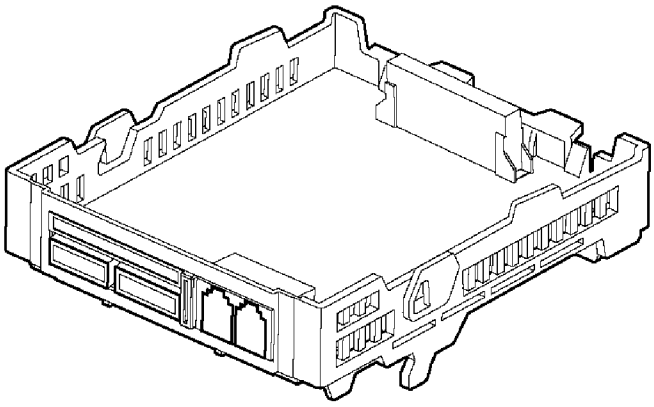
ORDER NO. KMS0401906C0
F5

Service Manual

4-Port Doorphone Card

KX-TDA3161XJ

(for Canada, Asia, Oceania, Middle Near East, Europe, Russia, 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

CONTENTS

1 ABOUT LEAD FREE SOLDER (PbF: Pb free)

Note:

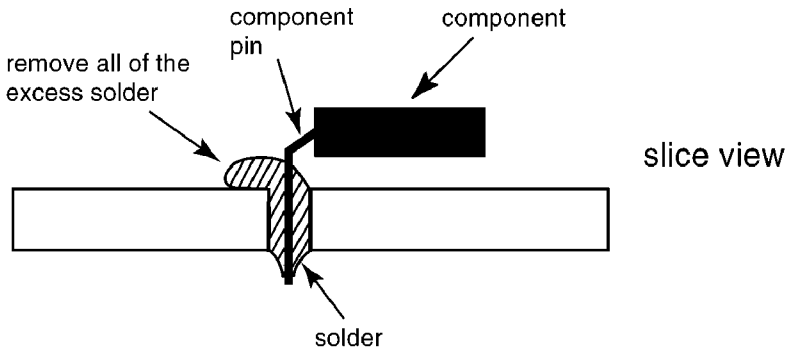
In the information below, Pb, the symbol for lead in the periodic table of elements, will refer to standard solder or solder that contains lead.

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 although, with some precautions, standard Pb solder can also be used.

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). In case of using high temperature soldering iron, please be careful not to heat too long.
- PbF solder will tend to splash if it is heated much higher than its melting point, approximately 1100°F, (600°C).
- If you must use Pb solder on a PCB manufactured using PbF solder, remove as much of the original PbF solder as possible and be sure that any remaining is melted prior to applying the Pb solder.
- 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).

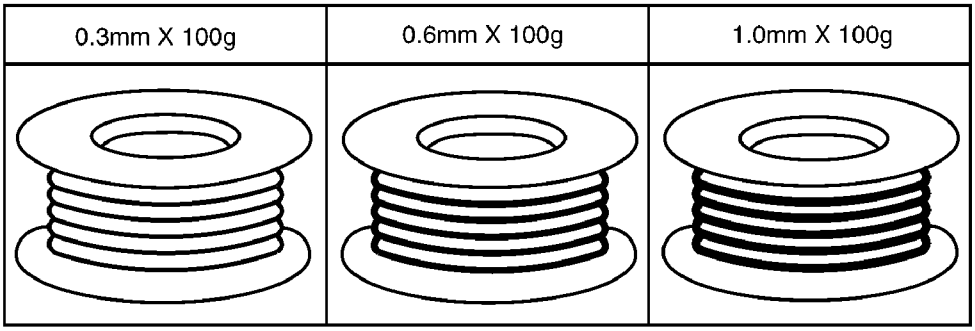


1.1. SUGGESTED PbF SOLDER

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).

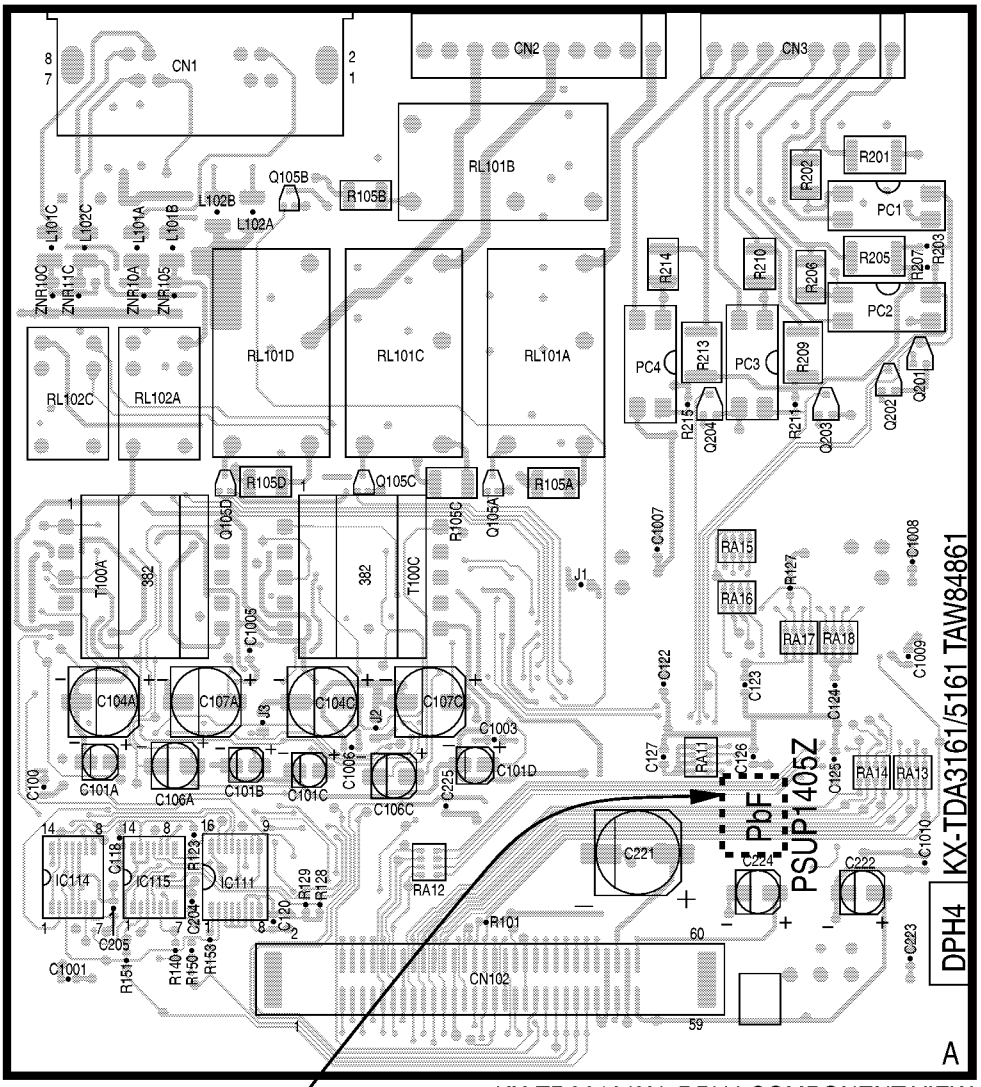
Please check the manufacturer's specific instructions for the melting points of their products and any precautions for using their product with other materials.

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



1.2. HOW TO RECOGNIZE THAT Pb FREE SOLDER IS USED

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



KX-TDA3161XJ DPH4 COMPONENT VIEW

2 FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.

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

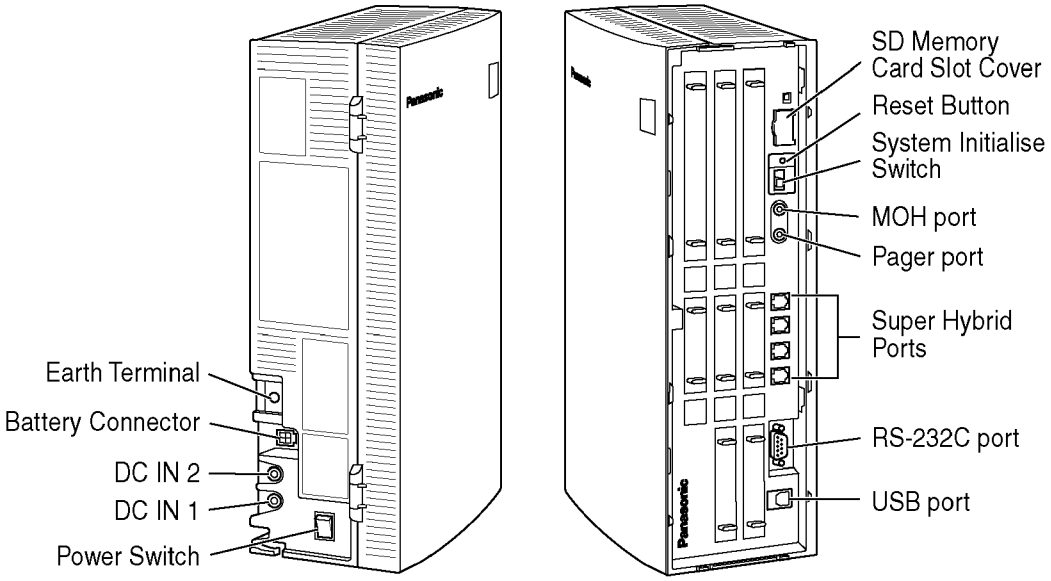
1. Cover the plastic parts boxes with aluminum foil.
2. Ground the soldering irons.
3. Use a conductive mat on the worktable.
4. Do not touch IC or LSI pins with bare fingers.

3 SPECIFICATION

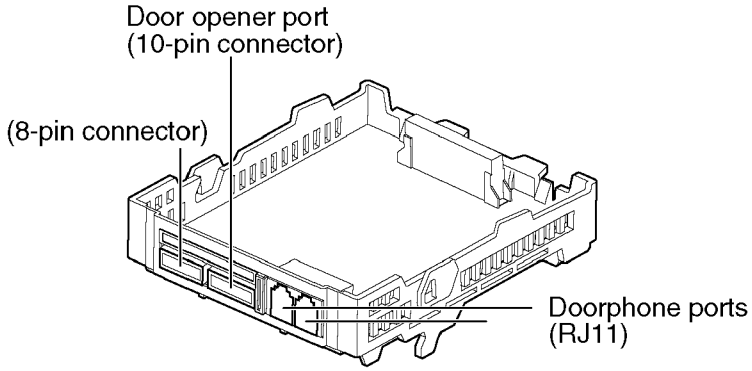
Symbol	Card Name	Feature Summary	Card Configuration Summary
DPH4	Door-phone Circuit	- 4-pot Door-phone & Door-opener card - For T30865	Without CPU

4 NAMES AND LOCATIONS

KX-TDA30 (The Hybrid IP-PBX)



KX-TDA3161XJ (DPH4 Card)

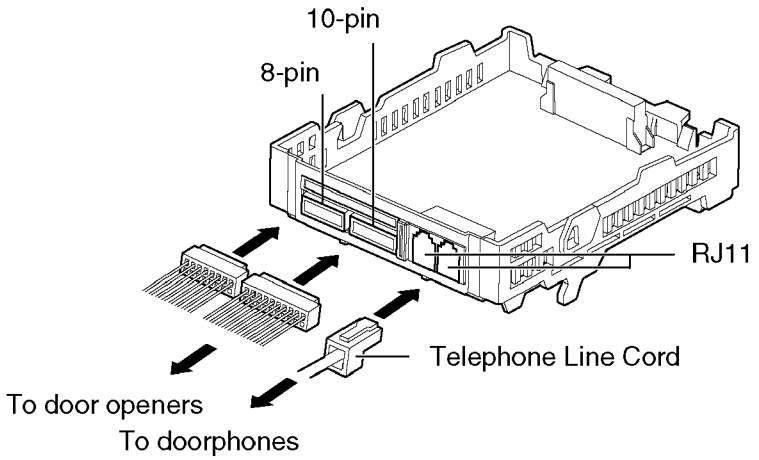


5 INSTALLING/REMOVING THE OPTIONAL SERVICE CARDS

5.1. Installation of KX-TDA3161XJ (DPH4 Card)

Function

4-port doorphone card for 4 doorphones and 4 door openers.



Note:

For details about connection to doorphones and door openers, refer to "**5.1.1 Connection of Doorphones and Door Openers**".

