/PA6	I/O	Debugging data output or I/O port	
130	DBG5/PA5	I/O	Debugging data output or I/O port	
131	DGB4/PA4	I/O	Debugging data output or I/O port	
132	DBG3/PA3	I/O	Debugging data output or I/O port	
133	DGB2/PA2	I/O	Debugging data output or I/O port	
134	DBG1/PA1	I/O	Debugging data output or I/O port	
135	DBG0/PA0	I/O	Debugging data output or I/O port	
136	SCK/PC15	I/O	SIO serial clock or I/O port	
137	SDI/PD0	I/O	SIO serial data input or I/O port	
138	SDO/PC14	I/O	SIO serial data output or I/O port	
139	IRQ3/PD3	I/O	External interrupt 3 or I/O port	
140	IRQ2/PD2	I/O	External interrupt 2 or I/O port	
141	IRQ1/PD1	I/O	External interrupt 1 or I/O port	
142	CTSn2/PC0	I/O	USART2 clear to send signal or I/O port	
143	DSRn2/PC1	I/O	USART2 data set ready signal or I/O port	
144	PVDD18	-	PLL power supply (+1.8V)	
145	PGND	-	PLL ground	
146	VCNT2	O	PLL2VCO control	
147	CS2n/PD5	I/O	External memory chip select 2 or I/O port	
148	CS3n/PD6	I/O	External memory chip select 3 or I/O port	
149	RTSn2/PC8	I/O	USART2 request to send signal or I/O port	
150	DTRn2/PC9	I/O	USART2 data terminal ready signal or I/O port	
151	EXCK2/PC2	I/O	USART2 external clock input or I/O port	
152	TXD2/PC10	I/O	USART2 serial data output or I/O port	
153	RXD2/PC3	I/O	USART2 serial data input or I/O port	
154	TRSTIN	I	JTAG reset	
155	RTCK	O	JTAG synchronous clock output	
156	TCK	I	JTAG clock input	
157	TMS	I	JTAG mode selection	
158	TDI	I	JTAG data input	
159	TDO	O	JTAG data output	
160	D31	I/O	Data bus	
161	D30	I/O	Data bus	
162	DVDD18	-	Digital system power supply (+1.8V)	
163	DGND	-	Digital system ground	
164	D29	I/O	Data bus	

Pin.No.	Terminal Name	I/O Setting	Contents of Control	Remark
165	D28	I/O	Data bus	
166	D27	I/O	Data bus	
167	D26	I/O	Data bus	
168	D25	I/O	Data bus	
169	D24	I/O	Data bus	
170	D23	I/O	Data bus	
171	D22	I/O	Data bus	
172	NC	-	No internal connection	
173	D21	I/O	Data bus	
174	D20	I/O	Data bus	
175	D19	I/O	Data bus	
176	D18	I/O	Data bus	
177	D17	I/O	Data bus	
178	D16	I/O	Data bus	
179	NC	-	No internal connection	
180	DVDD33	-	Digital system power supply (+3.3V)	
181	DGND	-	Digital system ground	
182	D15	I/O	Data bus	
183	D14	I/O	Data bus	
184	D13	I/O	Data bus	
185	D12	I/O	Data bus	
186	D11	I/O	Data bus	
187	D10	I/O	Data bus	
188	D9	I/O	Data bus	
189	D8	I/O	Data bus	
190	D7	I/O	Data bus	
191	D6	I/O	Data bus	
192	D5	I/O	Data bus	
193	D4	I/O	Data bus	
194	D3	I/O	Data bus	
195	D2	I/O	Data bus	
196	D1	I/O	Data bus	
197	D0	I/O	Data bus	
198	DVDD18	-	Digital system power supply (+1.8V)	
199	DGND	-	Digital system ground	
200	CTSn1/PC4	I/O	USART1 clear to send signal or I/O port	
201	DSRn1/PC5	I/O	USART1 data set ready signal or I/O port	
202	RTSn1/PC11	I/O	USART1 request to send signal or I/O port	
203	DTRn1/PC12	I/O	USART1 data terminal ready signal or I/O port	
204	EXCK1/PC6	I/O	USART1 external clock input or I/O port	
205	TXD1/PC13	I/O	USART1 serial data output or I/O port	
206	RXD1/PC7	I/O	USART1 serial data input or I/O port	
207	A24	O	Address bus	
208	A23	O	Address bus	
209	A22	O	Address bus	
210	A21	O	Address bus	
211	A20	O	Address bus	
212	A19	O	Address bus	
213	A18	O	Address bus	
214	A17	O	Address bus	
215	A16	O	Address bus	
216	DVDD33	-	Digital system power supply (+3.3V)	

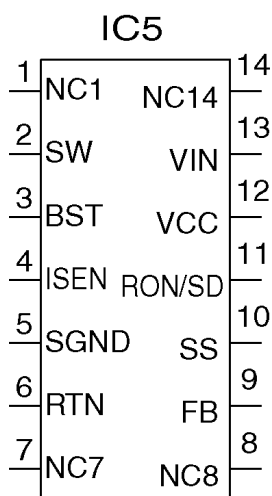
10.2. IC2 (Ethernet)



Pin.No.	Terminal Name	I/O Setting	Contents of Control	Remark
1	MDIO	I/O	MII Data I/O	
2	MDC	I	MII Clock Input	
3	RXD3/PHYAD	O	MII Receive Data Output	
4	RXD2/PHYAD2	O	MII Receive Data Output	
5	RXD1/PHYAD3	O	MII Receive Data Output	
6	RXD0/PHYAD4	O	MII Receive Data Output	
7	VDDIO	-	Digital IO 2.5 /3.3V tolerant power supply	
8	GND	-	Ground	
9	RXDV/CRSDV/PCS_LPBK	O	MII Receive Data Valid Output	
10	RXC	O	MII Receive Clock Output	
11	RXER/ISO	O	MII Receive Error Output	
12	GND	-	Ground	
13	VDDC	-	Digital core 2.5V only power supply	
14	TXER	I	MII Transmit Error Input	
15	TXC/REFCLK	I/O	MII Transmit Clock Output	
16	TXEN	I	MII Transmit Enable Input	
17	TXD0	I	MII Transmit Data Input	
18	TXD1	I	MII Transmit Data Input	
19	TXD2	I	MII Transmit Data Input	
20	TXD3	I	MII Transmit Data Input	
21	COL/RMII	O	MII Collision Detect Output	
22	CRS/RMII_BTBT	O	MII Carrier Sense Output	
23	GND	-	Ground	
24	VDDIO	-	Digital IO 2.5/3.3V tolerant power supply	
25	INT#/PHYAD0	O	MII Interrupt Out	
26	LED0/TEST	O	Not in use	
27	LED1/SPD100/nFEF	O	Not in use	
28	LED2/	O	Not in use	
29	LED3/NWAYEN	O	Not in use	
30	PD#	I	Power Down	
31	VDDRX	-	Analog 2.5V power supply	
32	RX-	I	Receive Input	
33	RX+	I	Receive Input	
34	FXSD/FXEN	O	Not in use	
35	GND	-	Ground	

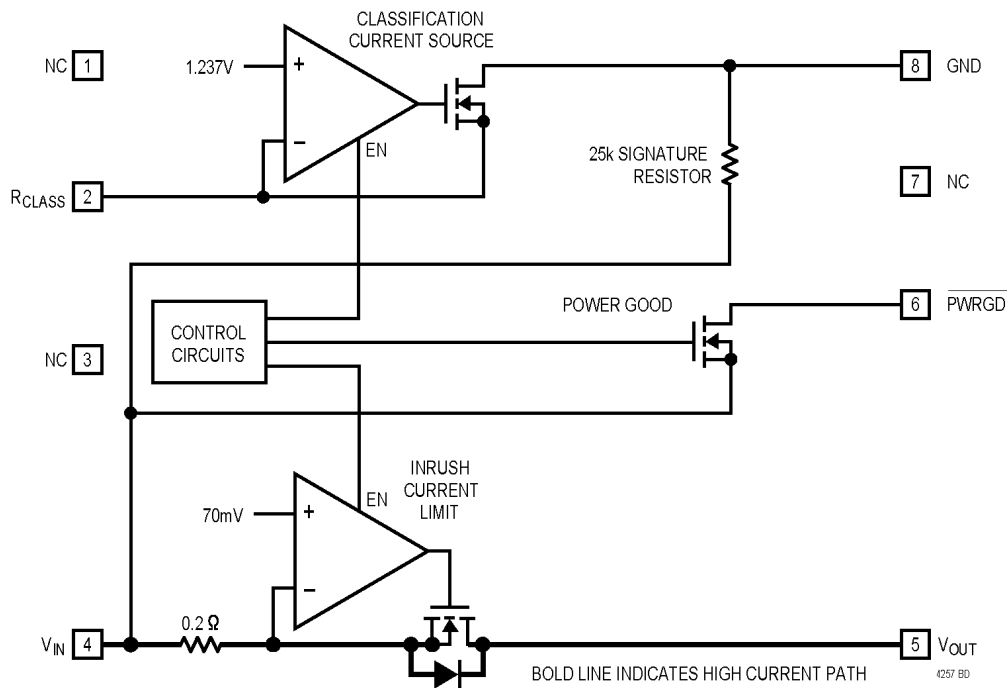
Pin.No.	Terminal Name	I/O Setting	Contents of Control	Remark
36	GND	-	Ground	
37	REXT	I	External resistor	
38	VDDRCV	-	Analog 2.5V power supply	
39	GND	-	Ground	
40	TX-	O	Transmit Outputs	
41	TX+	O	Transmit Outputs	
42	VDDTX	-	Transmitter 2.5V power supply	
43	GND	-	Ground	
44	GND	-	Ground	
45	XO	O	XTAL feedback	
46	XI	I	Crystal Oscillator Input	
47	VDDPLL	-	Analog PLL 2.5V power supply	
48	RST#	I	Chip Reset	

10.3. IC5 (DC-DC Converter)



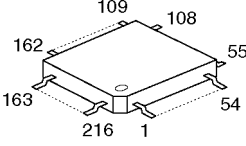
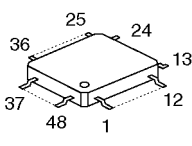
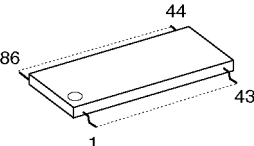
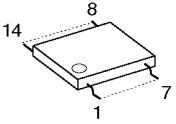
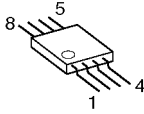
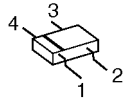
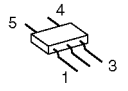
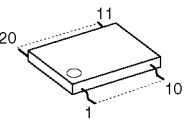
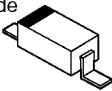
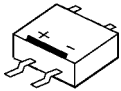
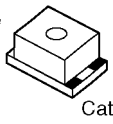
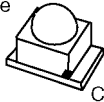
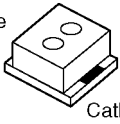
Pin.No.	Terminal Name	I/O Setting	Contents of Control	Remark
1	NC	-	No internal connection	
2	SW	O	Switching Node	
3	BST	I	Boost pin for bootstrap capacitor	
4	ISEN	I	Current sense	
5	SGND	-	Sense Ground	
6	RTN	I	Circuit Ground	
7	NC	-	No internal connection	
8	NC	-	No internal connection	
9	FB	I	Feedback input from the regulated output	
10	SS	I	Soft start	
11	RON/SD	I	On-time control and shutdown	
12	VCC	-	Output from the startup regulator	
13	VIN	-	Input supply voltage	
14	NC	-	No internal connection	

10.4. IC6 (PoE Interface Controller)



Pin No.	Terminal Name	I/O Setting	Contents of Control	Remark
1	NC	-	No Internal Connection.	
2	R _{class}	I	Class Select Input.	
3	NC	-	No Internal Connection.	
4	V _{in}	I	Power Input. Tie to system -48V through the input diode bridge.	
5	V _{out}	O	Power Output. Supplies -48V to the PD load through an internal power MOSFET that limits input current. V _{OUT} is high impedance until the input voltage rises above the turn-on UVLO threshold. The output is then current limited. See Applications Information.	
6	nPWRGD	O	Power Good Output , Open-Drain Signals to the PD load that the LTC4257-1 MOSFET is on and that the PD's DC/DC converter can start operation. Low impedance indicates power is good. PWRGD is high impedance during detection, classification and in the event of a thermal overload. PWRGD is referenced to V _{IN} .	
7	NC	-	No Internal Connection.	
8	GND	-	Digital GND	

11 TERMINAL GUIDE OF ICs, TRANSISTORS AND DIODES

 C2ZBZ0000378	 C1CB00002227	 C3ABPJ000068	 C0DBAYY00047 C0JBAA000014	 C1CB00001844 C0ABGA000023 C0ABBA000093 C0JBAR000354 C0ABHA000058
 C0EBF0000123 C0EBJ0000074	 C0CBCAC00060	 C0CBCBG00007	 C0GBA0000002	
 PSVTUMG2NTR	 UN5213 B1ABGB000020	 B0BC4R600016	 B0ECKM000019 B0JCPL000008 B0JCPE000004	 B0EDER000009
 PSVD1VGCT PSVD1SRCT	 B3AAB0000111	 PQVDBRPY1204		

12 HOW TO REPLACE A FLAT PACKAGE IC

Even if you do not have the special tools (for example, a spot heater) to remove the Flat IC, with some solder (large amount), a soldering iron and a cutter knife, you can easily remove the ICs that have more than 100 pins.

12.1. PREPARATION

• PbF (: Pb free) Solder

• Soldering Iron

Tip Temperature of 700°F ± 20°F (370°C ± 10°C)

Note: We recommend a 30 to 40 Watt soldering iron. An expert may be able to use a 60 to 80 Watt iron where someone with less experience could overheat and damage the PCB foil.

• Flux

Recommended Flux: Specific Gravity → 0.82.

Type → RMA (lower residue, non-cleaning type)

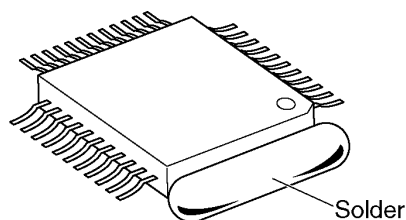
Note: See **ABOUT LEAD FREE SOLDER (PbF: Pb free)** (P.3).

12.2. REMOVAL PROCEDURE

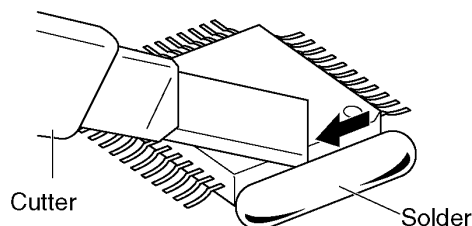
1. Put plenty of solder on the IC pins so that the pins can be completely covered.

Note:

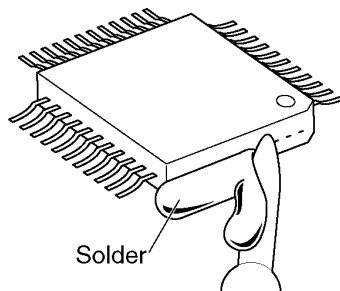
If the IC pins are not soldered enough, you may give pressure to the P.C. board when cutting the pins with a cutter.



2. Make a few cuts into the joint (between the IC and its pins) first and then cut off the pins thoroughly.



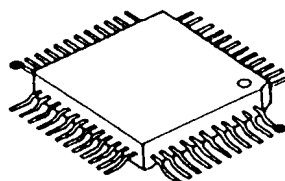
3. While the solder melts, remove it together with the IC pins.



When you attach a new IC to the board, remove all solder left on the land with some tools like a soldering wire. If some solder is left at the joint on the board, the new IC will not be attached properly.

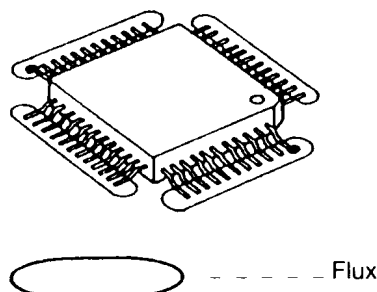
12.3. INSTALLATION PROCEDURE

1. Tack the flat pack IC to the PCB by temporarily soldering two diagonally opposite pins in the correct positions on the PCB.

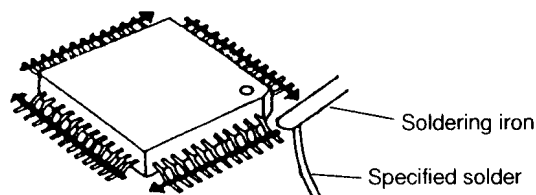


Be certain each pin is located over the correct pad on the PCB.

2. Apply flux to all of the pins on the IC.

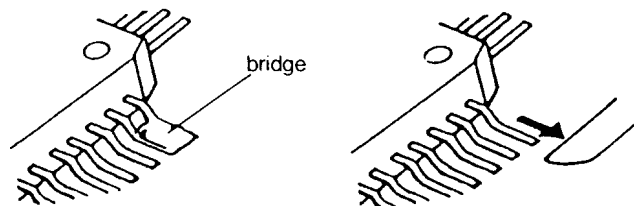


3. Being careful to not unsolder the tack points, slide the soldering iron along the tips of the pins while feeding enough solder to the tip so that it flows under the pins as they are heated.

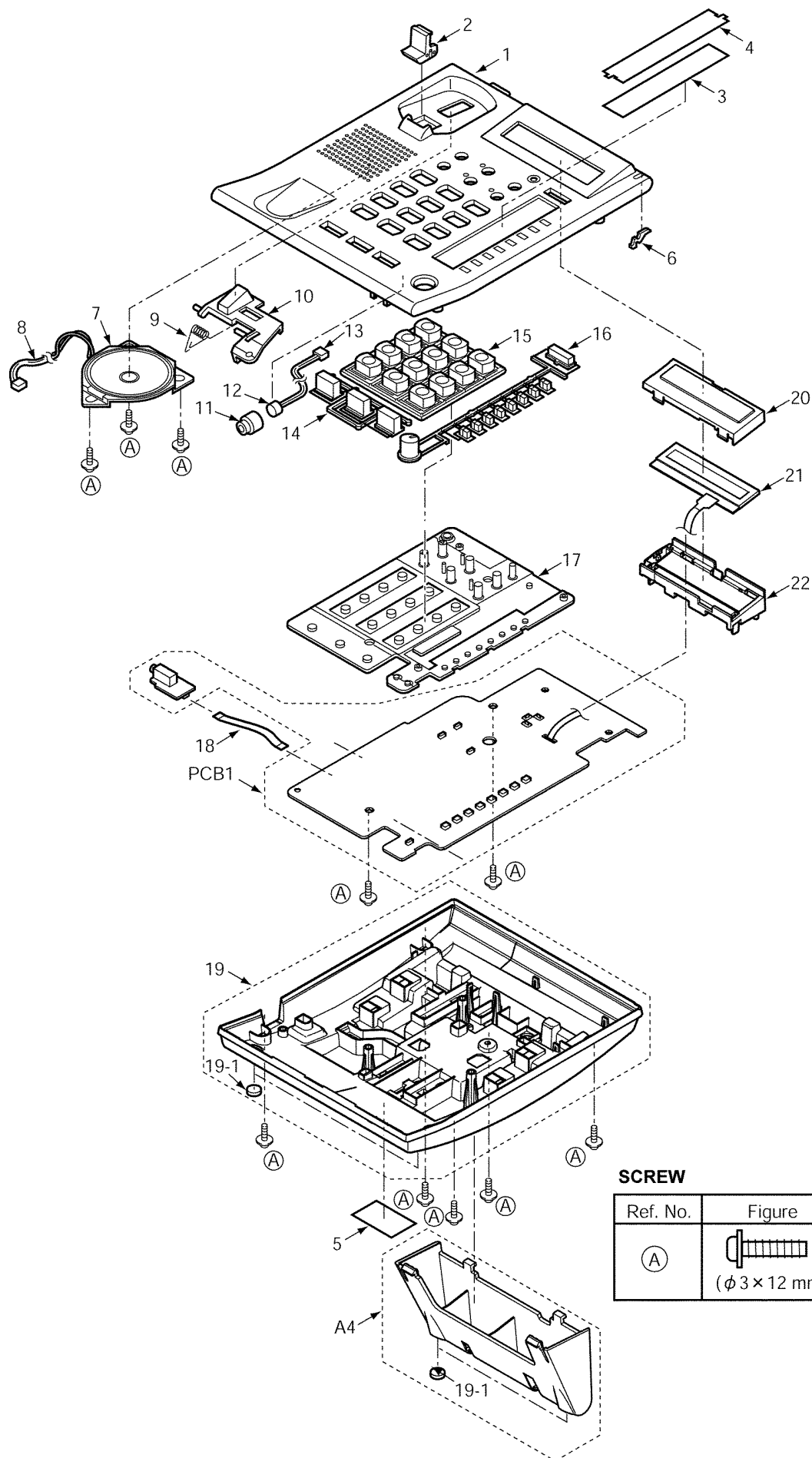


12.4. REMOVING SOLDER FROM BETWEEN PINS

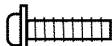
1. Add a small amount of solder to the bridged pins.
2. With a hot iron, use a sweeping motion along the flat part of the pin to draw the solder from between the adjacent pads.