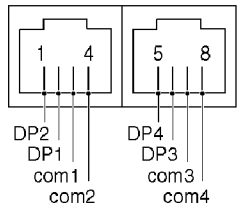
Accessory and User-supplied Items

Accessory (included): Extension Bolt x 1, Strap x 1, 8-pin terminal block x 1, 10-pin terminal block x 1, Telephone Line Cord x 2, Terminal Box x 2

User-supplied (not included): Copper wire

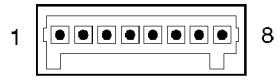
Pin Assignments

RJ11 Connector



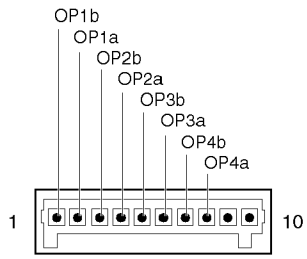
Signal Name	Function
DP2	Doorphone 2 transmit
DP1	Doorphone 1 transmit
com1	Doorphone 1 receive
com2	Doorphone 2 receive
DP4	Doorphone 4 transmit
DP3	Doorphone 3 transmit
com3	Doorphone 3 receive
com4	Doorphone 4 receive

8-pin Terminal Block



Signal Name	Function
—	Reserved

10-pin Terminal Block



Signal Name	Function
OP1b	Door opener 1
OP1a	Door opener 1 com
OP2b	Door opener 2
OP2a	Door opener 2 com
OP3b	Door opener 3
OP3a	Door opener 3 com
OP4b	Door opener 4
OP4a	Door opener 4 com
—	Reserved

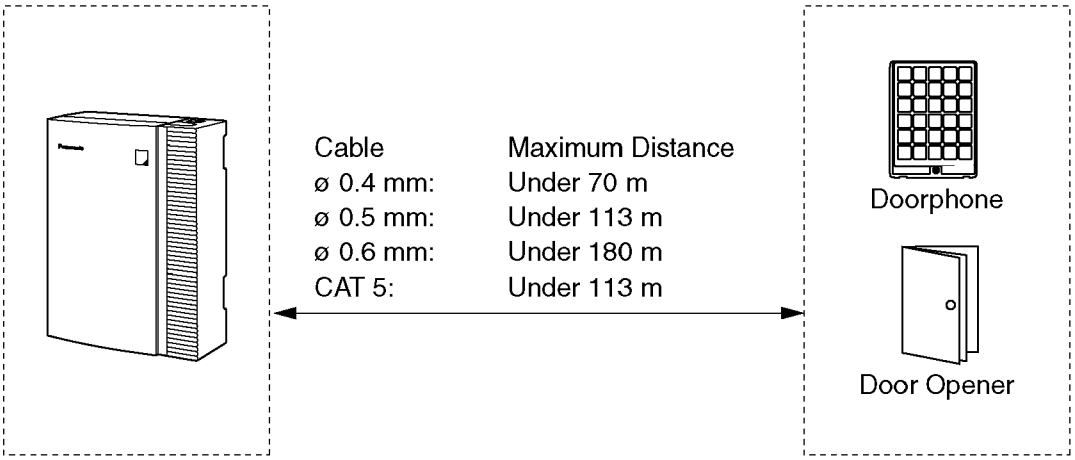
5.1.1. Connection of Doorphones and Door Openers

A maximum of 4 doorphones (KX-T30865) and 4 door openers can be connected to the Hybrid IP-PBX with a DPH4 card.

Notes:

- KX-T30865 is a Panasonic doorphone.
- Doorphones and door openers are user-supplied.

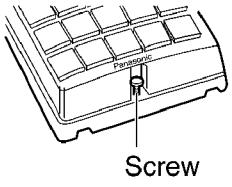
Maximum Cabling Distance



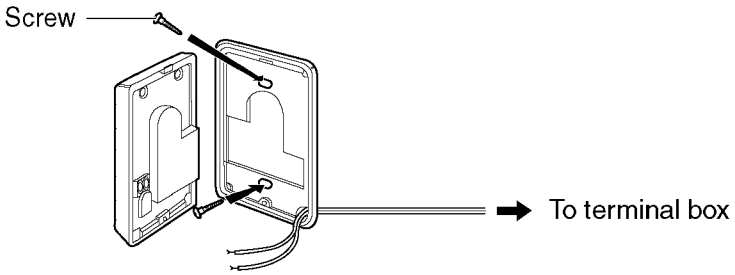
Current Limit for door opener: 24 V DC/30 V AC, 1 A maximum

Installing the Doorphone (KX-T30865)

1. Loosen the screw to separate the doorphone into 2 halves.



2. Pass the wires through the hole in the base cover, and attach the base cover to a wall using 2 screws.



Note:

Two kinds of screws are included with KX-T30865. Please choose the appropriate kind for user's wall type.

: when a doorphone plate has fixed to the wall.

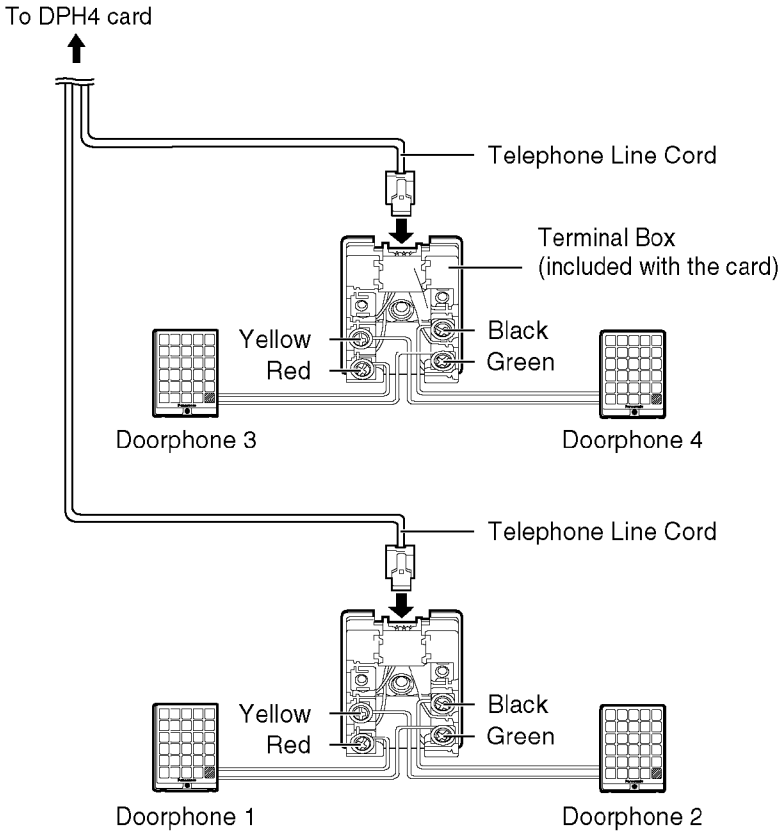
: when you wish to install the doorphone directly to the wall.

3. Connect the wires to the screws located in the front cover.

4. Re-attach the 2 halves and re-insert the screw.

Connection of Doorphones

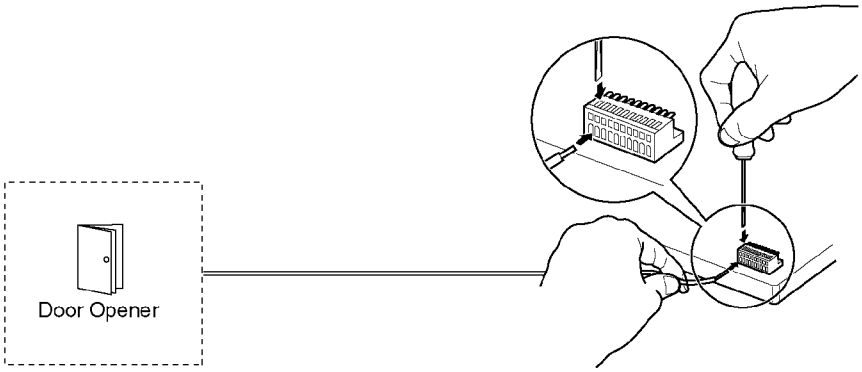
1. Connect DPH4 Card to the terminal boxes using telephone line cords included with the card.
   Refer to "5.1 Installation of DPH4 Card" for pin assignments.
2. Connect the wires of doorphones 1 and 3 to the red and green screws on the terminal box.
3. Connect the wires of doorphones 2 and 4 to the yellow and black screws on the terminal box.



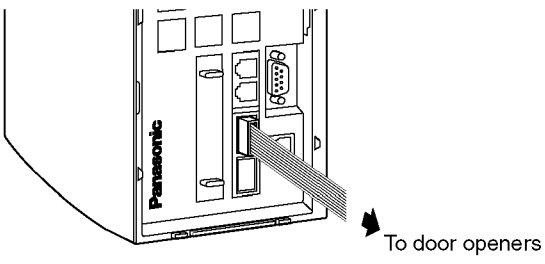
Connection of the Door Openers

Use 10-pin terminal block (included with the card) for connection.

1. While pressing down on the hole at the top of the terminal block using a screwdriver, insert the wire into the side hole as shown below. Repeat this procedure for other door openers.
   Refer to "5.1 Installation of DPH4 Card" for pin assignments.

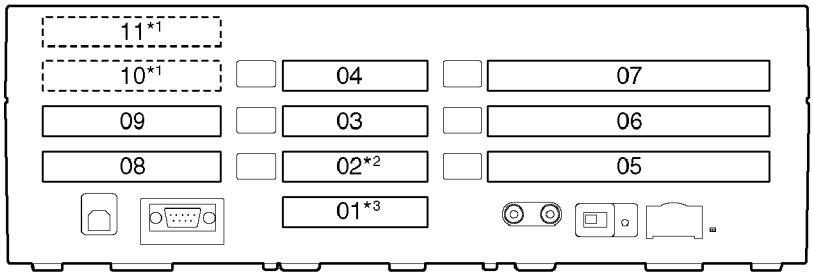


2. Attach the terminal blocks to the connectors of the DPH4 card in the Hybrid IP-PBX.



5.2. INSTALLING/REMOVING THE OPTIONAL SERVICE CARDS

Slot Position



*1 Slots 10 and 11 accept only cards which do not have external ports. Therefore, these slots do not have removable cover plates.

*2 Slot 01 contains the pre-installed Super Hybrid Ports. No optional service card can be installed.

Slot Restrictions

The following table shows the slot restrictions. "✔" indicates that the slot supports the optional service card.

Card		Slot Number									
Type	Max	02	03	04	05	06	07	08	09	10	11
LCOT4	3	✔	✔	✔							
BRI2	3	✔	✔	✔							
DLC4	1*1	✔	✔	✔							
SLC4		✔	✔	✔							
IP-GW4	1				✔	✔	✔				
DLC8	2*2				✔	✔	✔				
SLC8					✔	✔	✔				
DPH4	1*3							✔	✔		
DPH2								✔	✔		
ECHO8	1							✔	✔	✔	✔
EXT-CID	1							✔	✔	✔	✔
MSG2	2							✔	✔	✔	✔

*1 Only one of either DLC4 or SLC4 card can be installed.

*2 A maximum of two DLC8 cards, two SLC8 cards, or one of each card can be installed.

*3 Only one of either DPH4 or DPH2 card can be installed.

Caution:

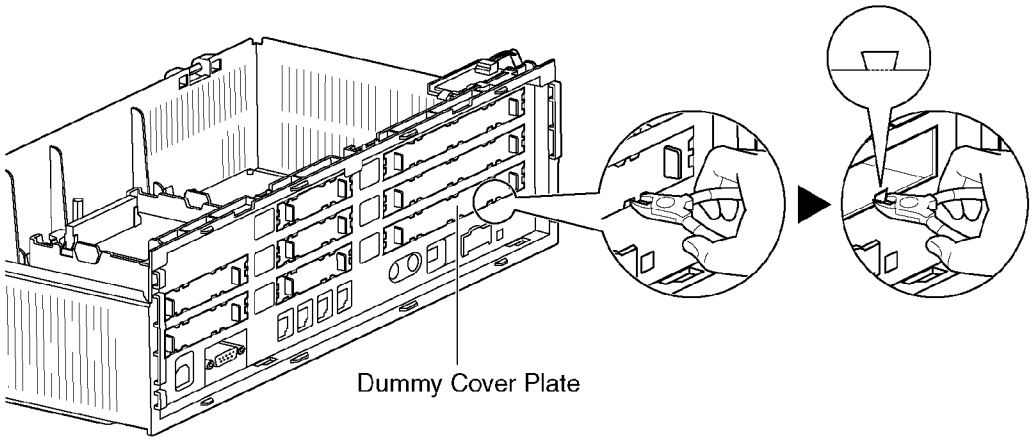
To protect the main board from static electricity, do not touch parts on the main board or on the optional service cards. To discharge static electricity, touch ground or wear an earthing strap.

Note:

When installing or removing the optional service cards, the power switch of the Hybrid IP-PBX must be in the off position.