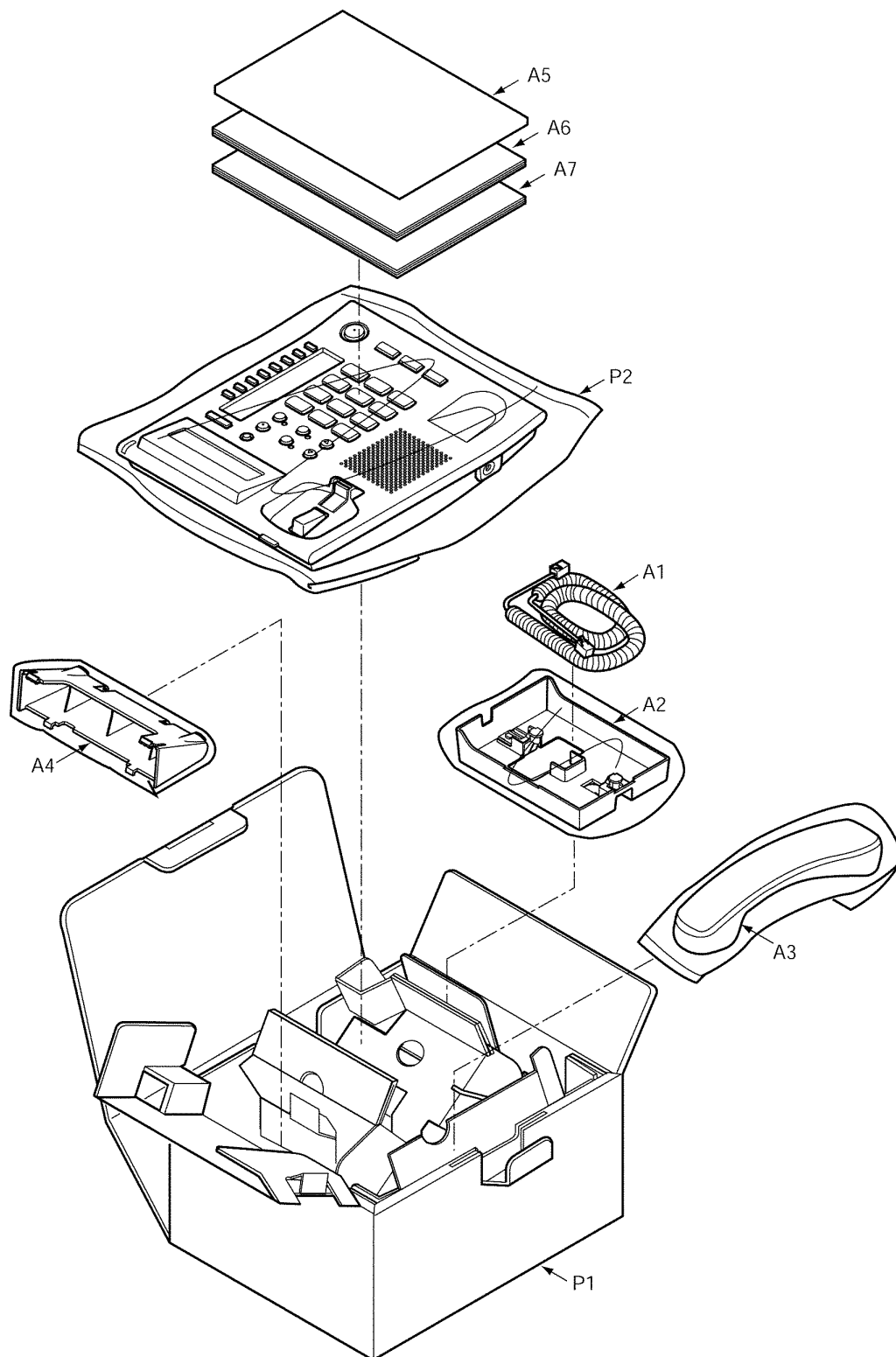
13 CABINET AND ELECTRICAL PARTS LOCATION



SCREW

Ref. No.	Figure	Part No.
(A)	 ($\phi 3 \times 12$ mm)	XTW3+12PFJ7

14 ACCESSORIES AND PACKING MATERIALS



15 REPLACEMENT PARTS LIST

1. RTL (Retention Time Limited)

Note:

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.

2. Important safety notice

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

3. The S mark means the part is one of some identical parts. For that reason, it may be different from the installed part.

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

5. RESISTORS & CAPACITORS

Unless otherwise specified;

All resistors are in ohms (Ω) K=1000 Ω , M=1000k Ω

All capacitors are in MICRO FARADS (μ F) P= μ F

*Type & Wattage of Resistor

Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W
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*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCB: Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyester
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others		
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V	
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V	
2E:250V	2:200V	1V:35V	1C :16V	1J :63V	
2H:500V		0J:6.3V	1E,25:25V	2A :100V	

15.1. CABINET AND ELECTRICAL PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	PSKM1141X1	CABINET BODY (for KX-NT265X)	ABS-HB
1	PSKM1141X2	CABINET BODY (for KX-NT265X-B)	ABS-HB
2	PQKE10070Z3	HANGER (for KX-NT265X)	S, ABS-HB
2	PQKE10070Z1	HANGER (for KX-NT265X-B)	S, ABS-HB
3	PSGD1073Z	CARD	
4	PSHR1305Z	TRANSPARENT PLATE	PC-HB
5	PSYENT265X	NAME PLATE (for KX-NT265X)	

Ref. No.	Part No.	Part Name & Description	Remarks
5	PSYENT265XM	NAME PLATE (for KX-NT265X, Made in Malaysia)	
5	PSYENT265XB	NAME PLATE (for KX-NT265X-B)	
5	PSYENT265XBM	NAME PLATE (for KX-NT265X-B, Made in Malaysia)	
6	PSGP1088Z	OPTIC CONDUCTIVE PARTS, LED LENS	ABS-HB
7	PQAS57P03Z	SPEAKER	
8	PSJS02P15Z	CONNECTOR, 2 PIN	
9	PSUS1026Z	TORSION SPRING	
10	PSBH1010Z1	PUSH BUTTON, HOOK (for KX-NT265X)	PC+ABS-HB
10	PSBH1010Z3	PUSH BUTTON, HOOK (for KX-NT265E-B)	PC+ABS-HB
11	PSHG1271Z	RUBBER PARTS, MIC COVER	
12	L0CBAB000099	BUILT-IN-MICROPHONE	
13	PSJS02Q35Y	CONNECTOR, 2 PIN	
14	PSBX1116Z1	PUSH BUTTON, FUNCTION (for KX-NT265X)	S, ABS-HB
14	PSBX1116Z2	PUSH BUTTON, FUNCTION (for KX-NT265X-B)	S, ABS-HB
15	PSBX1089Z1	PUSH BUTTON, 12 KEY	S, ABS-HB
16	PSBX1117Z1	PUSH BUTTON, CO LINE (for KX-NT265X)	S, ABS-HB
16	PSBX1117Z2	PUSH BUTTON, CO LINE (for KX-NT265X-B)	S, ABS-HB
17	PSSX1030X1	KEYBOARD SWITCH (for KX-NT265X)	
17	PSSX1030X2	KEYBOARD SWITCH (for KX-NT265X-B)	
18	PSJE1030Y	LEAD WIRE, FFC	
19	PSYF1063X1	CABINET COVER ASS'Y (for KX-NT265X)	PS-V0
19	PSYF1063X2	CABINET COVER ASS'Y (for KX-NT265X-B)	PS-V0
19-1	PSHA1002Z	RUBBER PARTS, FOOT	
20	PSGP1119Y	PANEL, LCD	PC-HB
21	L5DBBY00001	LIQUID CRYSTAL DISPLAY	
22	PSYR1001Z	LCD HOLDER ASSY	

15.2. ACCESSORIES AND PACKING MATERIALS

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PSJA1084Z	CORD, HANDSET (for KX-NT265X)	
A1	PSJA1084X	CORD, HANDSET (for KX-NT265X-B)	
A2	PSKL1032Y4	STAND, WALL MOUNTING (for KX-NT265X)	ABS-HB
A2	PSKL1032Y1	STAND, WALL MOUNTING (for KX-NT265X-B)	ABS-HB
A3	PQJXF0202Z	HANDSET, (for KX-NT265X)	ABS-HB
A3	PQJXF0222Z	HANDSET, (for KX-NT265X-B)	ABS-HB
A4	PSYL1006Z1	STAND ASS'Y (for KX-NT265X)	PS-V0
A4	PSYL1006Z2	STAND ASS'Y (for KX-NT265X-B)	PS-V0
A5	PSQW2455Z	LEAFLET	
A6	PSQX4010Z	INSTRUCTION BOOK, QUICK REFERENCE GUIDE (ENGLISH)	
A7	PSQX4011Z	INSTRUCTION BOOK, QUICK REFERENCE GUIDE (SPANISH)	
P1	PSZKNT265X	GIFT BOX ASS'Y (for KX-NT265X)	
P1	PSZKNT265XM	GIFT BOX ASS'Y (for KX-NT265X, Made in Malaysia)	
P1	PSZKNT265XB	GIFT BOX ASS'Y (for KX-NT265X-B)	
P1	PSZKNT265XBM	GIFT BOX ASS'Y (for KX-NT265X-B, Made in Malaysia)	
P2	PQPP170Z	PROTECTION COVER	

15.3. MAIN BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	PSWPNT265X	MAIN P.C.BOARD ASS'Y (RTL) When replacing the PCB1, remove the former MAC address label and affix the included label which indicates the new MAC address.	
		(ICs)	
IC1	C2ZBZ0000378	IC	
IC2	C1CB00002227	IC	
IC3		It is impossible to replace IC3 by itself. To replace IC3, replace the PCB1 assembly. (When replacing the PCB1, remove the former MAC address label and affix the included label which indicates the new MAC address.)	
IC4	C3ABPJ000068	IC	
IC5	C0DBAYY00047	IC	
IC6	C1CB00001844	IC	
IC7	C0EBF0000123	IC	
IC8	C0EBJ0000074	IC	
IC9	C0DBGYY00050	IC	
IC10	C0CBCBG00007	IC	
IC11	C0ABGA000023	IC	
IC12	C0JBAA000014	IC	
IC13	C0GBA0000002	IC	
IC14	C0ABBA000093	IC	
IC15	C0ABBA000093	IC	
IC16	C0JBAR000423	IC	S
IC17	C0ABBA000093	IC	
IC18	C0ABBA000093	IC	
IC19	C0ABHA000058	IC	
		(TRANSISTORS)	
Q2	PSVTUMG2NTR	TRANSISTOR(SI)	S
Q3	PSVTUMG2NTR	TRANSISTOR(SI)	S
Q4	PSVTUMG2NTR	TRANSISTOR(SI)	S
Q5	PSVTUMG2NTR	TRANSISTOR(SI)	S
Q6	PSVTUMG2NTR	TRANSISTOR(SI)	S
Q7	UN5213	TRANSISTOR(SI)	S
Q8	B1ABGB000020	TRANSISTOR(SI)	
		(DIODES)	
D1	B0BC4R600016	DIODE(SI)	
D2	B0ECKM000019	DIODE(SI)	
D4	B0ECKM000019	DIODE(SI)	
D5	B0JCPL000008	DIODE(SI)	
D6	PQVDEC15	DIODE(SI)	
D7	PQVDEC15	DIODE(SI)	
D8	B0JCPL000008	DIODE(SI)	
D11	B0EDER000009	DIODE(SI)	
D13	B0EDER000009	DIODE(SI)	
LED1	PSVD1VGCT	LED	S
LED2	PSVD1SRCT	LED	S
LED3	PSVD1SRCT	LED	S
LED4	B3AAB0000111	LED	
LED5	PSVD1SRCT	LED	S
LED6	PQVDBRPY1204	LED	S
LED7	PQVDBRPY1204	LED	S
LED8	PQVDBRPY1204	LED	S
LED9	PQVDBRPY1204	LED	S
LED10	PQVDBRPY1204	LED	S
LED11	PQVDBRPY1204	LED	S
LED12	PQVDBRPY1204	LED	S
LED13	PQVDBRPY1204	LED	S
		(CAPACITORS)	
C1	ECUV1E104ZFV	0.1	S
C2	ECUV1E104ZFV	0.1	S
C4	F1G1C104A083	0.1	
C5	ECUV1E104ZFV	0.1	S
C6	F1G1C104A083	0.1	
C7	ECUV1E104ZFV	0.1	S
C8	F1G1C104A083	0.1	

Ref. No.	Part No.	Part Name & Description	Remarks
C9	F1G1C104A083	0.1	
C10	ECJ1VC1H180J	18P	
C11	ECJ1VC1H180J	18P	
C12	ECUV1A105ZFV	1	S
C13	F1G1H101A566	100	
C14	ECJ1VF1C224Z	0.22	
C15	F1G1C1030008	0.01	
C16	F1G1C1030008	0.01	
C17	F1G1C104A083	0.1	
C18	F1G1C104A083	0.1	
C19	F1G1C104A083	0.1	
C20	F1G1C104A083	0.1	
C21	F1G1C104A083	0.1	
C22	EEE0GA331WP	330	
C23	F1G1C104A083	0.1	
C24	F1G1C104A083	0.1	
C25	F1G1C104A083	0.1	
C26	F1G1C104A083	0.1	
C27	F1G1C104A083	0.1	
C28	F1G1C104A083	0.1	
C29	F1G1C104A083	0.1	
C30	F1G1C104A083	0.1	
C31	F1J0J1060006	10	
C32	F1G1H101A566	100	
C33	ECUV1A105ZFV	1	S
C34	ECJ1VF1C224Z	0.22	
C35	F1G1C104A083	0.1	
C36	F1G1C104A083	0.1	
C38	F1G1C104A083	0.1	
C39	F1G1C104A083	0.1	
C40	F1G1C104A083	0.1	
C41	F1G1C104A083	0.1	
C42	F1G1C104A083	0.1	
C43	F1G1C104A083	0.1	
C44	EEE0GA331WP	330	
C45	ECUV1H102KBV	0.001	S
C46	ECUV1H102KBV	0.001	S
C47	F1J0J1060006	10	
C48	F1J0J1060006	10	
C100	F1G1C1030008	0.01	
C101	F1G1C1030008	0.01	
C102	F1G1C104A083	0.1	
C103	F1G1C104A083	0.1	
C104	F1J0J1060006	10	
C105	F1J0J1060006	10	
C106	F1G1C104A083	0.1	
C108	F1G1C1030008	0.01	
C109	ECJ1VC1H270J	27P	
C110	ECJ1VC1H270J	27P	
C111	F1K1A226A005	22	
C112	F1G1C1030008	0.01	
C113	F1G1C104A083	0.1	
C115	F2G0J1010014	100	
C116	F1G1C104A083	0.1	
C118	ECJ1VB1C104K	0.1	
C119	ECJ1VB1C104K	0.1	
C120	ECUV1H223KBV	0.022	S
C121	F1G1C1030008	0.01	
C122	ECUV1H223KBV	0.022	S
C123	ECUV1E104ZFV	0.1	S
C128	F1K2E1040004	0.1	
C129	F1L2A225A018	2.2	S
C130	ECUV1E104ZFV	0.1	S
C131	F1G1C1030008	0.01	
C132	F1G1C1030008	0.01	
C133	ECUV1E104ZFV	0.1	S
C135	ECUV1E104ZFV	0.1	S
C136	F1K2E1040004	0.1	
C137	F1L3D1020008	1000P	
C138	F1K2E1040004	0.1	
C140	F1J2A473A024	0.047	
C141	F1K2E1040004	0.1	
C142	F1L3D1020008	1000P	

Ref. No.	Part No.	Part Name & Description	Remarks
C144	F1K2E1040004	0.1	
C145	F2GZZ1000006	10	
C146	EEEFK0J101P	100	S
C147	EEEFK0J101P	100	S
C148	F4D25704A002	0.4	
C149	F4D25704A002	0.7	
C150	F2G0J1010014	100	
C151	F1G1C104A083	0.1	
C152	F1G1C104A083	0.1	
C154	F1G1C1030008	0.01	
C200	F1G1C104A083	0.1	
C201	ECJ1VB1C104K	0.1	
C202	ECJ1VB1C104K	0.1	
C203	F1G1C1030008	0.01	
C204	ECUV1H222KBV	0.0022	S
C205	ECUV1H222KBV	0.0022	S
C206	ECUV1H102KBV	0.001	S
C207	ECUV1H102KBV	0.001	S
C208	F1G1C1030008	0.01	
C209	F1G1C1030008	0.01	
C211	ECUV1H222KBV	0.0022	S
C212	ECUV1H101JCV	100	
C213	ECUV1H102KBV	0.001	S
C214	F1J0J1060006	10	
C216	ECUV1C473KBV	0.047	S
C217	ECUV1H102KBV	0.001	S
C218	ECUV1C473KBV	0.047	S
C222	ECUV1H222KBV	0.0022	S
C223	F1G1C1030008	0.01	
C224	F1K1A226A005	22	
C225	ECUV1E104ZFB	0.1	S
C226	F1G1C1030008	0.01	
C227	ECUV1H102KBV	0.001	S
C228	ECUV1H222KBV	0.0022	S
C229	ECUV1H331JCV	330P	S
C230	F1G1C1030008	0.01	
C231	ECUV1H331JCV	330P	S
C232	F1G1C1030008	0.01	
C233	ECJ1VC1H471J	470P	
C234	ECJ1VC1H561J	560P	
C235	ECUV1C473KBV	0.047	S
C236	ECUV1H222KBV	0.022	S
C238	F1G1C104A083	0.1	
C239	ECUV1C473KBV	0.047	S
C240	ECJ1VB1C104K	0.1	
C241	ECUV1H222KBV	0.0022	S
C242	ECJ1VB1H472K	0.0047	
C243	F1J0J1060006	10	
C244	ECUV1C473KBV	0.047	S
C245	F1G1C1030008	0.01	
C246	F1J0J106A004	10	S
C247	ECUV1A105KBV	1	
C248	F1K1A226A005	22	
C249	F1K1A226A005	22	
C250	ECUV1H102KBV	0.001	S
C251	ECUV1H102KBV	0.001	S
C252	F1G1C1030008	0.01	
C253	F1G1C1030008	0.01	
C254	ECUV1H102KBV	0.001	S
C255	EEE0GA331WP	330	
C256	F2G0J1010014	100	
C257	ECUV1H330JCV	33P	S
C258	ECUV1H330JCV	33P	S
C259	ECUV1E104ZFB	0.1	S
C260	F1G1C1030008	0.01	
C261	ECUV1E104ZFB	0.1	S
C401	F1G1C104A083	0.1	
C402	F1G1C104A083	0.1	
C403	F1G1C104A083	0.1	
C405	F1G1C104A083	0.1	
C406	F1G1C104A083	0.1	
C407	F1G1C104A083	0.1	
C408	F1G1C104A083	0.1	

Ref. No.	Part No.	Part Name & Description	Remarks
C409	F1G1C104A083	0.1	
C410	F1G1C104A083	0.1	
C411	F1G1C104A083	0.1	
C412	F1G1C104A083	0.1	
C413	F1G1C104A083	0.1	
C414	F1G1C104A083	0.1	
C415	F1G1C104A083	0.1	
C416	F1G1C104A083	0.1	
C417	F1G1C104A083	0.1	
C418	F1G1C104A083	0.1	
C419	F1G1C104A083	0.1	
C420	F1G1C104A083	0.1	
C421	F1G1C104A083	0.1	
C422	F1G1C104A083	0.1	
C423	F1G1C104A083	0.1	
C424	F1G1C104A083	0.1	
C425	F1G1C104A083	0.1	
C426	F1G1C104A083	0.1	
C427	F1G1C104A083	0.1	
C428	F1G1C104A083	0.1	
C430	F1G1C104A083	0.1	
C431	F1G1C104A083	0.1	
C432	F1G1C104A083	0.1	
C433	F1G1C104A083	0.1	
C434	F1G1C104A083	0.1	
C435	F1G1C104A083	0.1	
C436	F1G1C104A083	0.1	
C437	F1G1C104A083	0.1	
C438	F1G1C104A083	0.1	
C439	F1G1C104A083	0.1	
C440	F1G1C104A083	0.1	
C441	F1G1C104A083	0.1	
C442	F1G1C104A083	0.1	
C443	ECUV1E104ZFB	0.1	S
		(COILS)	
L2	PQLQR2KA20T	COIL	S
L103	G1C101M00020	COIL	S
L111	PQLQR2KA20T	COIL	S
L113	PQLQR2KA20T	COIL	S
L114	PQLQR2KA20T	COIL	S
L115	PQLQR2KA20T	COIL	S
L116	PQLQR2KA20T	COIL	S
L117	PQLQR2KA20T	COIL	S
L118	PQLQR2KA20T	COIL	S
L206	PQLQR2KA20T	COIL	S
L207	PQLQR2KA20T	COIL	S
L208	PQLQR2KA20T	COIL	S
L209	PQLQR2KA20T	COIL	S
		(COMPONENTS PARTS)	
RA1	D1H83304A024	RESISTOR ARRAY	
RA2	D1H83304A024	RESISTOR ARRAY	
RA3	D1H83304A024	RESISTOR ARRAY	
RA4	D1H83304A024	RESISTOR ARRAY	
RA5	D1H83304A024	RESISTOR ARRAY	
RA6	D1H81034A024	RESISTOR ARRAY	
RA7	D1H83304A024	RESISTOR ARRAY	
RA8	D1H83304A024	RESISTOR ARRAY	
RA9	D1H83304A024	RESISTOR ARRAY	
RA10	D1H83904A024	RESISTOR ARRAY	
RA12	D1H82204A024	RESISTOR ARRAY	
RA13	D1H82204A024	RESISTOR ARRAY	
RA14	D1H83304A024	RESISTOR ARRAY	
RA15	D1H82204A024	RESISTOR ARRAY	
RA16	D1H82204A024	RESISTOR ARRAY	
RA17	D1H82204A024	RESISTOR ARRAY	
RA18	D1H82204A024	RESISTOR ARRAY	
RA19	D1H82204A024	RESISTOR ARRAY	
RA20	D1H81034A024	RESISTOR ARRAY	
RA21	D1H81034A024	RESISTOR ARRAY	
RA22	D1H81034A024	RESISTOR ARRAY	
RA24	D1H81034A024	RESISTOR ARRAY	

Ref. No.	Part No.	Part Name & Description	Remarks
RA26	D1H81034A024	RESISTOR ARRAY	
RA27	D1H81024A024	RESISTOR ARRAY	
RA100	D1H83904A024	RESISTOR ARRAY	
RA200	D1H88214A024	RESISTOR ARRAY	
RA201	D1H88214A024	RESISTOR ARRAY	
RA202	D1H81014A024	RESISTOR ARRAY	
		(CONNECTORS)	
CN3	K1KA02B00247	CONNECTOR, 2PIN	
CN4	K1KA02B00247	CONNECTOR, 2PIN	
CN5	K1MY06AA0010	CONNECTOR, 6PIN	
CN6	K1MY04BA0008	CONNECTOR, 4PIN	
CN7	K1MY04BA0008	CONNECTOR, 4PIN	
		(CRYSTAL OSCILLATORS)	
X1	H0J819400004	CRYSTAL OSCILLATOR	
X2	H0J250500028	CRYSTAL OSCILLATOR	S
		(FILTERS)	
L105	J0JHC0000045	IC FILTER	
L108	J0JBC0000040	IC FILTER	
L110	J0JBC0000040	IC FILTER	
L204	J0JBC0000010	IC FILTER	
L205	J0JBC0000010	IC FILTER	
L211	J0JBC0000010	IC FILTER	
L212	J0JBC0000010	IC FILTER	
L213	J0JBC0000010	IC FILTER	
		(FUSE)	
IP1	K5H251Z00003	FUSE	
		(JACKS)	
JK1	K2LC108D0001	JACK	
JK2	PQJ1C002Z	JACK	
JK3	K2LB104D0004	JACK	
JK4	K2EZYA000001	JACK	
		(TRANSFORMERS)	
T1	G5BYC0000017	TRANSFORMER	
		(VARISTORS)	
R140	D4ZZ00000024	VARISTOR	
R141	D4ZZ00000024	VARISTOR	
R142	D4ZZ00000024	VARISTOR	
R143	D4ZZ00000024	VARISTOR	
R254	D4ZZ00000024	VARISTOR	
R255	D4ZZ00000024	VARISTOR	
		(RESISTORS)	
L1	ERJ3GEY0R00	0	
L3	ERJ3GEY0R00	0	
L100	ERJ3GEY0R00	0	
L101	ERJ3GEY0R00	0	
L102	ERJ3GEY0R00	0	
L106	ERJ3GEY0R00	0	
L200	PQ4R10XJ3R3	3.3	S
L201	ERJ3GEY0R00	0	
L202	ERJ3GEY0R00	0	
L203	ERJ3GEYJ3R3	3.3	
R1	ERJ3GEYJ103	10K	
R2	ERJ3GEYJ103	10K	
R3	ERJ3GEYJ103	10K	
R4	ERJ3GEYJ103	10K	
R5	ERJ3GEYJ103	10K	
R6	ERJ3GEYJ103	10K	
R7	ERJ3GEYJ103	10K	
R8	ERJ3GEYJ103	10K	
R9	ERJ3GEYJ103	10K	
R10	ERJ3GEY0R00	0	
R11	ERJ3GEYJ472	4.7K	
R12	ERJ3GEYJ151	150	
R13	ERJ3GEYJ105	1M	
R14	ERJ3GEY0R00	0	