Installing Optional Service Cards

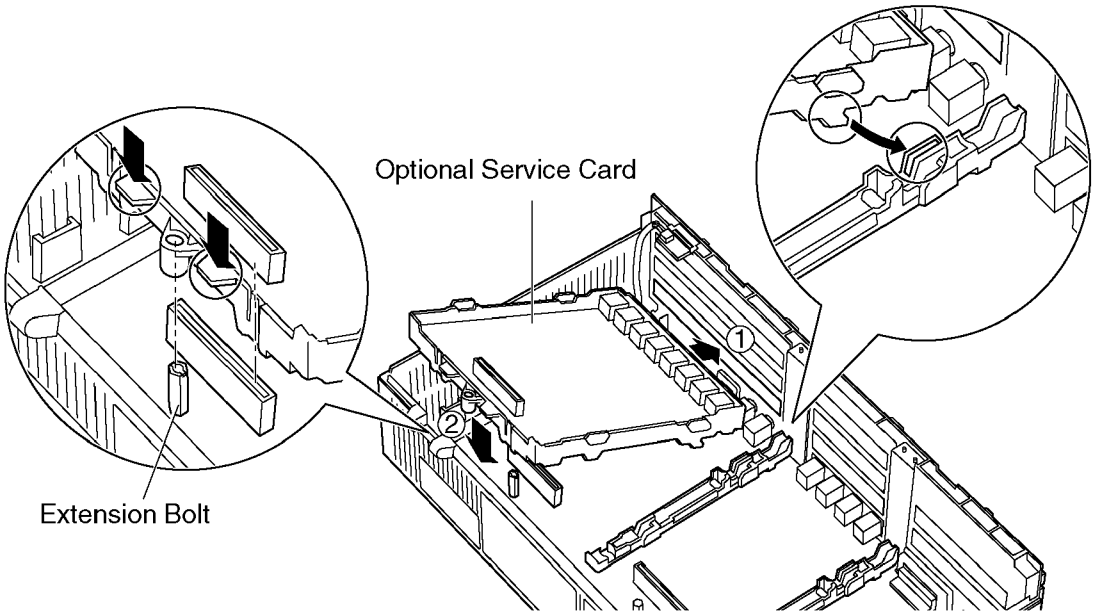
1. Before installing the optional service cards, cut and remove the appropriate dummy cover plates from the main unit.



Caution:

For safety reasons, smooth the cut edges after removing the dummy cover plates.

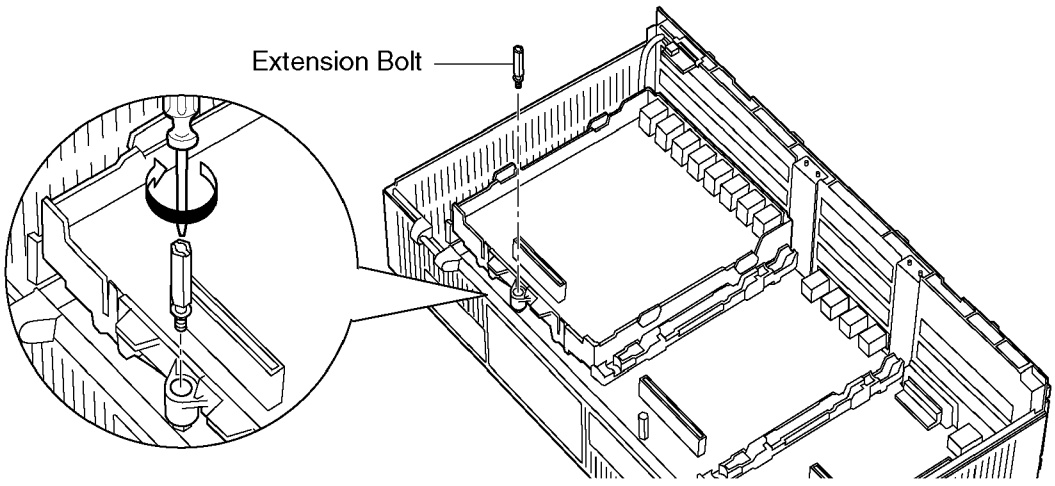
2. Position the card in the open slot, making sure that the tabs on the both sides of the card fit into place. Then, holding the card firmly in place, lower the rear end so that the hole of the card fits over the extension bolt.



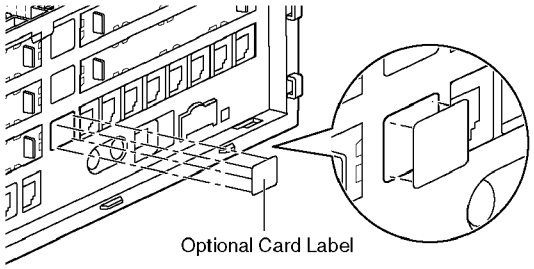
Caution:

When installing the optional service cards, do not put pressure on any parts of the main board (e.g., tall capacitors). Doing so may result in damage to the Hybrid IP-PBX.

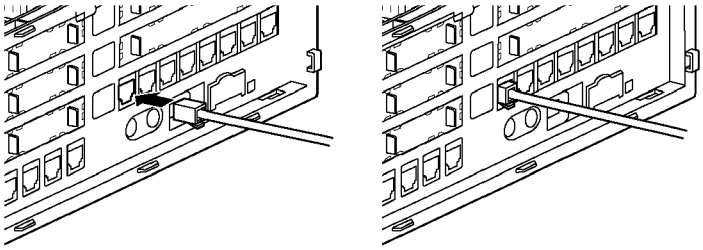
3. Insert the new extension bolt (included with the card) into the hole on the card, and tighten it to secure the card.



4. Stick an appropriate optional card label (included) to the left side of the corresponding card.



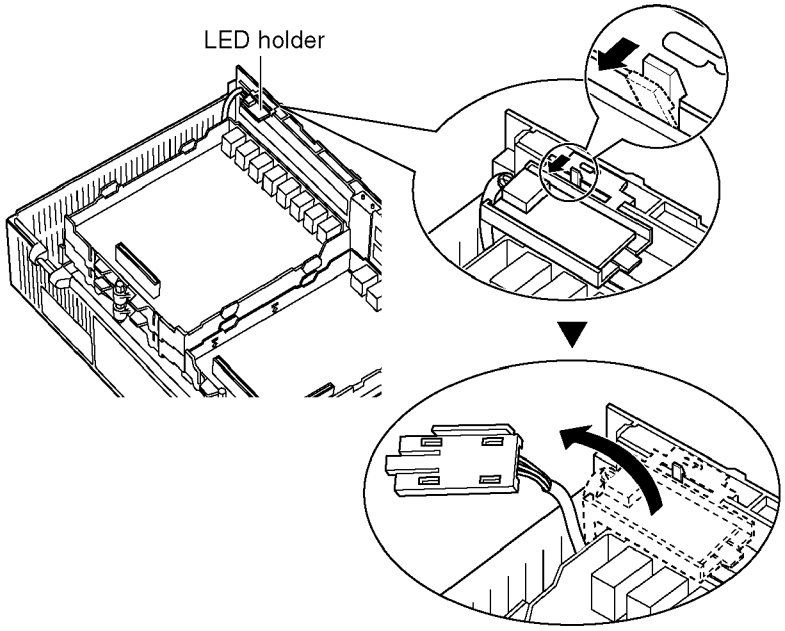
5. Connect a cable to an appropriate port of the card.



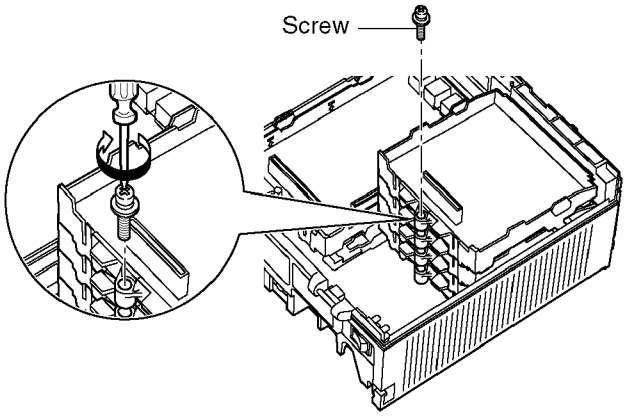
Note:

- Make sure to connect cables after installing the card in the Hybrid IP-PBX, not before.

6. Repeat the procedure for other cards.
   - When installing a card in Slot 07, make sure to detach the LED holder first. After installing the card, reattach the LED holder.

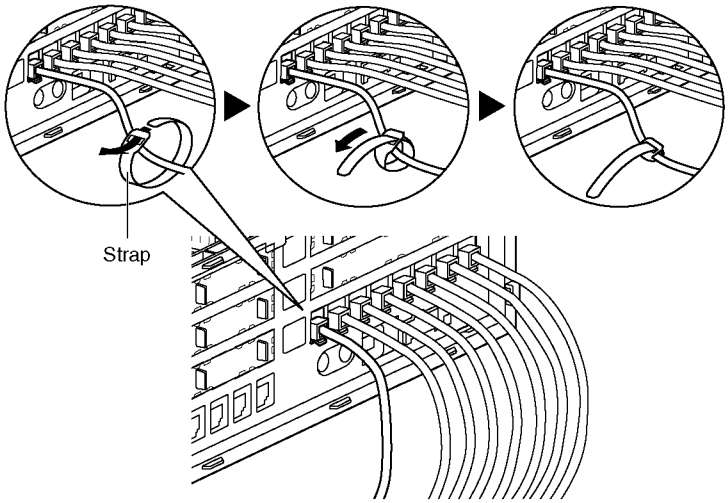


- When installing a card in Slot 11, tighten the card using the screw included with the card, instead of the extension bolt.

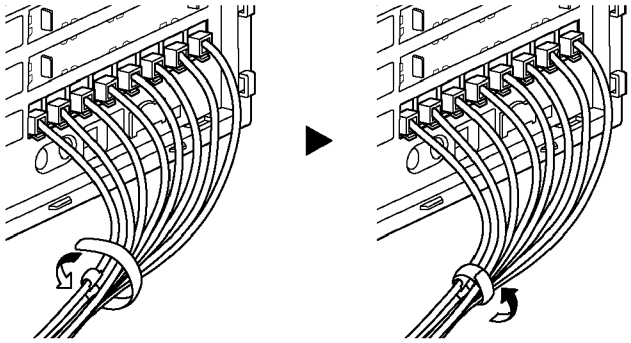


Handling of the Cables

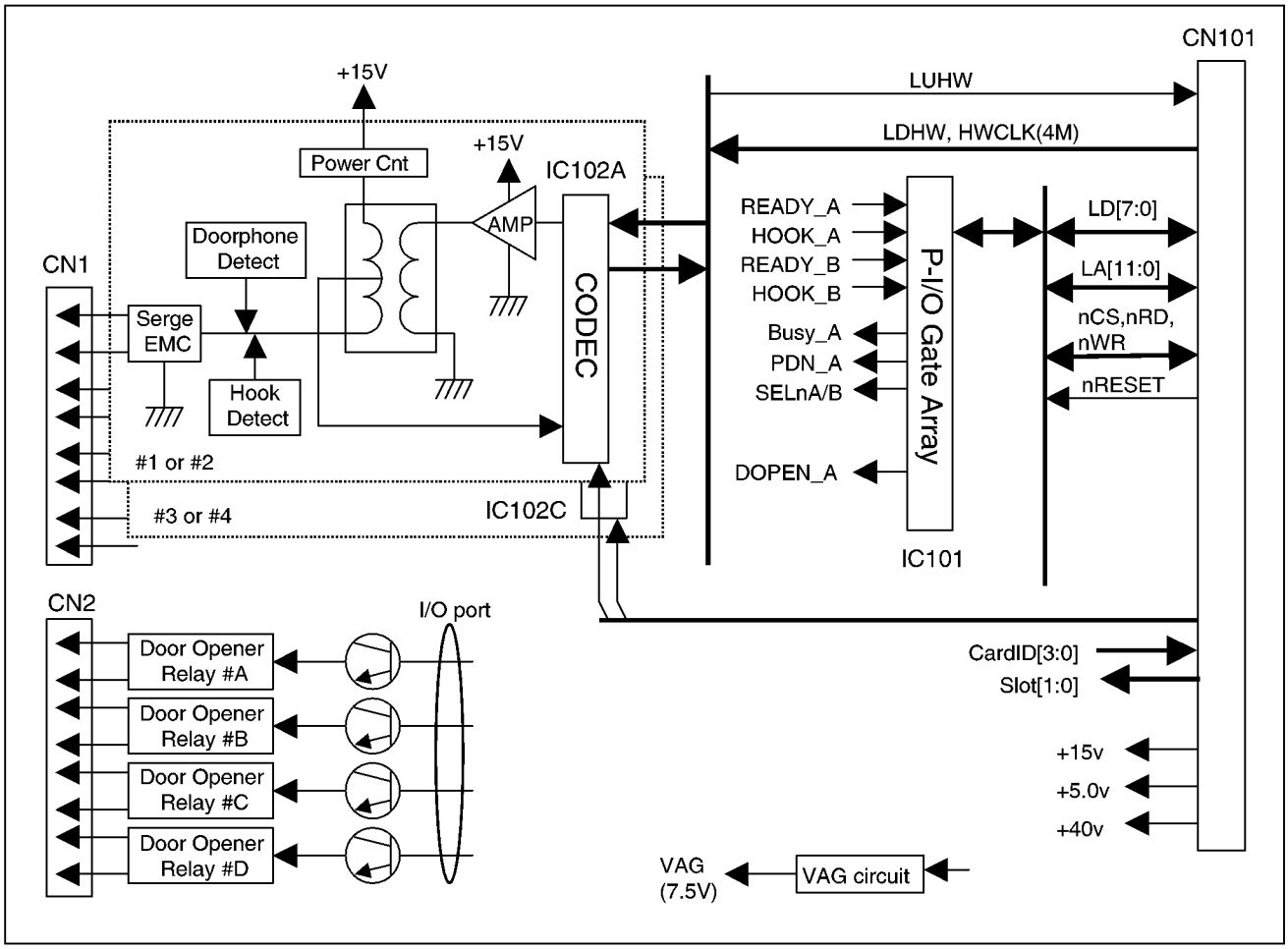
1. Attach the strap included with the card to one of the connected cables.



2. Bind all the connected cables together using the strap.



6 BLOCK DIAGRAM



KX-TDA3161XJ BLOCK DIAGRAM

7 CIRCUIT OPERATION

7.1. Option Card (KX-TDA3161)

Composition:

This Doorphone card is composed of the control interface and four doorphone interfaces and four door opener interface sections.

1. Doorphone Section

   This card has four door phone interfaces.

   This door phone intercom path is composed of the send amplifier and receive amplifier circuits.

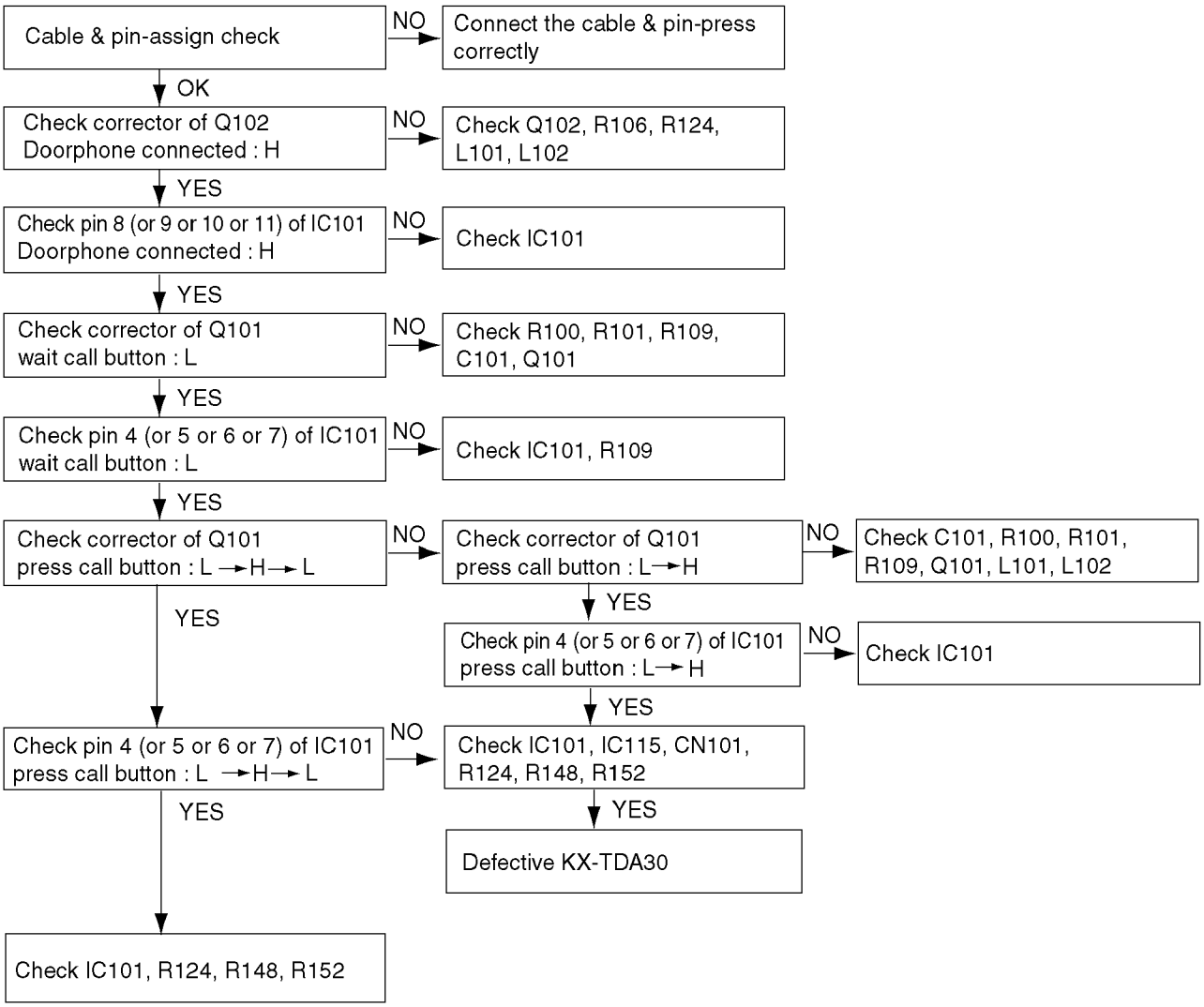
   These interfaces have a door phone connect detection circuit and a door phone call detection circuit.

2. Door opener Section

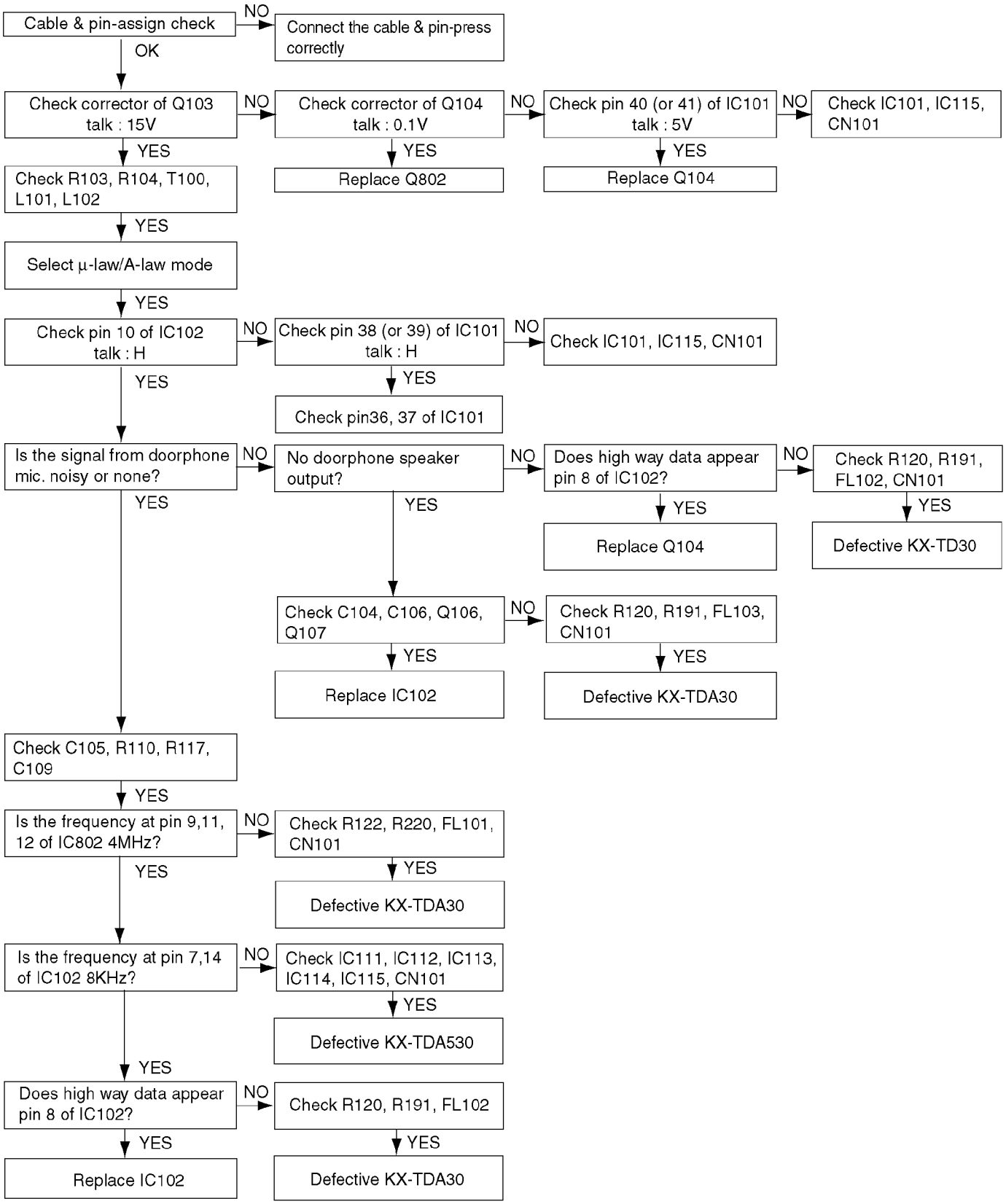
   This card has four door opener interfaces. These interfaces are used for the door opener SW.

8 TROUBLESHOOTING GUIDE

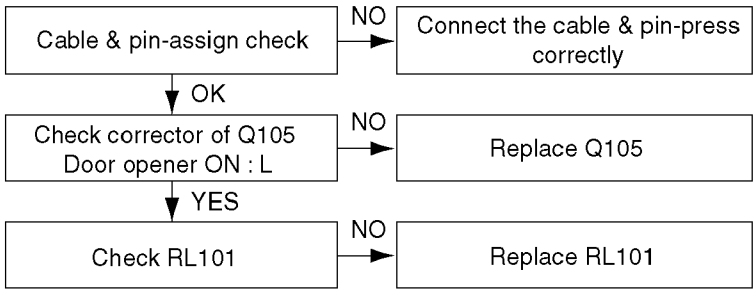
8.1. Cannot Call From Doorphone



8.2. Cannot Talk To Doorphone

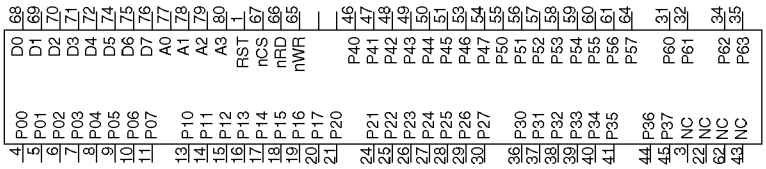


8.3. Cannot Use Door Opener



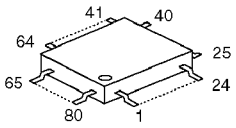
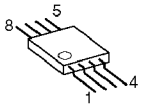
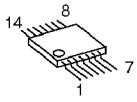
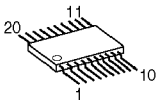
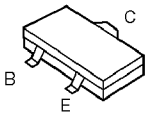
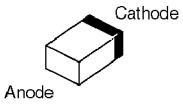
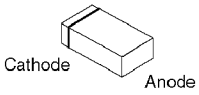
9 IC DATA