Ref. No.	Part No.	Part Name & Description	Remarks
R15	ERJ3GEYJ330	33	
R16	ERJ3GEYJ103	10K	
R17	ERJ3GEYJ103	10K	
R18	ERJ3GEYJ330	33	
R19	ERJ3GEYJ103	10K	
R21	ERJ3GEYJ330	33	
R23	ERJ3GEYJ330	33	
R24	ERJ3GEYJ330	33	
R25	ERJ3GEYJ103	10K	
R27	ERJ3GEYJ103	10K	
R28	ERJ3GEYJ103	10K	
R34	ERJ3GEYJ103	10K	
R35	ERJ3GEY0R00	0	
R36	ERJ3GEYJ151	150	
R40	ERJ3GEYJ103	10K	
R41	ERJ3GEYJ331	330	
R42	D0GB272JA057	2.7K	
R43	ERJ3GEYJ183	18K	
R44	ERJ3GEYJ222	2.2K	
R100	ERJ3GEYJ102	1K	
R101	ERJ3GEYJ390	39	
R102	ERJ3GEYJ103	10K	
R103	ERJ3GEYJ103	10K	
R105	ERJ3GEYJ330	33	
R106	PQ4R10XJ101	100	S
R107	ERJ3GEYJ330	33	
R108	ERJ3EKF6491V	6.49K	
R109	ERJ3GEYJ1R0	1	
R110	ERJ6ENF49R9V	49.9	
R111	ERJ6ENF49R9V	49.9	
R112	ERJ6ENF49R9V	49.9	
R113	ERJ6ENF49R9V	49.9	
R115	ERJ3GEYJ103	10K	
R116	ERJ3GEYJ103	10K	
R117	D0GB104JA057	100K	
R118	PQ4R10XJ104	100K	S
R119	PQ4R10XJ000	0	S
R120	PQ4R10XJ000	0	S
R122	ERJ3EKF68R1	68.1	
R126	ERJ3GEYJ750	75	
R127	ERJ3GEYJ750	75	
R130	ERJ3GEYJ750	75	
R131	ERJ3GEYJ750	75	
R133	PQ4R10XJ000	0	S
R134	PQ4R10XJ000	0	S
R135	ERJ3GEYJ390	39	
R136	ERJ3GEYJ330	33	
R137	ERJ3GEYJ330	33	
R138	ERJ3GEYJ105	1M	
R139	ERJ3GEYJ121	120	
R200	ERJ3GEYJ103	10K	
R201	ERJ3GEYJ103	10K	
R202	ERJ3GEYJ181	180	
R203	ERJ3GEYJ181	180	
R204	ERJ3GEYJ122	1.2K	
R205	ERJ3GEYJ122	1.2K	
R206	ERJ3GEYJ102	1K	
R207	ERJ3GEYJ153	15K	
R208	ERJ3GEYJ153	15K	
R209	ERJ3GEYJ153	15K	
R210	ERJ3GEYJ153	15K	
R211	ERJ3GEYJ103	10K	
R212	ERJ3GEYJ103	10K	
R213	ERJ3GEYJ103	10K	
R214	ERJ3GEY0R00	0	
R215	ERJ3GEYJ334	330K	
R216	ERJ3GEYJ153	15K	
R217	ERJ3GEYJ123	12K	
R219	ERJ3GEYJ153	15K	
R220	ERJ3GEY0R00	0	
R221	ERJ3GEYJ153	15K	
R222	ERJ3GEY0R00	0	
R223	ERJ3GEYJ153	15K	

Ref. No.	Part No.	Part Name & Description	Remarks
R224	ERJ3GEYJ203	20K	
R225	ERJ3GEYJ103	10K	
R226	ERJ3GEYJ103	10K	
R227	ERJ3GEYJ102	1K	
R228	ERJ3GEYJ222	2.2K	
R229	ERJ3GEYJ683	68K	
R230	ERJ3GEYJ154	150K	
R231	ERJ3GEYJ184	180K	
R232	ERJ3GEYJ103	10K	
R233	ERJ3GEYJ103	10K	
R234	ERJ3GEYJ103	10K	
R235	ERJ3GEYJ103	10K	
R236	ERJ3GEYJ184	180K	
R237	ERJ3GEYJ203	20K	
R238	ERJ3GEYJ203	20K	
R239	ERJ3GEYJ103	10K	
R240	ERJ3GEYJ123	12K	
R241	ERJ3GEYJ103	10K	
R242	ERJ3GEYJ102	1K	
R243	ERJ3GEYJ102	1K	
R244	ERJ3GEYJ102	1K	
R245	ERJ3GEYJ182	1.8K	
R246	ERJ3GEYJ222	2.2K	
R247	ERJ3GEYJ561	560	

Ref. No.	Part No.	Part Name & Description	Remarks
R248	ERJ3GEYJ151	150	
R249	ERJ3GEYJ101	100	
R250	ERJ3GEYJ101	100	
R251	ERJ3GEYJ151	150	
R252	ERJ3GEYJ151	150	
R253	D0GB272JA057	2.7K	
R256	ERJ3GEY0R00	0	

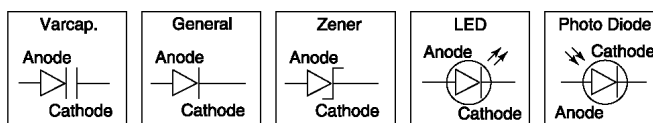
15.4. OPTION

Ref. No.	Part No.	Part Name & Description	Remarks
-	PQLV1	OPTIONAL AC ADAPTOR for Canada and other 100V areas	⚠
-	PQLV1CE	OPTIONAL AC ADAPTOR for Russia, Eastern Europe and other 200V areas	⚠
-	PQLV1E	OPTIONAL AC ADAPTOR for Hong Kong, Singapore and Malaysia	⚠
-	PQLV1AL	OPTIONAL AC ADAPTOR for Oceania	⚠
-	PQLV1AG	OPTIONAL AC ADAPTOR for Argentina	⚠
-	PQLV1BR	OPTIONAL AC ADAPTOR for Brazil	⚠

16 FOR THE SCHEMATIC DIAGRAM

Note:

- DC voltage measurements are taken with an oscilloscope or a tester with a ground.
- The schematic diagrams and circuit board may be modified at any time with the development of new technology.

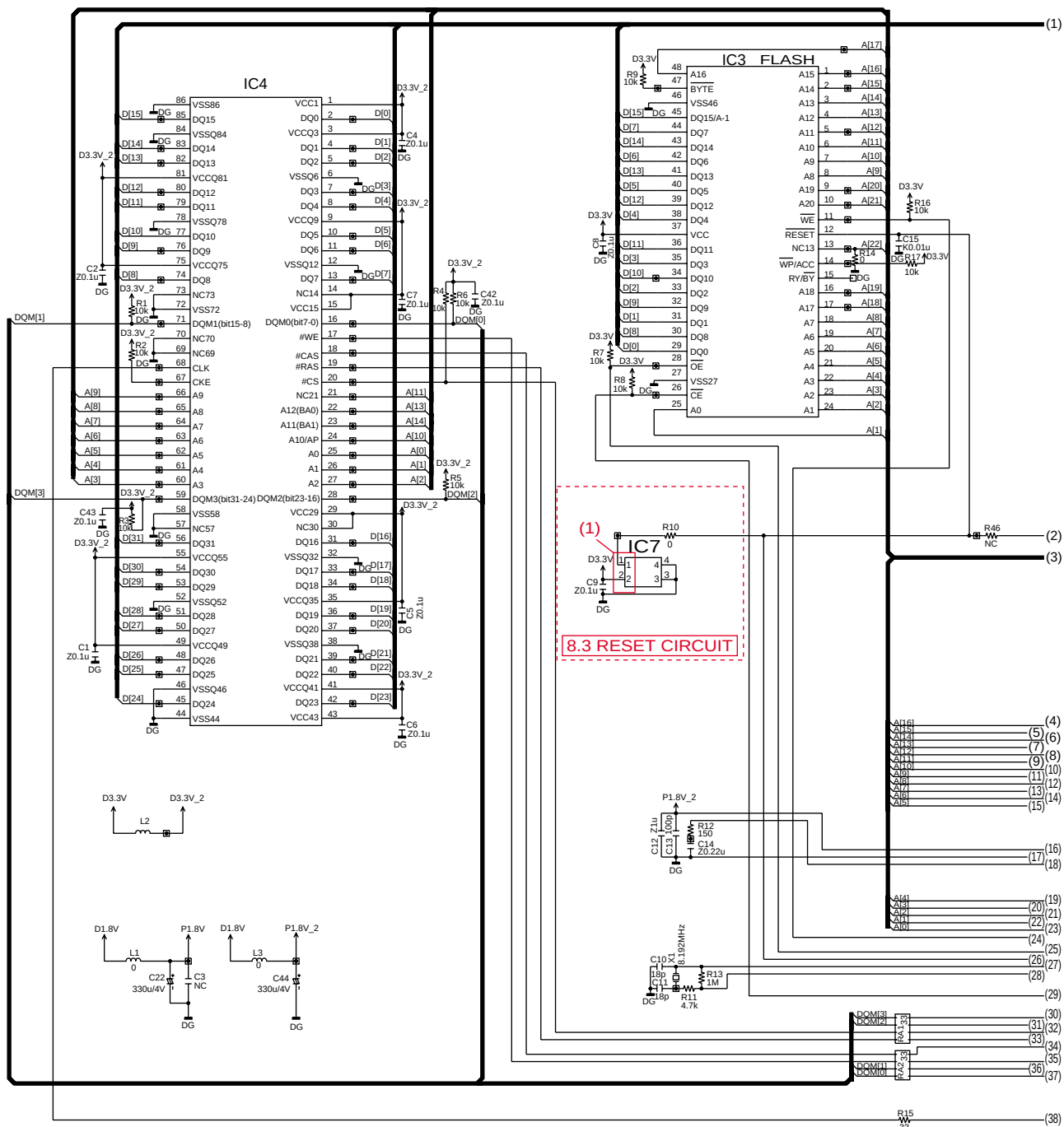


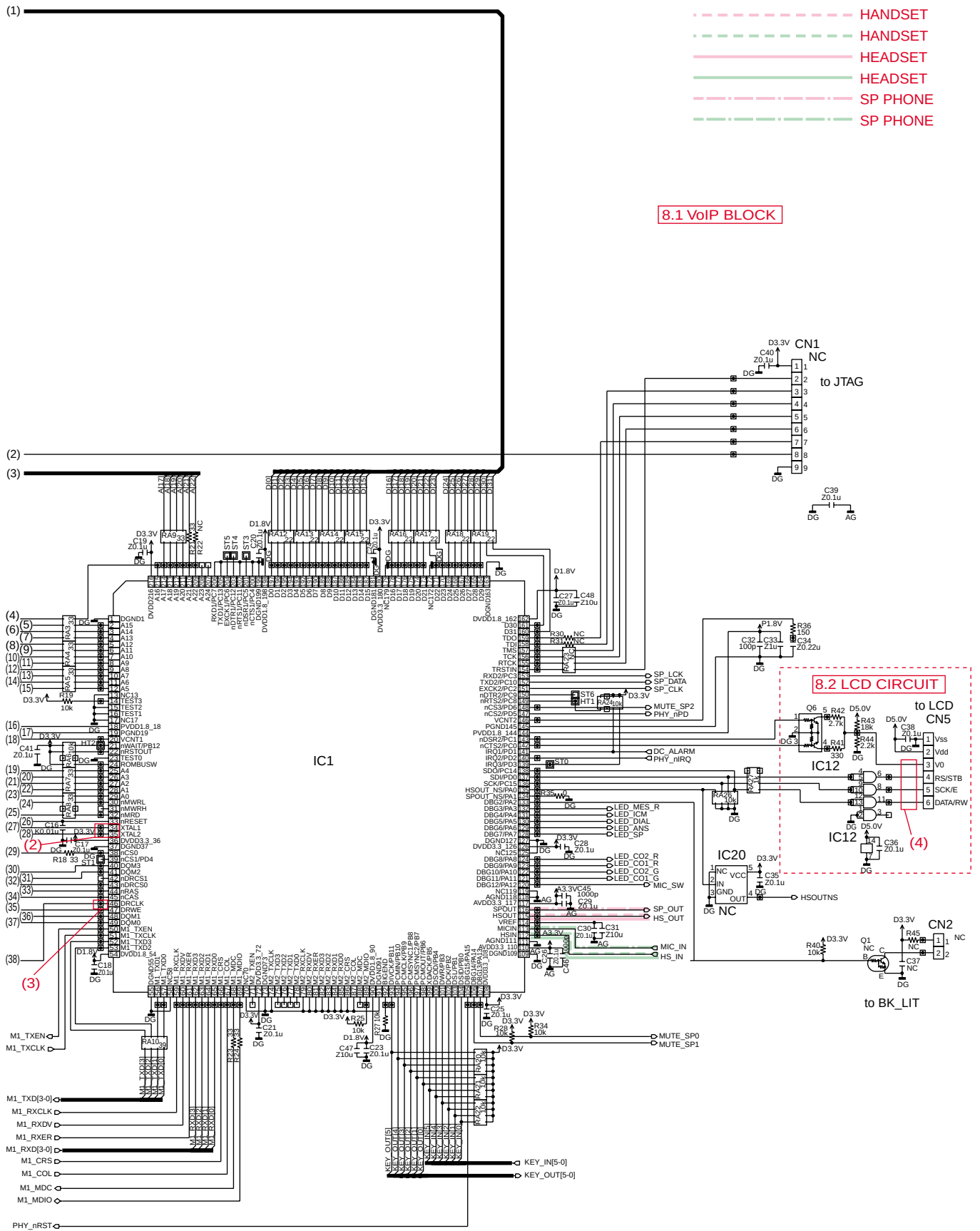
Important safety notice

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

17 SCHEMATIC DIAGRAM

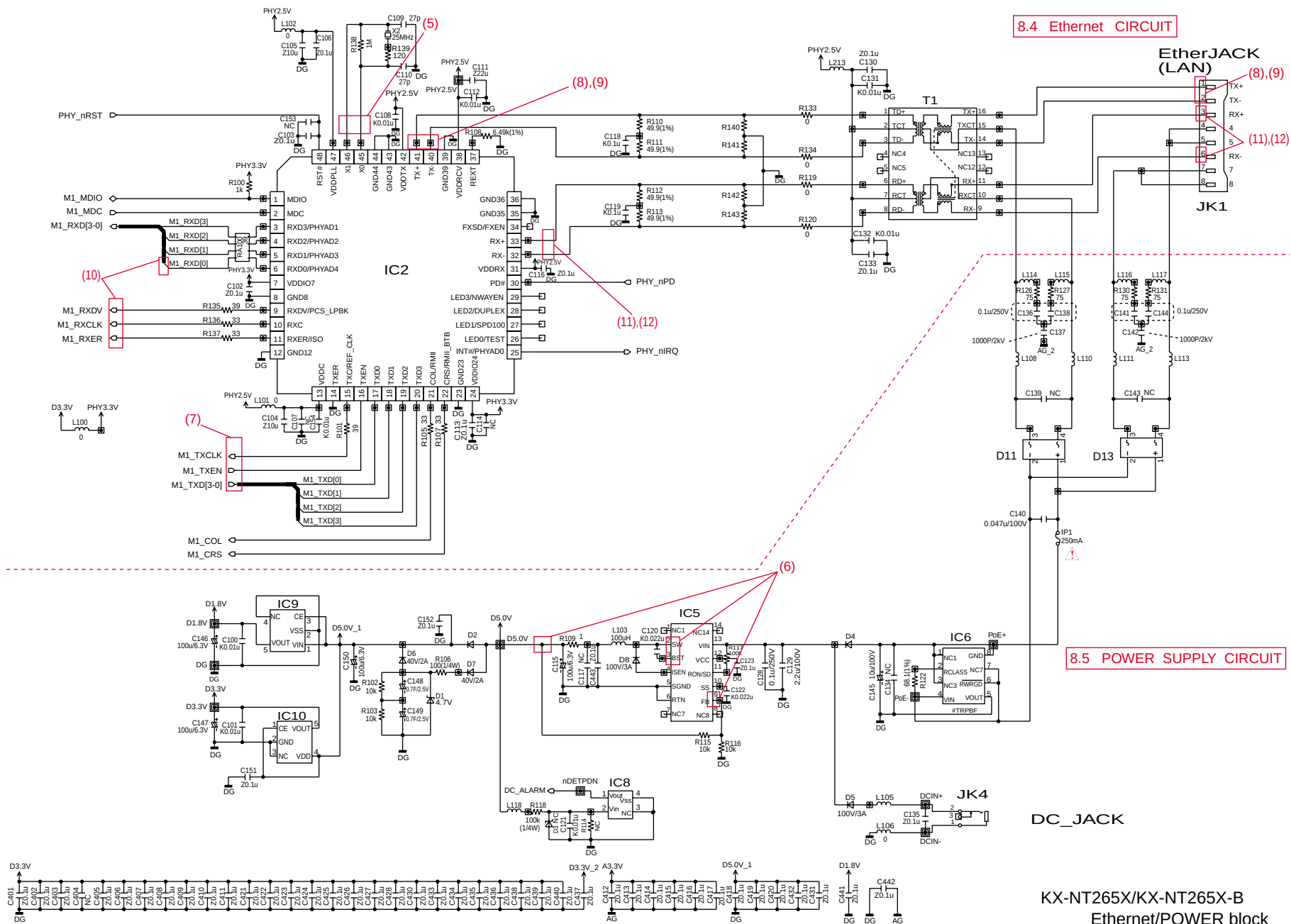
17.1. VoIP/LCD block



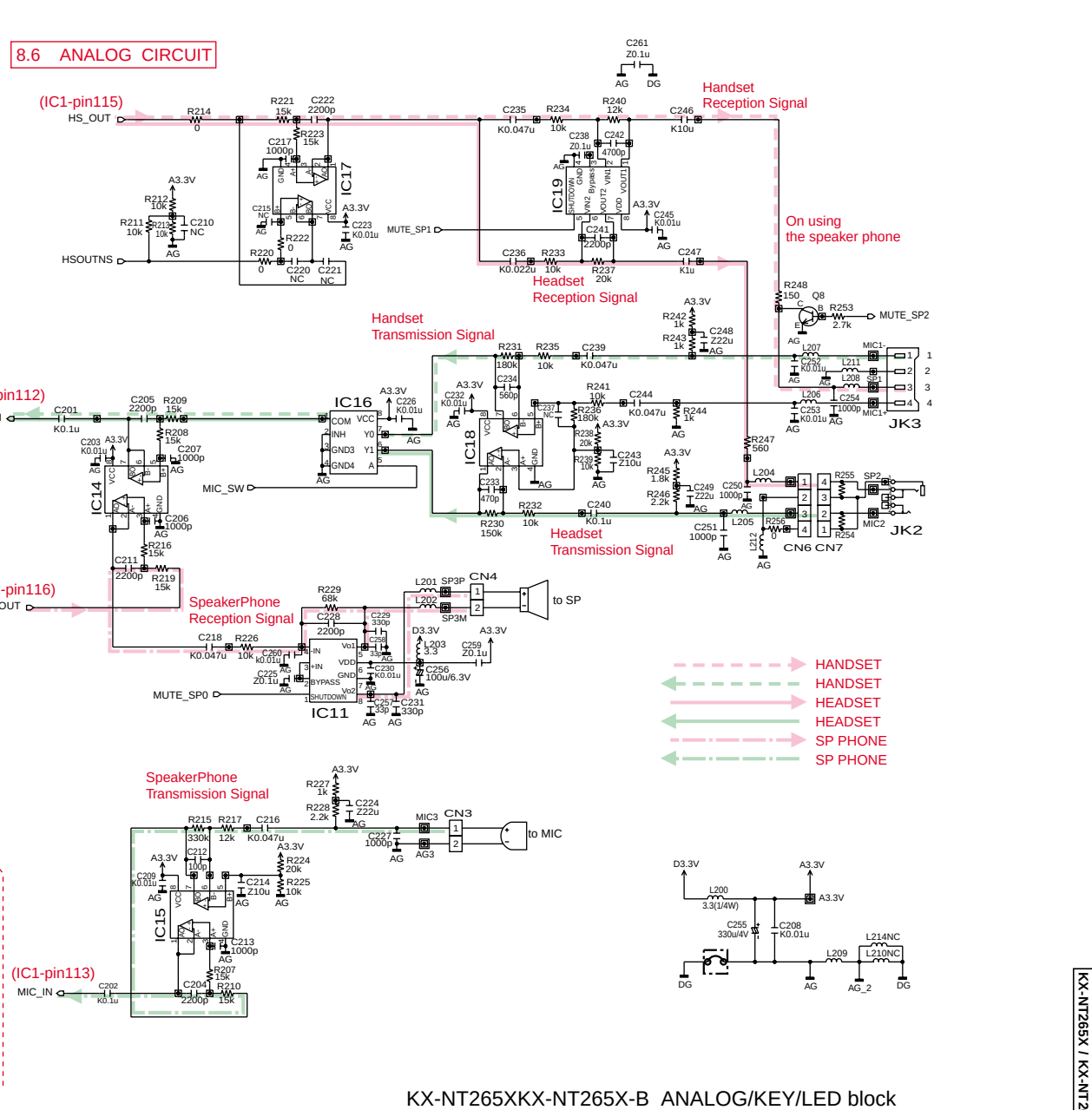
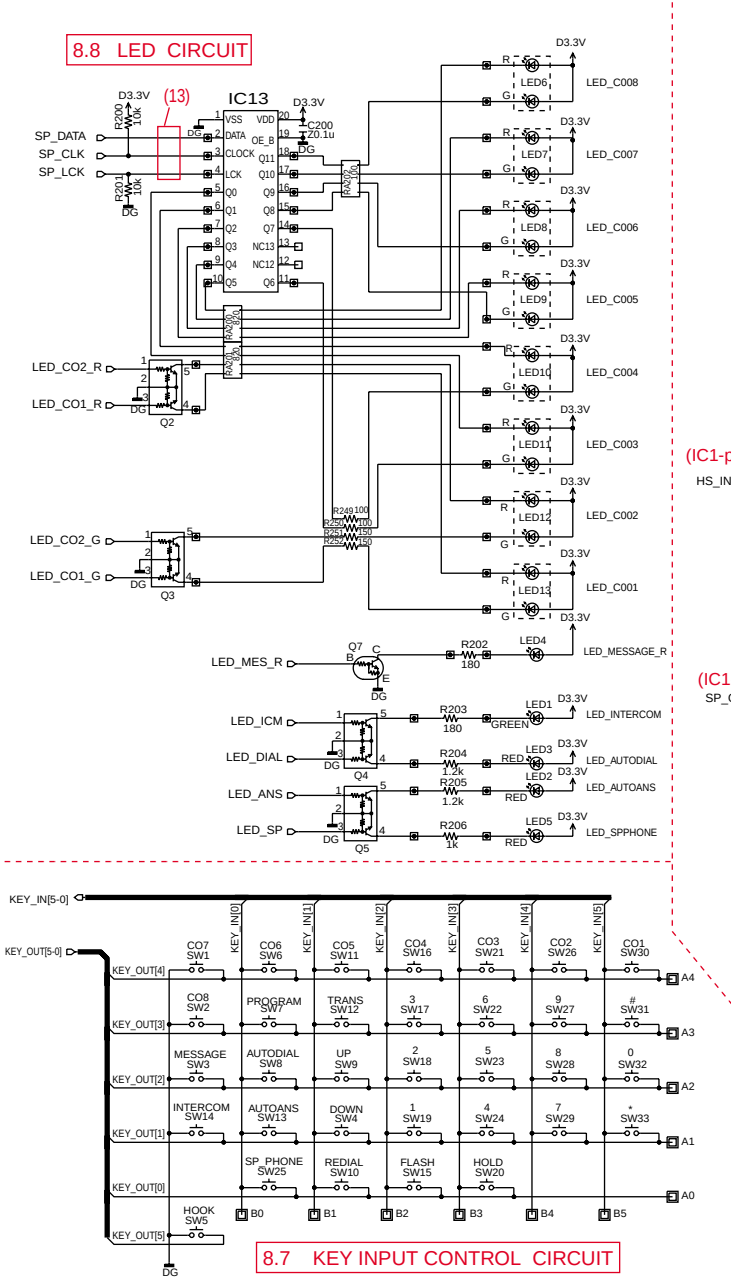