9.1. IC101



PIN NAME	PIN No.	SIGNAL NAME	I/O	ACT	FUNCTION	OPERATION	INITIAL SETTING
P00	4	READY_A	I	H	Doorphone_1 Hook	H : Doorphone call	L
P01	5	READY_B	I	H	Doorphone_2 Hook	H : Doorphone call	L
P02	6	READY_C	I	H	Doorphone_3 Hook	H : Doorphone call	L
P03	7	READY_D	I	H	Doorphone_4 Hook	H : Doorphone call	L
P04	8	HOOK_A	I	H	Doorphone_1 Ready	H : connected	H/L
P05	9	HOOK_B	I	H	Doorphone_2 Ready	H : connected	H/L
P06	10	HOOK_C	I	H	Doorphone_3 Ready	H : connected	H/L
P07	11	HOOK_D	I	H	Doorphone_4 Ready	H : connected	H/L
P10	13	(Reserved)	I	L	(Reserved)	(Reserved)	H
P11	14	(Reserved)	I	L	(Reserved)	(Reserved)	H
P12	15	(Reserved)	I	L	(Reserved)	(Reserved)	H
P13	16	(Reserved)	I	L	(Reserved)	(Reserved)	H
P14	17	(Reserved)	I	—	(Reserved)	(Reserved)	L
P15	18	(Reserved)	I	—	(Reserved)	(Reserved)	L
P16	19	(Reserved)	I	—	(Reserved)	(Reserved)	L
P17	20	(Reserved)	I	—	(Reserved)	(Reserved)	L
P20	21	Mu/AN	O	H/L	Codec Mu/A	H : Mu-Law, L : A-Law	H/L
P21	24	HWOE	O	H/L	Highway Enable	H : highway enable	H/L
P22	25	OP_SLOT[0]	O	H/L	Slot No. [0]	—	H/L
P23	26	OP_SLOT[1]	O	H/L	Slot No. [1]	—	H/L
P24	27	OPEN_A	O	H	Door Opener_1	H : relay on	L
P25	28	OPEN_B	O	H	Door Opener_2	H : relay on	L
P26	29	OPEN_C	O	H	Door Opener_3	H : relay on	L
P27	30	OPEN_D	O	H	Door Opener_4	H : relay on	L
P30	36	SELnA/B	O	H	Doorphone_1/2 Selection	H : Doorphone_2 L : Doorphone_1	L
P31	37	SELnC/D	O	H	Doorphone_3/4 Selection	H : Doorphone_4, L : Doorphone_3	L
P32	38	PDN_A	O	H	Doorphone_1/2 Codec Power	Codec H : ON, L : OFF	L
P33	39	PDN_C	O	H	Doorphone_3/4 Codec Power	Codec H : ON, L : OFF	L
P34	40	BUSY_A	O	H	Doorphone_1/2 Busy	H : Busy, L : Idle	L
P35	41	BUSY_C	O	H	Doorphone_3/4 Busy	H : Busy, L : Idle	L
P36	44	pull down	I	H	(Reserved)	(Reserved)	L
P37	45	pull down	I	H	(Reserved)	(Reserved)	L
P40	46	pull down	I	H/L	(Reserved)	(Reserved)	L
P41	47	pull down	I	H/L	(Reserved)	(Reserved)	L
P42	48	pull down	I	H/L	(Reserved)	(Reserved)	L
P43	49	pull down	I	H/L	(Reserved)	(Reserved)	L
P44	50	pull down	I	H/L	(Reserved)	(Reserved)	L
P45	51	pull down	I	H/L	(Reserved)	(Reserved)	L
P46	53	pull down	I	H/L	(Reserved)	(Reserved)	L
P47	54	pull down	I	H/L	(Reserved)	(Reserved)	L
P50	55	Card_ID 0	I	L	Card_ID bit0	—	H
P51	56	Card_ID 1	I	L	Card_ID bit1	—	L
P52	57	Card_ID 2	I	L	Card_ID bit2	—	L
P53	58	Card_ID 3	I	H/L	Card_ID bit3	—	L
P54	59	Card_ID 4	I	H/L	Card_ID bit4	—	L
P55	60	Card_ID 5	I	H/L	Card_ID bit5	—	L
P56	61	Card_ID 6	I	H/L	Card_ID bit6	—	L
P57	64	Card_ID 7	I	H/L	Card_ID bit7	—	L
P60	31	ground	I	H/L	(Reserved)	(Reserved)	L
P61	32	ground	I	H/L	(Reserved)	(Reserved)	L
P62	34	ground	I	H/L	(Reserved)	(Reserved)	L
P63	35	ground	I	H/L	(Reserved)	(Reserved)	L

10 TERMINAL GUIDE OF ICS, TRANSISTORS AND DIODES

 PQVI92011556	 PQVINJM2904V	 C0JBAA000174 C0JBAE000241 C0JBAK000189 PSVISNLV74AP	 PFVIMC5480SD
 B1ABCF000103 B1ADCF000020 B1GDCFNN0001 PQVTDTC123JU PSVTDTC124EE PSVTDTC143X PSVTDTC144E UNR921DJ0L	 MA110	 MA8068M	

11 HOW TO REPLACE A FLAT PACKAGE IC

11.1. 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

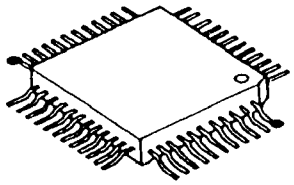
  Recommended Flux: Specific Gravity → 0.82.

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

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

11.2. PROCEDURE

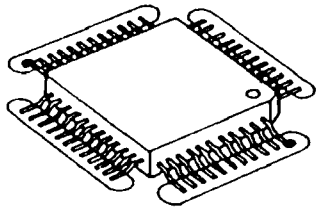
1. Tack the flat pack IC to the PCB by temporarily soldering two diagonally opposite pins in the correct positions on the PCB.



● - - - - - -Temporary soldering point.

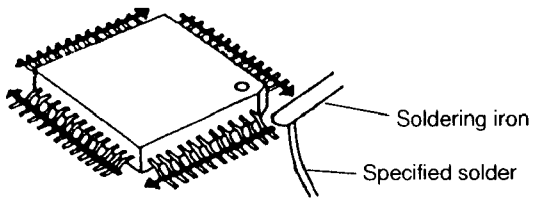
Be certain each pin is located over the correct pad on the PCB.

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



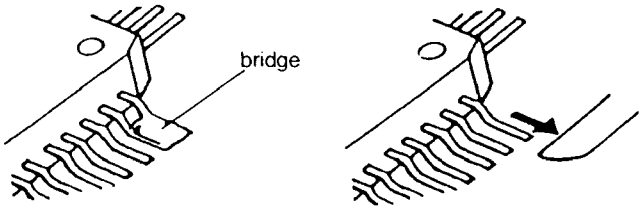
- - - - - -Flux

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.

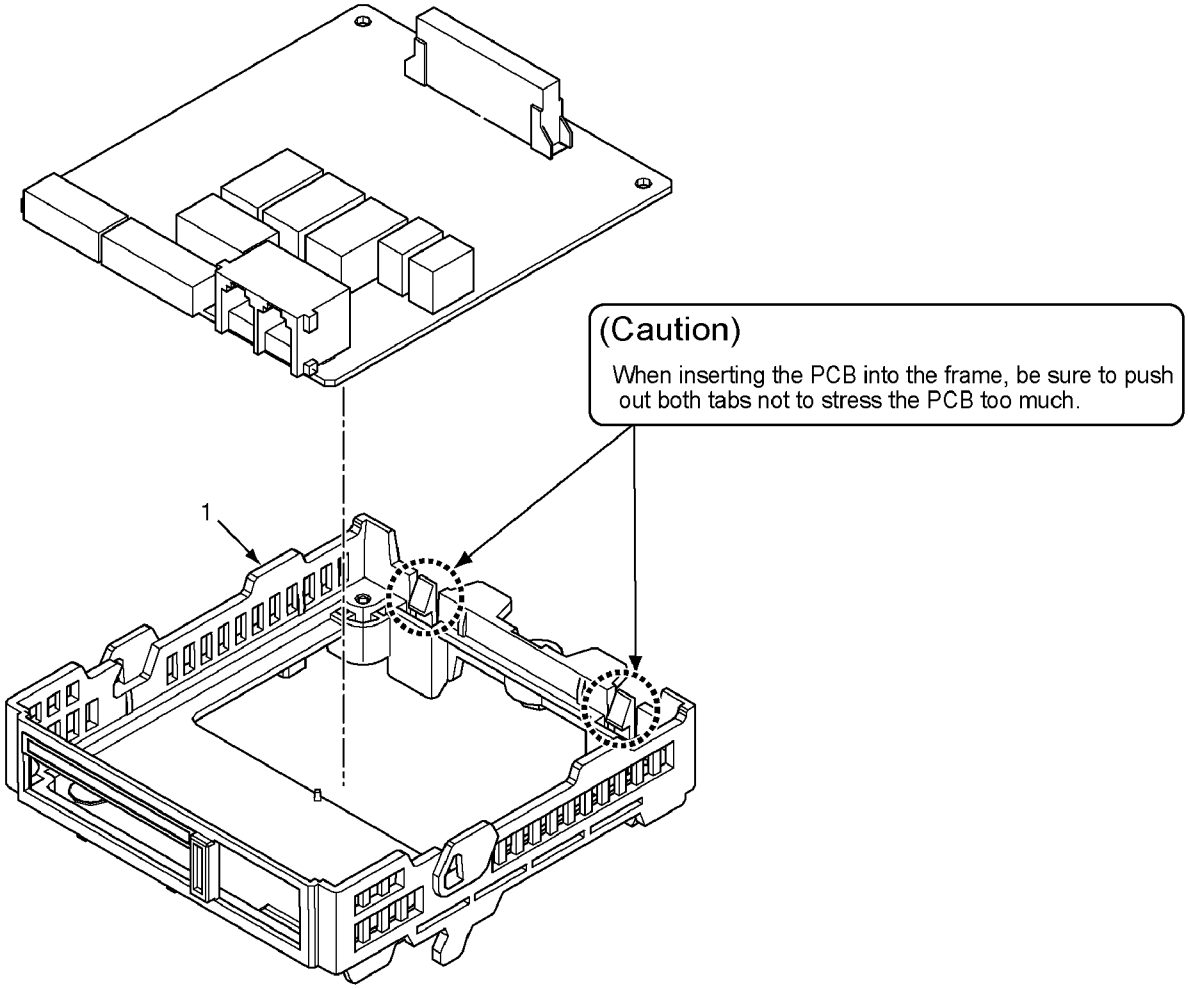


11.3. REMOVING SOLDER FROM BETWEEN PINS

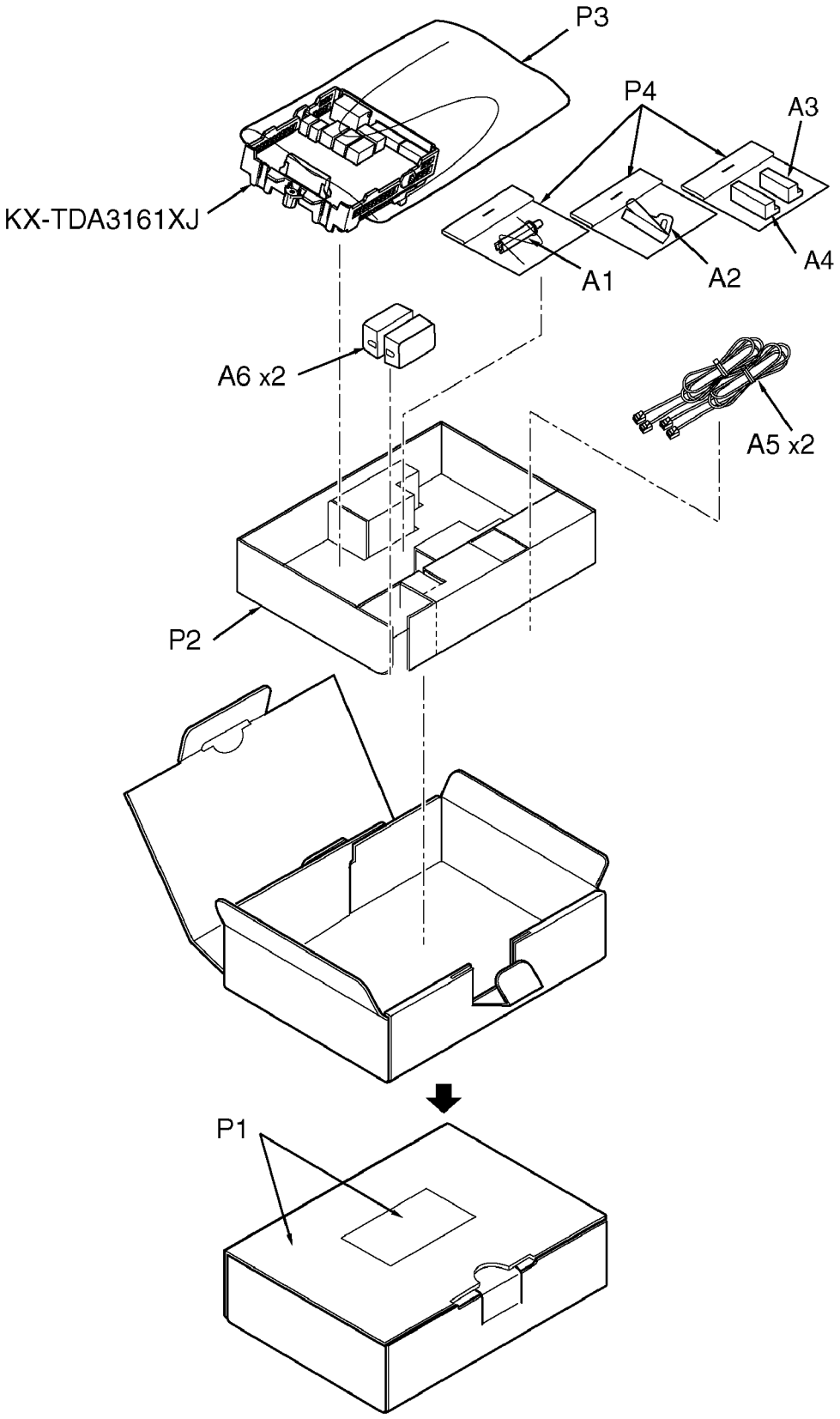
1. Add a small amount of solder to the bridged pins.
2. With a hot iron, use a sweeping motion along the flat part of the pin to draw the solder from between the adjacent pads.



12 CABINET PARTS LOCATION



13 ACCESSORIES AND PACKING MATERIALS



14 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 depends on the type of assembly, and in accordance with the laws governing parts and product retention.

   After 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 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-94HB) 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=1000Ω, M=1000kΩ

   All capacitors are in MICRO FARADS (μF) P=μμF

   *Type & Wattage of Resistor

Type

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

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor ECQS:Styrol PQCUV:Chip ECQMS:Mica	ECCD,ECKD,ECBT,PQCBC:Ceramic ECQE,ECQV,ECQG:Polyester ECEA,ECSZ: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	0F:3.15V 1A:10V 1V:35V 0J:6.3V	0J :6.3V 1A :10V 1C :16V 1E,25:25V	1V :35V 50,1H:50V 1J :63V 2A :100V

14.1. CABINET PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	PSKE1060Z1	GUIDE	PC+ABS

14.2. ACCESSORIES AND PACKING MATERIALS

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PSHE1051Z	EXTENSION BOLT	S
A2	PSHE1161Z	STRAP	
A3	PSJS08S08Z	8-PIN TERMINAL BLOCK	
A4	K1GB10A00006	10-PIN TERMINAL BLOCK	
A5	PQJA48W	TELEPHONE LINE CORD	S
A6	PQJS1T30Z	TERMINAL BOX	
P1	PSZKDA3161XJ	GIFT BOX	
P2	PSPD1244Z	CUSHION	
P3	PSPP1078Z	PROTECTION COVER	
P4	XZB05X08A03	PROTECTION COVER	

14.3. MAIN BOARD PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
		(ICS)	
IC101	PQVI92011556	IC	S
IC102A	PFVIMC5480SD	IC	S
IC102C	PFVIMC5480SD	IC	S
IC103A	PQVINJM2904V	IC	S
IC103C	PQVINJM2904V	IC	S
IC111	C0JBAK000189	IC	
IC112	C0JBAA000174	IC	
IC113	C0JBAA000174	IC	
IC114	PSVISNLV74AP	IC	S
IC115	C0JBAE000241	IC	
		(TRANSISTORS)	
Q101A	PSVTDTC124EE	TRANSISTOR(SI)	
Q101B	PSVTDTC124EE	TRANSISTOR(SI)	
Q101C	PSVTDTC124EE	TRANSISTOR(SI)	
Q101D	PSVTDTC124EE	TRANSISTOR(SI)	
Q102A	UNR921DJ0L	TRANSISTOR(SI)	
Q102B	UNR921DJ0L	TRANSISTOR(SI)	
Q102C	UNR921DJ0L	TRANSISTOR(SI)	
Q102D	UNR921DJ0L	TRANSISTOR(SI)	
Q103A	B1GDCFNN0001	TRANSISTOR(SI)	
Q103C	B1GDCFNN0001	TRANSISTOR(SI)	
Q104A	PSVTDTC144E	TRANSISTOR(SI)	S
Q104C	PSVTDTC144E	TRANSISTOR(SI)	S
Q105A	PSVTDTC143X	TRANSISTOR(SI)	
Q105B	PSVTDTC143X	TRANSISTOR(SI)	
Q105C	PSVTDTC143X	TRANSISTOR(SI)	
Q105D	PSVTDTC143X	TRANSISTOR(SI)	
Q106A	B1ABCF000103	TRANSISTOR(SI)	
Q106C	B1ABCF000103	TRANSISTOR(SI)	
Q107A	B1ADCF000020	TRANSISTOR(SI)	
Q107C	B1ADCF000020	TRANSISTOR(SI)	
Q108A	PSVTDTC143X	TRANSISTOR(SI)	
Q108C	PSVTDTC143X	TRANSISTOR(SI)	
Q201	PQVTDTC123JU	TRANSISTOR(SI)	S
Q202	PQVTDTC123JU	TRANSISTOR(SI)	S
Q203	PQVTDTC123JU	TRANSISTOR(SI)	S
Q204	PQVTDTC123JU	TRANSISTOR(SI)	S
		(DIODES)	
D101A	MA8068M	DIODE(SI)	S
D101C	MA8068M	DIODE(SI)	S
D102A	MA110	DIODE(SI)	S
D102B	MA110	DIODE(SI)	S
D102C	MA110	DIODE(SI)	S
D102D	MA110	DIODE(SI)	S
D103A	MA110	DIODE(SI)	S
D103C	MA110	DIODE(SI)	S
		(JACK & CONNECTORS)	
CN1	PSJJ2T004Z	JACK	S
CN2	PSJP10B06Z	CONNECTOR (10 PIN)	
CN3	PSJP08B06Z	CONNECTOR (8PIN)	S
CN101	K1KB60A00118	CONNECTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
CN102	K1KA60A00143	CONNECTOR	
		(COMPONENTS PARTS)	
RA11	D1H81034A010	RESISTOR ARRAY (10K)	
RA12	D1H82214A010	RESISTOR ARRAY (220)	
RA13	D1H82204A010	RESISTOR ARRAY (22)	
RA14	D1H82204A010	RESISTOR ARRAY (22)	
RA15	D1H81034A010	RESISTOR ARRAY (10K)	
RA16	D1H81034A010	RESISTOR ARRAY (10K)	
RA17	D1H81034A010	RESISTOR ARRAY (10K)	
RA18	D1H81034A010	RESISTOR ARRAY (10K)	
		(CAPACITORS)	
C101A	F2G1C4R70002	4.7	
C101B	F2G1C4R70002	4.7	
C101C	F2G1C4R70002	4.7	
C101D	F2G1C4R70002	4.7	
C102A	PSCUV2EY104K	0.1	S
C102B	PSCUV2EY104K	0.1	S
C102C	PSCUV2EY104K	0.1	S
C102D	PSCUV2EY104K	0.1	S
C103A	ECUV1C473KBV	0.047	
C103C	ECUV1C473KBV	0.047	
C104A	F2G1C4700017	47	
C104C	F2G1C4700017	47	
C105A	ECUV1C223KBV	0.022	
C105C	ECUV1C223KBV	0.022	
C106A	F2G1H1R00013	1	
C106C	F2G1H1R00013	1	
C107A	F2G1E3300012	33	
C107C	F2G1E3300012	33	
C108A	ECUV1H331JCV	330P	
C108C	ECUV1H331JCV	330P	
C109A	ECUV1H122KBV	0.0012	
C109C	ECUV1H122KBV	0.0012	
C110A	ECUV1C223KBV	0.022	
C110C	ECUV1C223KBV	0.022	
C111A	ECUV1C223KBV	0.022	
C111C	ECUV1C223KBV	0.022	
C112A	ECUV1H223KBV	0.022	S
C112C	ECUV1H223KBV	0.022	S
C113A	ECUV1H223KBV	0.022	S
C113C	ECUV1H223KBV	0.022	S
C115A	ECUV1H471JCV	470P	S
C115C	ECUV1H471JCV	470P	S
C118	ECUV1H332KBV	0.0033	
C120A	ECUV1C104ZFV	0.1	
C120C	ECUV1C104ZFV	0.1	
C122	ECUV1E103KBV	0.01	
C123	ECUV1E103KBV	0.01	
C124	ECUV1E103KBV	0.01	
C125	ECUV1E103KBV	0.01	
C126	ECUV1E103KBV	0.01	
C127	ECUV1E103KBV	0.01	
C201	ECUV1E103KBV	0.01	
C202	ECUV1E103KBV	0.01	
C203	ECUV1E103KBV	0.01	
C204	ECUV1E103KBV	0.01	
C205	ECUV1E103KBV	0.01	
C221	F2G1E1010011	100	
C222	F2G1C1000015	10	
C223	ECUV1E103KBV	0.01	
C224	F2G1C1000015	10	
C225	ECUV1E103KBV	0.01	
C1001	ECUV1E103KBV	0.01	
C1002	ECUV1E103KBV	0.01	
C1003	ECUV1E103KBV	0.01	
C1004	ECUV1E103KBV	0.01	
C1005	ECUV1E103KBV	0.01	
C1006	ECUV1E103KBV	0.01	
C1007	ECUV1E103KBV	0.01	
C1008	ECUV1E103KBV	0.01	
C1009	ECUV1E103KBV	0.01	

Ref. No.	Part No.	Part Name & Description	Remarks
C1010	ECUV1E103KBV	0.01	
		(RESISTORS)	
J1	PQ4R10XJ000	0	S
J2	PQ4R10XJ000	0	S
J3	PQ4R10XJ000	0	S
R100A	ERJ3GEYJ223	22K	
R100B	ERJ3GEYJ223	22K	
R100C	ERJ3GEYJ223	22K	
R100D	ERJ3GEYJ223	22K	
R101	ERJ3GEYJ103	10K	
R101A	ERJ3GEYJ102	1K	
R101B	ERJ3GEYJ102	1K	
R101C	ERJ3GEYJ102	1K	
R101D	ERJ3GEYJ102	1K	
R102A	ERJ14YJ151	150	
R102B	ERJ14YJ151	150	
R102C	ERJ14YJ151	150	
R102D	ERJ14YJ151	150	
R103A	ERJ3GEYJ182	1.8K	
R103C	ERJ3GEYJ182	1.8K	
R104A	ERJ3GEYJ101	100	
R104C	ERJ3GEYJ101	100	
R105A	ERJ14YJ151	150	
R105B	ERJ14YJ151	150	
R105C	ERJ14YJ151	150	
R105D	ERJ14YJ151	150	
R106A	ERJ3GEYJ473	47K	
R106B	ERJ3GEYJ473	47K	
R106C	ERJ3GEYJ473	47K	
R106D	ERJ3GEYJ473	47K	
R107A	ERJ3GEYJ101	100	
R107C	ERJ3GEYJ101	100	
R108A	ERJ3GEYJ473	47K	
R108C	ERJ3GEYJ473	47K	
R109A	ERJ3GEYJ473	47K	
R109B	ERJ3GEYJ473	47K	
R109C	ERJ3GEYJ473	47K	
R109D	ERJ3GEYJ473	47K	
R110A	ERJ3GEYJ563	56K	
R110C	ERJ3GEYJ563	56K	
R111A	ERJ3GEYJ564	560K	
R111C	ERJ3GEYJ564	560K	
R112A	ERJ3GEYJ104	100K	
R112C	ERJ3GEYJ104	100K	
R113A	ERJ3GEYJ274	270K	
R113C	ERJ3GEYJ274	270K	
R114A	ERJ3GEYJ274	270K	
R114C	ERJ3GEYJ274	270K	
R115A	ERJ3GEYJ823	82K	
R115C	ERJ3GEYJ823	82K	
R116A	ERJ3GEYJ823	82K	
R116C	ERJ3GEYJ823	82K	
R117A	ERJ3GEYJ104	100K	
R117C	ERJ3GEYJ104	100K	
R118A	ERJ3GEYJ103	10K	
R118C	ERJ3GEYJ103	10K	
R119A	ERJ3GEYJ103	10K	
R119C	ERJ3GEYJ103	10K	
R120	ERJ3GEYJ221	220	
R120A	ERJ14YJ271	270	
R120C	ERJ14YJ271	270	
R121	ERJ3GEYJ220	22	
R121A	ERJ3GEYJ223	22K	
R121C	ERJ3GEYJ223	22K	
R122	ERJ3GEYJ221	220	
R122A	ERJ3GEYJ223	22K	
R122C	ERJ3GEYJ223	22K	
R123	ERJ3GEYJ221	220	
R123A	ERJ3GEYJ103	10K	
R123C	ERJ3GEYJ103	10K	
R124	ERJ3GEYJ221	220	
R124A	ERJ3GEYJ330	33	

Ref. No.	Part No.	Part Name & Description	Remarks
R124B	ERJ3GEYJ330	33	
R124C	ERJ3GEYJ330	33	
R124D	ERJ3GEYJ330	33	
R125	ERJ3GEYJ103	10K	
R126	ERJ3GEYJ103	10K	
R128	ERJ3GEYJ103	10K	
R129	ERJ3GEYJ103	10K	
R130	ERJ3GEYJ103	10K	
R148	ERJ3GEYJ221	220	
R149	ERJ3GEYJ221	220	
R150	ERJ3GEYJ221	220	
R151	ERJ3GEYJ221	220	
R152	ERJ3GEYJ221	220	
R153	ERJ3GEYJ221	220	
R154	ERJ3GEYJ103	10K	
R155	ERJ3GEYJ103	10K	
R156	ERJ3GEYJ103	10K	
R191	ERJ3GEYJ330	33	
R201	ERJ12YJ330	33	
R203	ERJ3GEYJ103	10K	
R204	ERJ12YJ330	33	
R205	ERJ12YJ330	33	
R207	ERJ3GEYJ103	10K	
R208	ERJ12YJ330	33	
R209	ERJ12YJ330	33	
R211	ERJ3GEYJ103	10K	
R212	ERJ12YJ330	33	
R213	ERJ12YJ330	33	
R215	ERJ3GEYJ103	10K	
R216	ERJ12YJ330	33	
R220	ERJ3GEYJ330	33	
		(IC FILTERS)	
FL101	J0HAAB000020	IC FILTER	