KX-NT265X/KX-NT265X-B VoIP/LCD block(2/2)

17.2. Ethernet/Power block

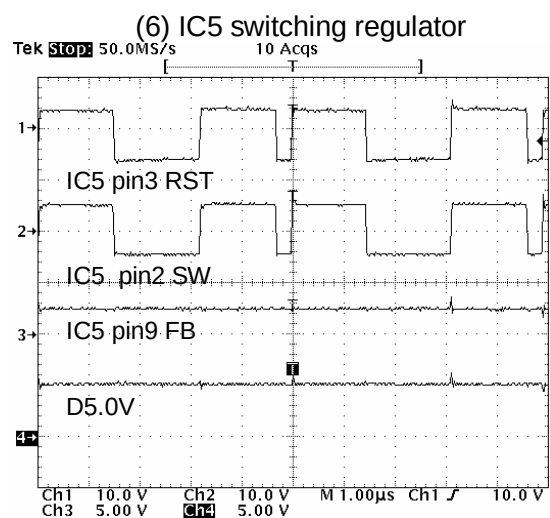
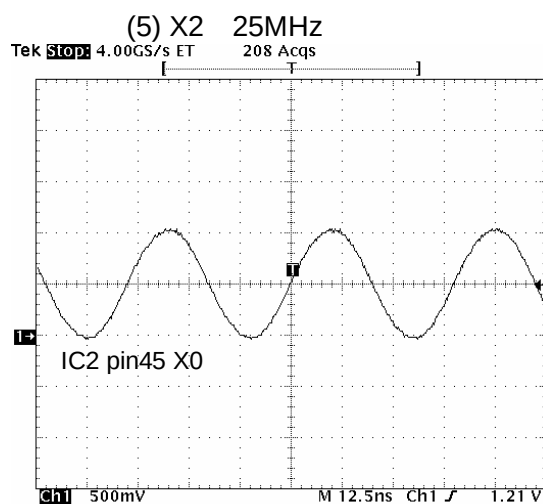
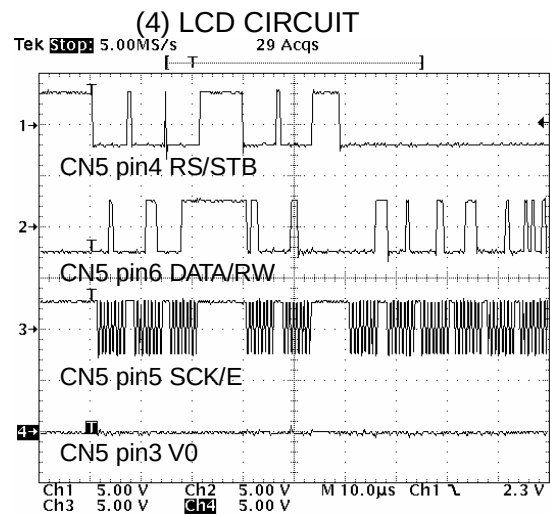
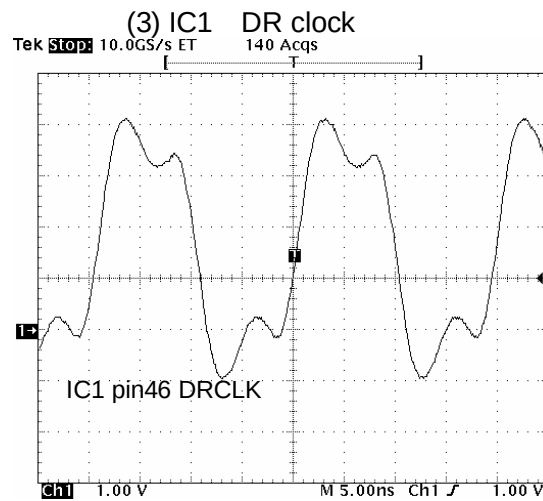
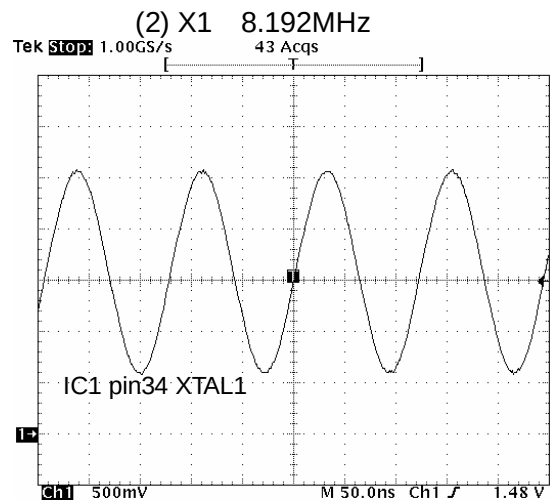
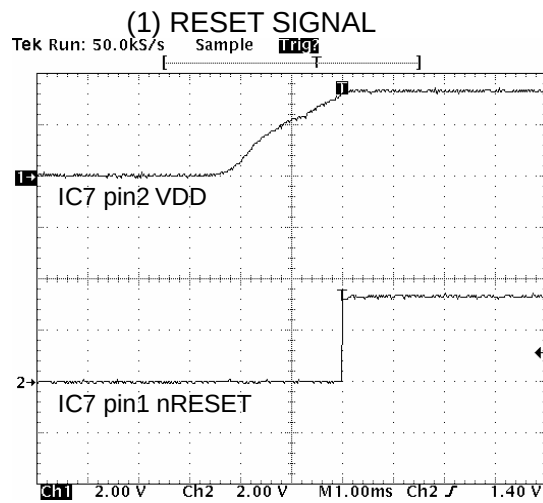