Ref. No.	Part No.	Part Name & Description	Remarks
FL102	J0HAAB000020	IC FILTER	
		(COILS)	
L101A	PSLQR1K102MT	COIL	
L101B	PSLQR1K102MT	COIL	
L101C	PSLQR1K102MT	COIL	
L101D	PSLQR1K102MT	COIL	
L102A	PSLQR1K102MT	COIL	
L102B	PSLQR1K102MT	COIL	
L102C	PSLQR1K102MT	COIL	
L102D	PSLQR1K102MT	COIL	
		(RELAYS)	
RL101A	K6B1AGA00006	RELAY	
RL101B	K6B1AGA00006	RELAY	
RL101C	K6B1AGA00006	RELAY	
RL101D	K6B1AGA00006	RELAY	
RL102A	PSSLG5V1Z	RELAY	S
RL102C	PSSLG5V1Z	RELAY	S
		(TRANSFORMERS)	
T100A	G5A1A0000004	TRANSFORMER	
T100C	G5A1A0000004	TRANSFORMER	
		(VARISTORS)	
ZNR10A	D4ED3180A001	VARISTOR	
ZNR10B	D4ED3180A001	VARISTOR	
ZNR10C	D4ED3180A001	VARISTOR	
ZNR10D	D4ED3180A001	VARISTOR	
ZNR11A	D4ED3180A001	VARISTOR	
ZNR11B	D4ED3180A001	VARISTOR	
ZNR11C	D4ED3180A001	VARISTOR	
ZNR11D	D4ED3180A001	VARISTOR	

15 FOR SCHEMATIC DIAGRAM

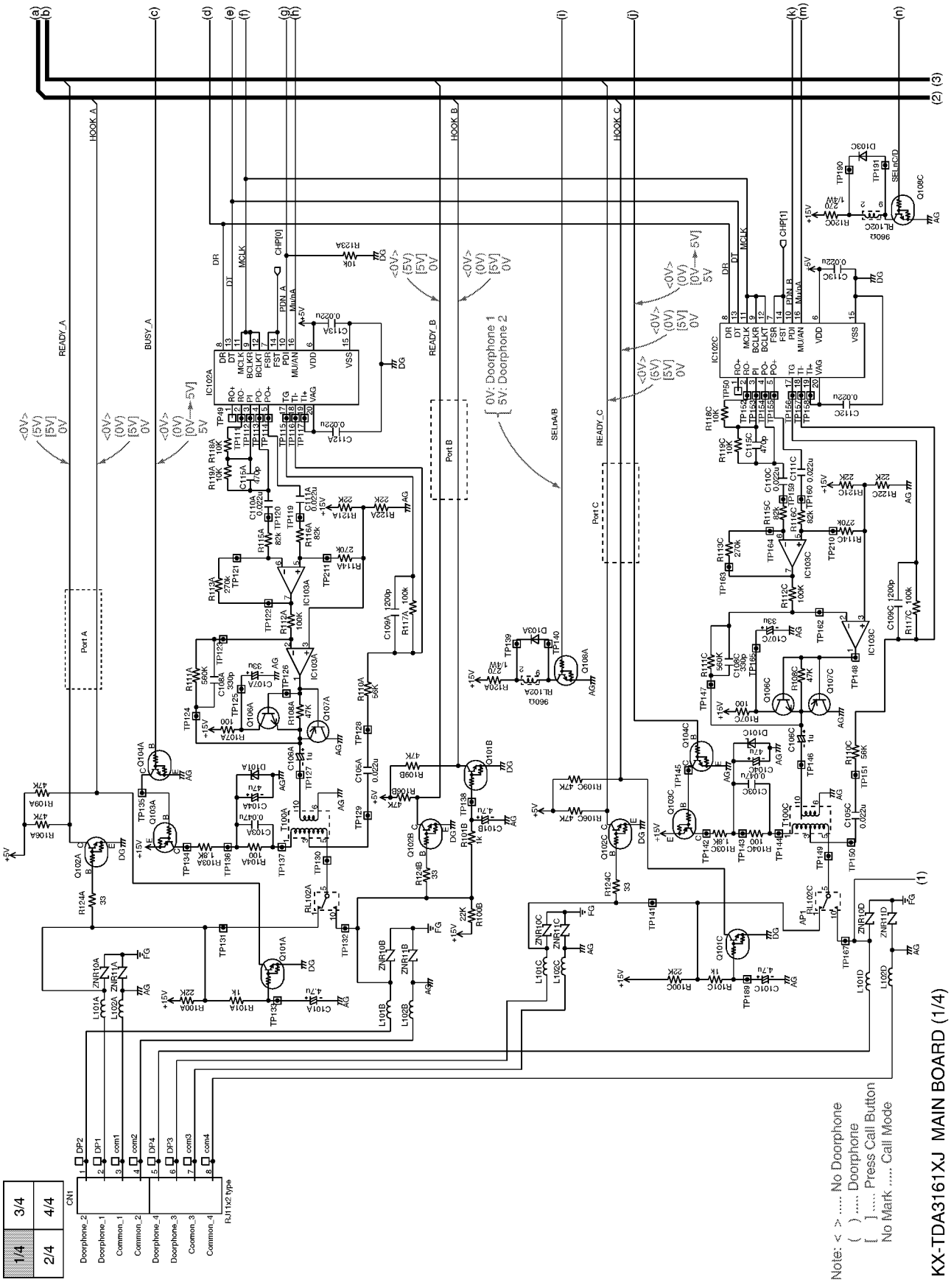
Note:

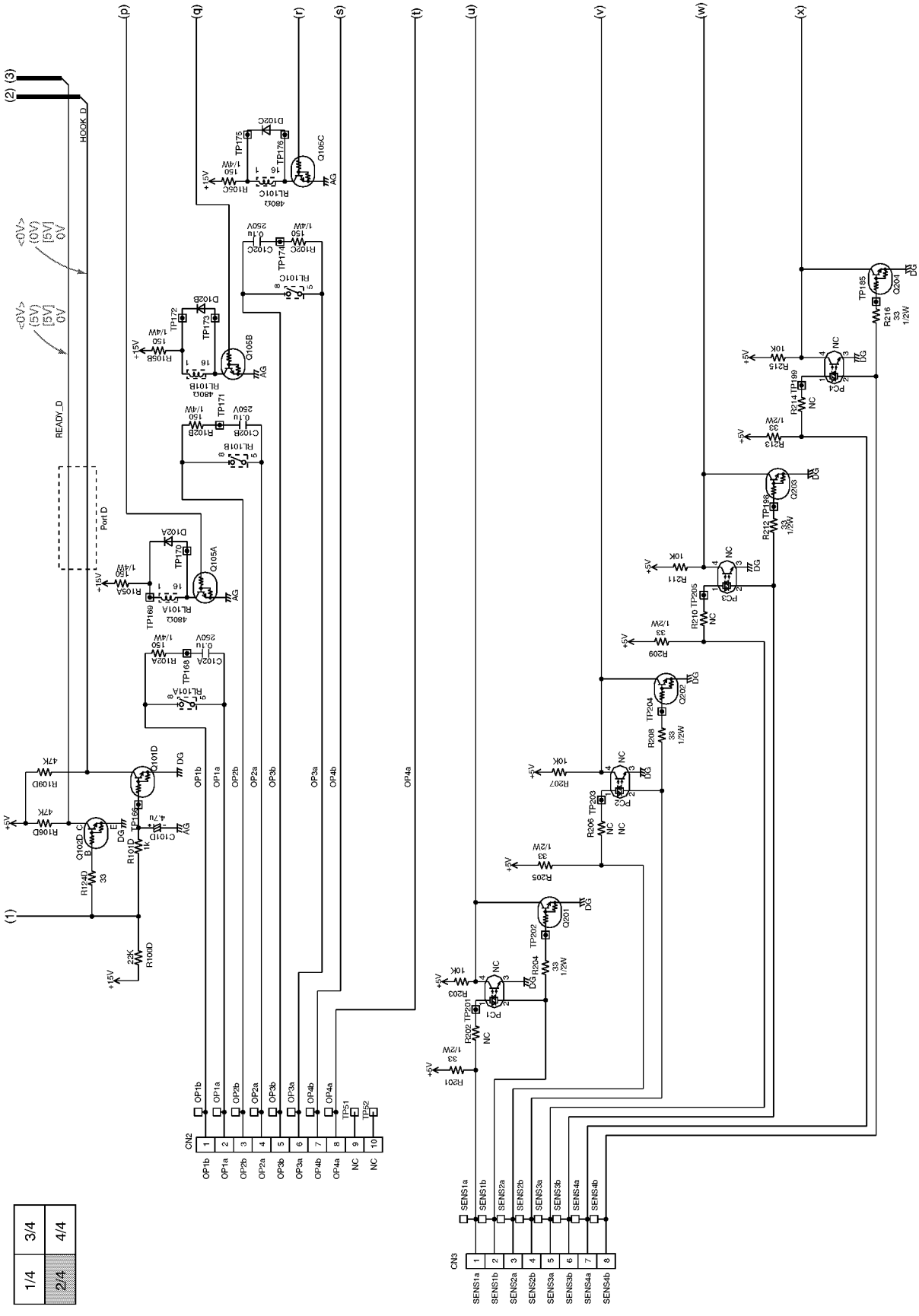
1. DC voltage measurements are taken with voltmeter from the negative voltage line.

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

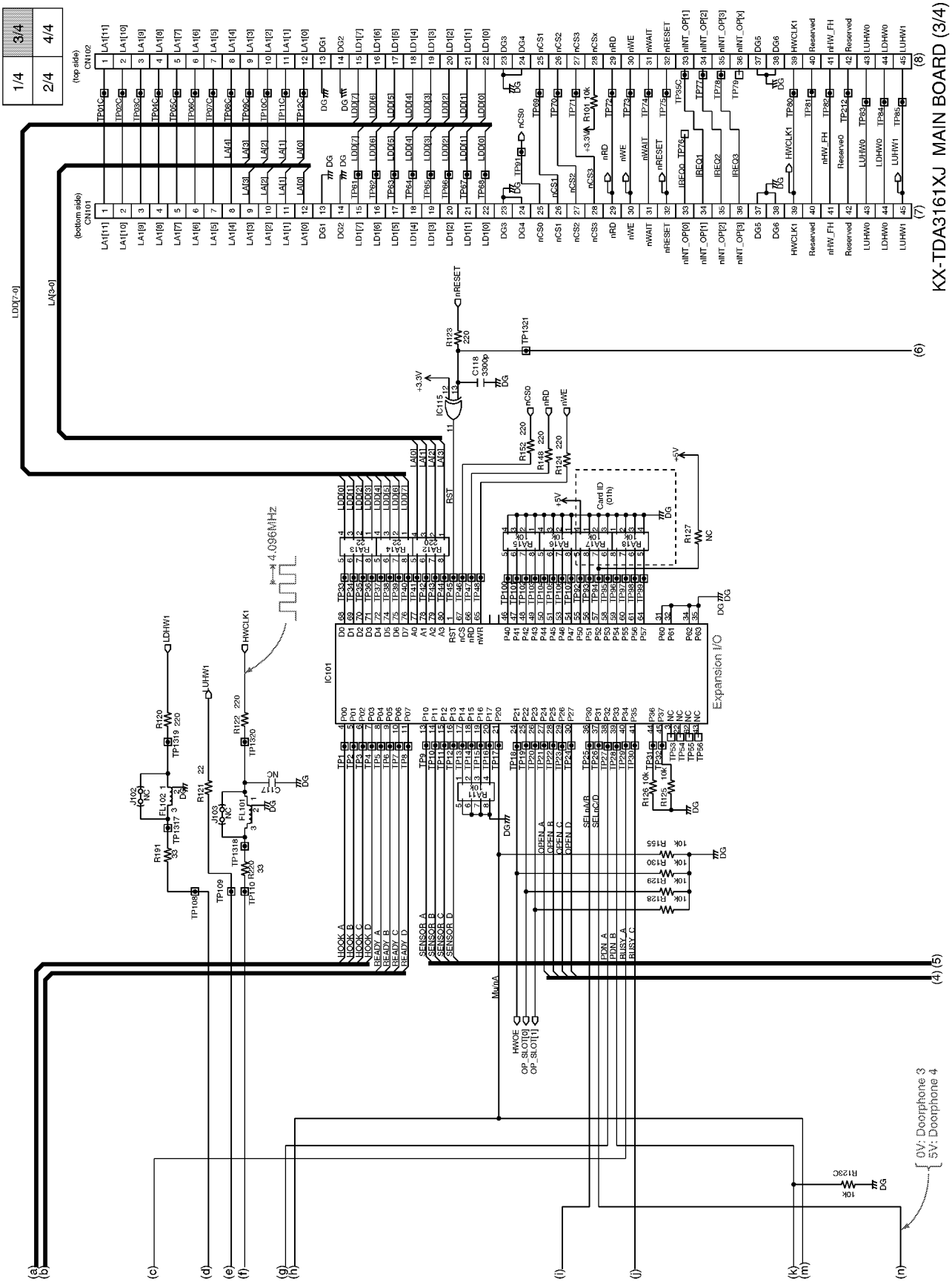
2. This schematic diagram may be modified at any time with the development of new technology.