17.3. ANALOG/KEY/LED block

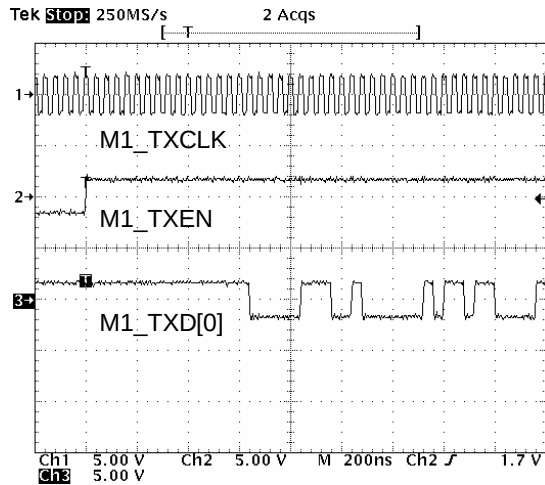


KX-NT265XKX-NT265X-B ANALOG/KEY/LED block

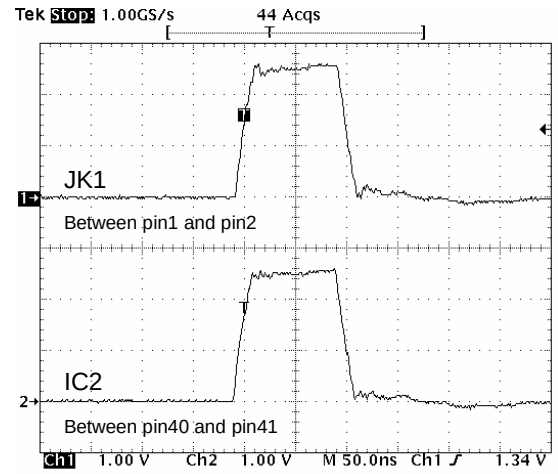
17.4. WAVEFORM



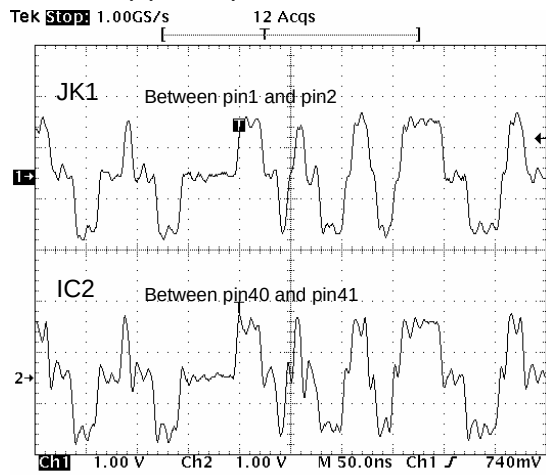
(7) IC2 M1 TX



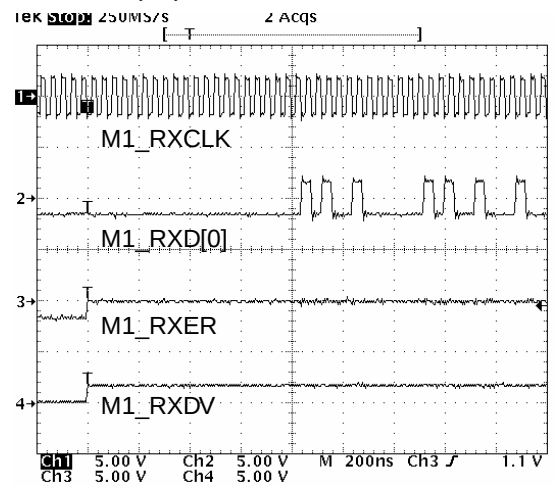
(8) LAN port TX 10MHz



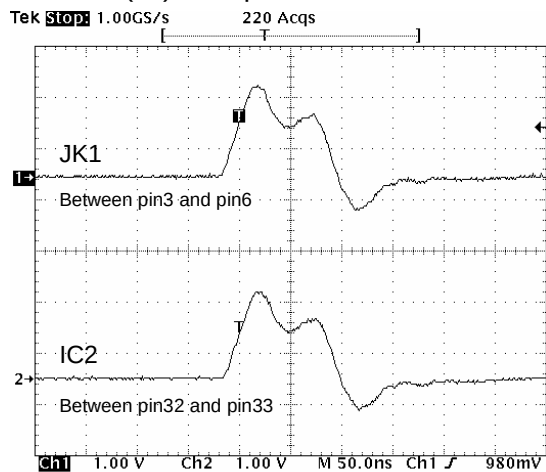
(9) LAN port TX 100MHz



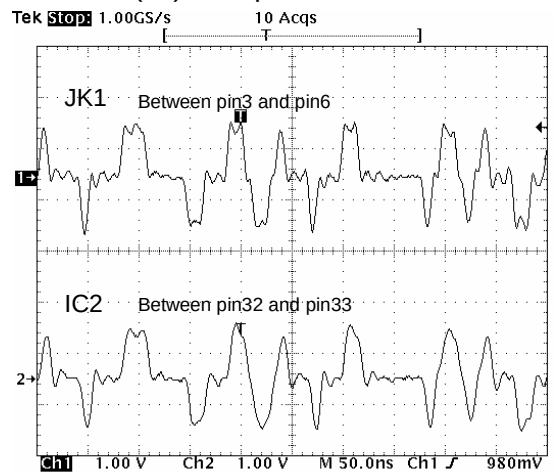
(10) IC2 M1 RX

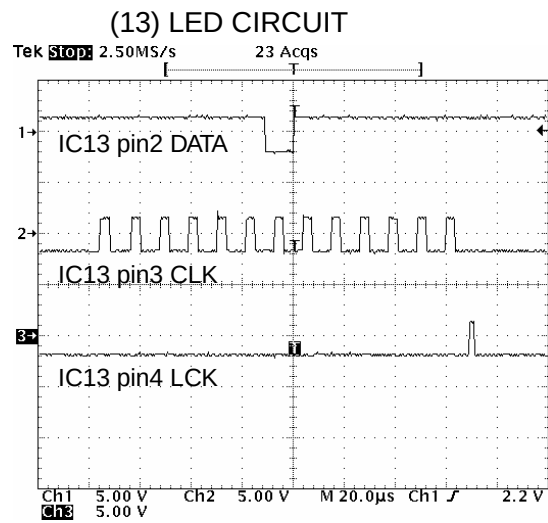


(11) LAN port RX 10MHz



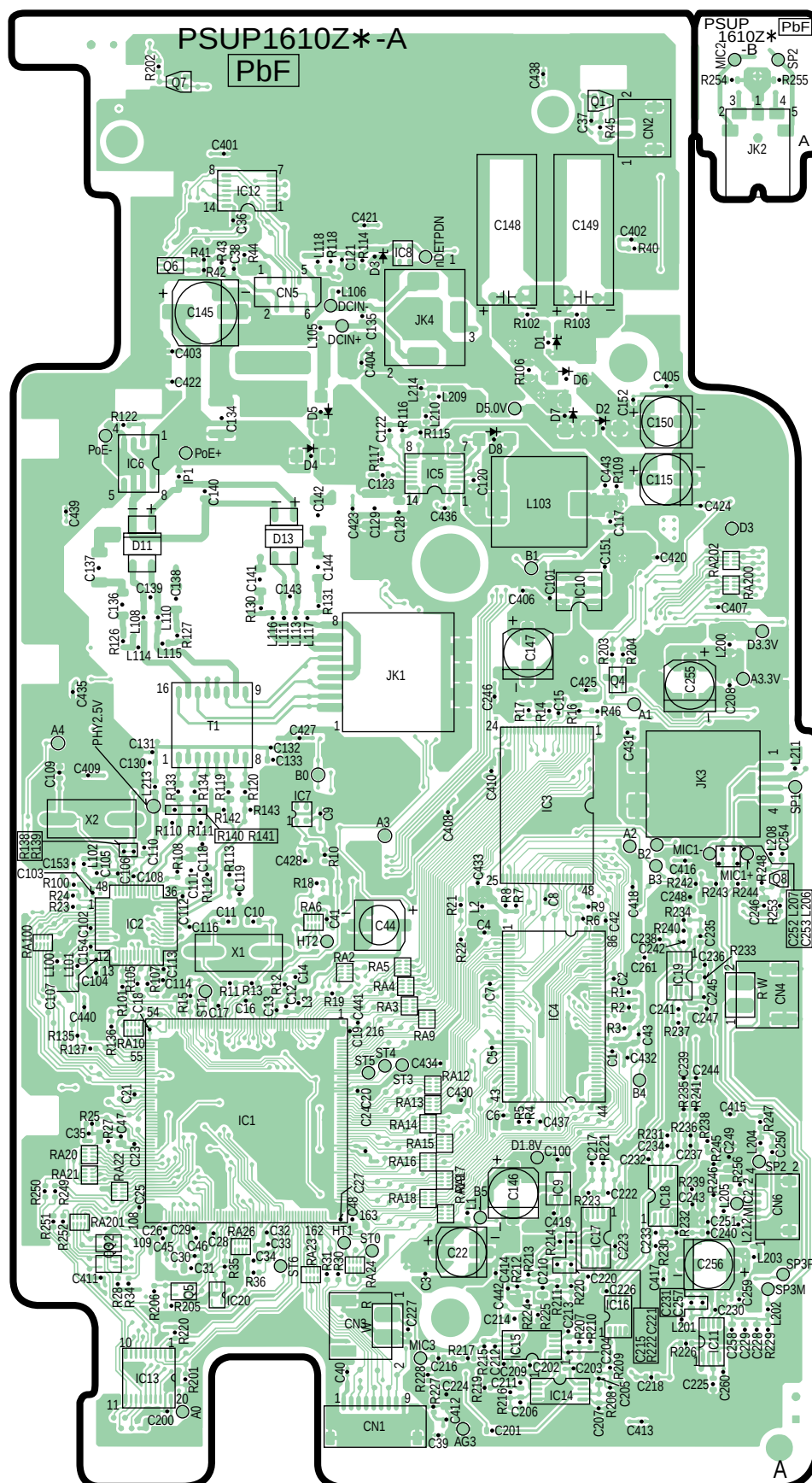
(12) LAN port RX 100MHz





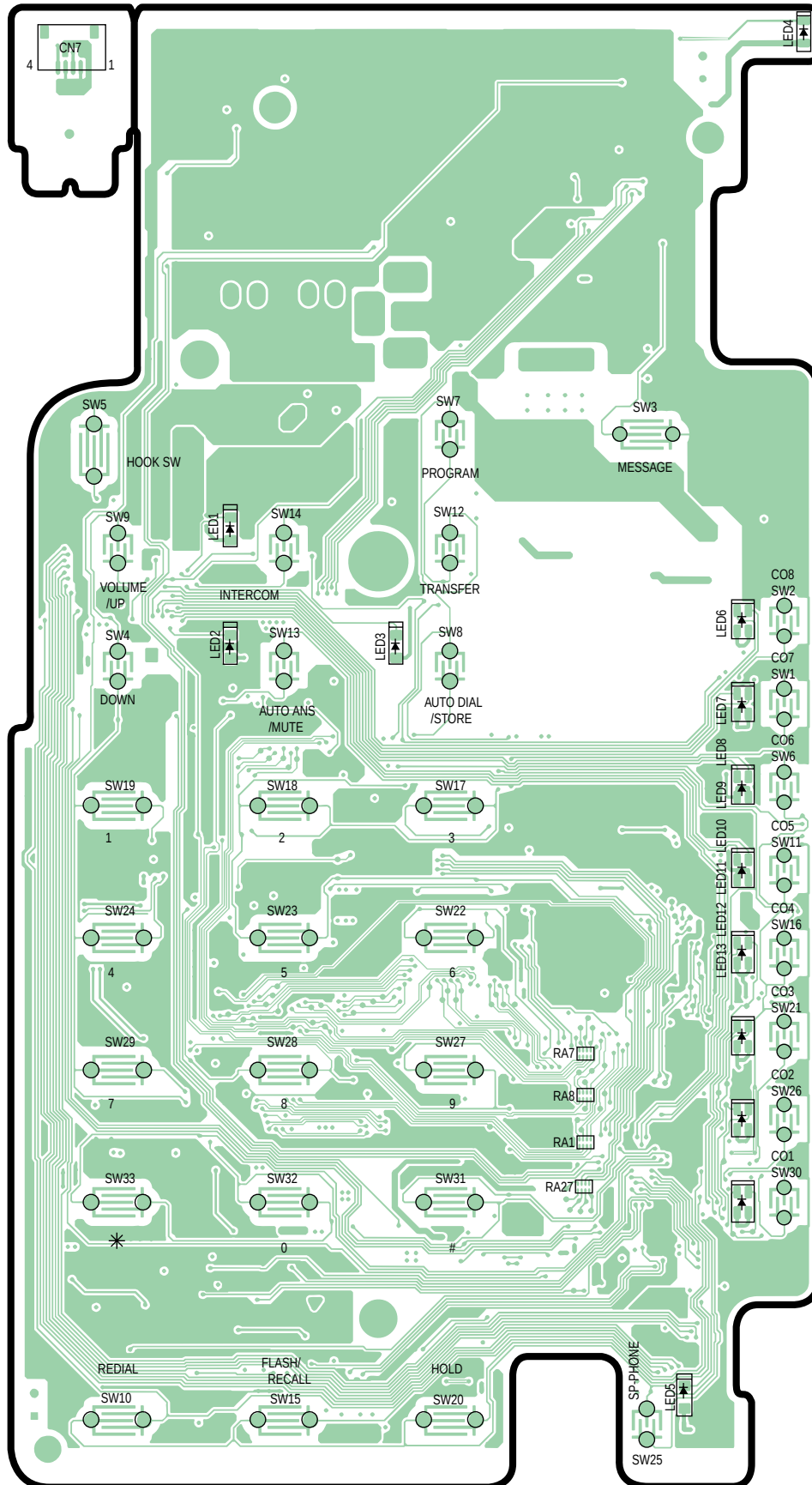
18 PRINTED CIRCUIT BOARD

18.1. MAIN BOARD : COMPONENT VIEW



KX-NT265X/KX-NT265X-B MAIN BOARD COMPONENT VIEW

18.2. MAIN BOARD : BOTTOM VIEW



KX-NT265X/KX-NT265X-B MAIN BOARD BOTTOM VIEW