16 SCHEMATIC DIAGRAM

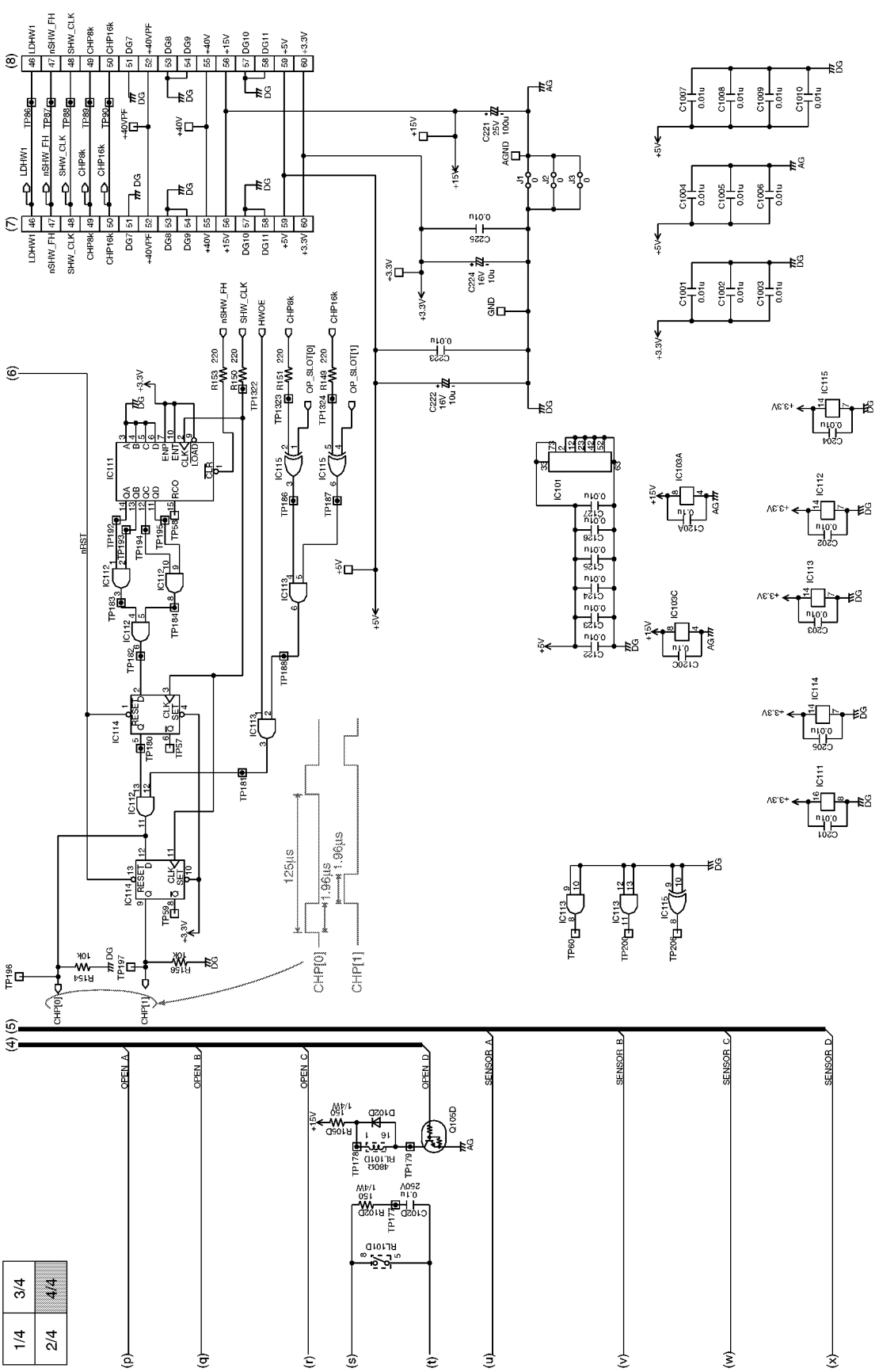




KX-TDA3161XJ MAIN BOARD (2/4)


KX-TDA3161XJ MAIN BOARD (3/4)
1/4
3/4
2/4
4/4
(top side)
CN102
(bottom side)
CN101
IC101
Expansion I/O
4.096MHz
Card ID (01h)
0V: Doorphone 3
5V: Doorphone 4

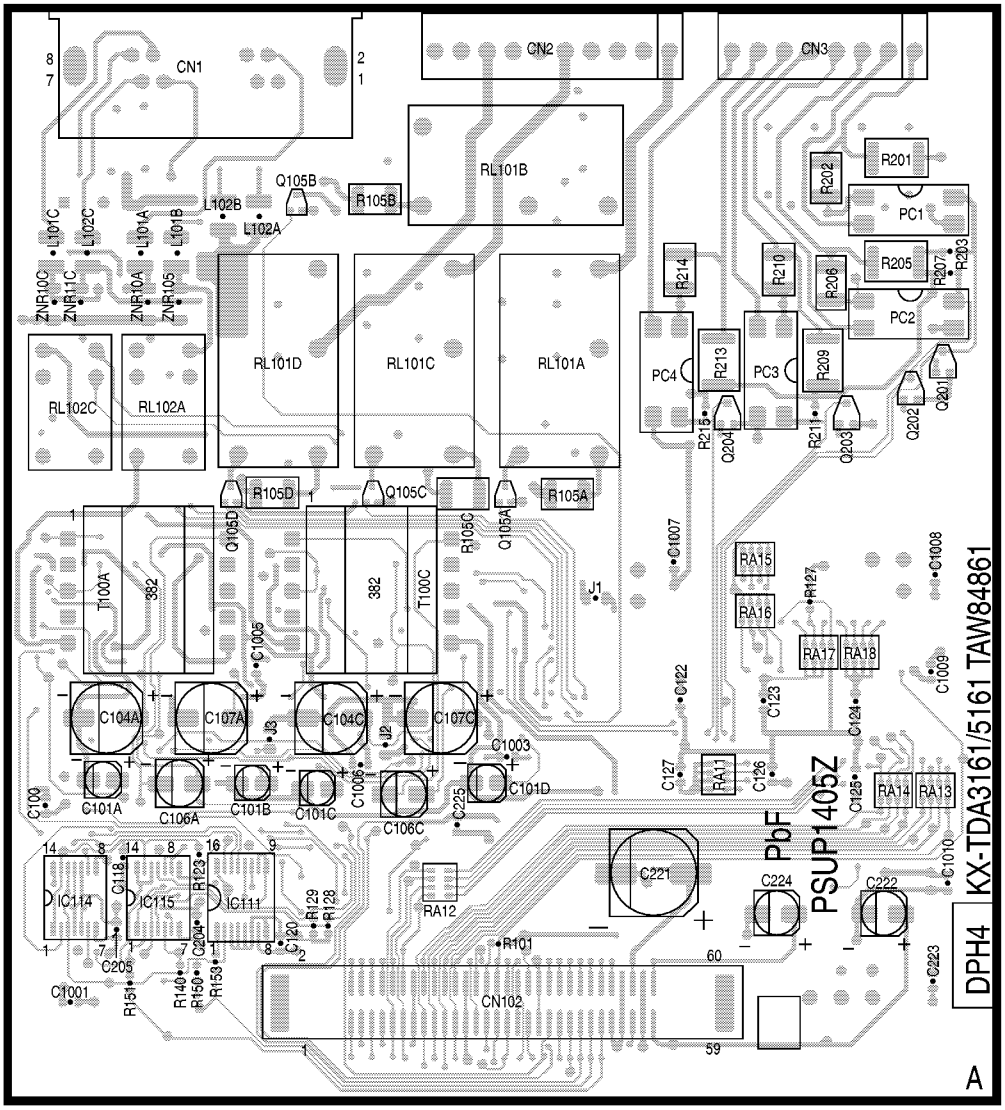
KX-TDA3161XJ MAIN BOARD (4/4)



1/4	3/4
2/4	4/4

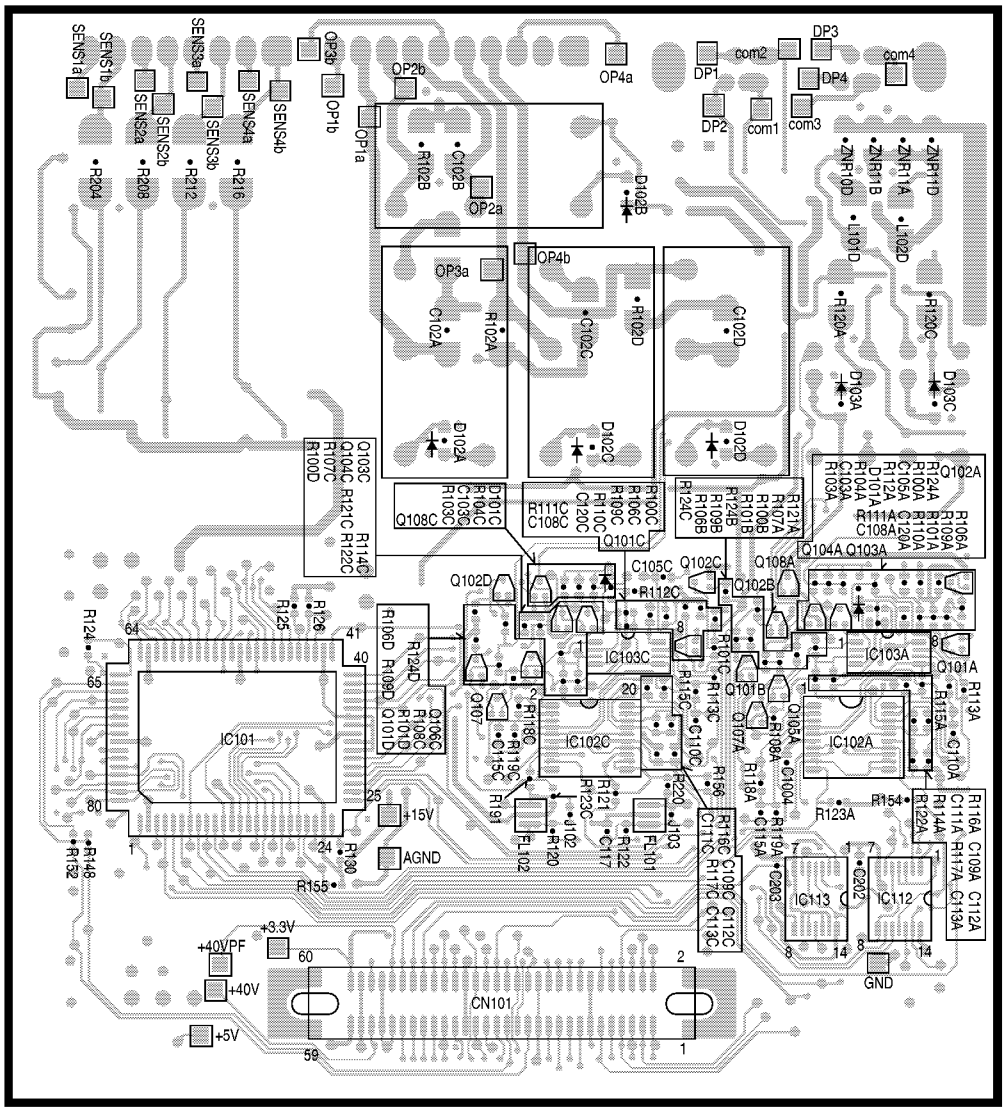
17 PRINTED CIRCUIT BOARD

17.1. Component View



KX-TDA3161XJ DPH4 COMPONENT VIEW

17.2. Bottom View



KX-TDA3161XJ DPH4 BOTTOM VIEW