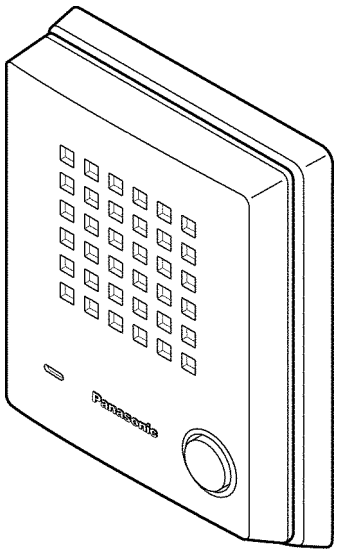
ORDER NO. KMS0802455CE

Service Manual

Easa-Phone

Model No. KX-T7765X

(for Asia, Oceania, Middle Near Esat, 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.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacements Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

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.

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

Panasonic

KX-T7765X

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1 Safety Precautions

1.1. For Service Technicians

- Repair service shall be provided in accordance with repair technology information such as service manual so as to prevent fires, injury or electric shock, which can be caused by improper repair work.
    1. When repair services are provided, neither the products nor their parts or members shall be remodeled.
    2. If a lead wire assembly is supplied as a repair part, the lead wire assembly shall be replaced.
    3. FASTON terminals shall be plugged straight in and unplugged straight out.
- ICs and LSIs are vulnerable to static electricity.
  When repairing, the following precautions will help prevent recurring malfunctions.
    1. Cover plastic parts boxes with aluminum foil.
    2. Ground the soldering irons.
    3. Use a conductive mat on worktable.
    4. Do not grasp IC or LSI pins with bare fingers.

2 Warning

2.1. About Lead Free Solder (PbF: Pb free)

Note:

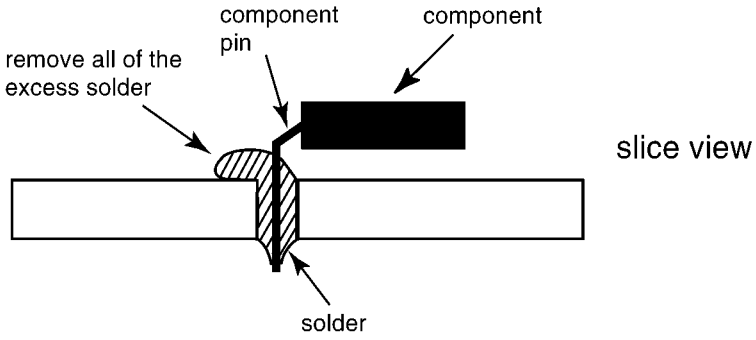
In the information below, Pb, the symbol for lead in the periodic table of elements, will refer to standard solder or solder that contains lead.

We will use PbF 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

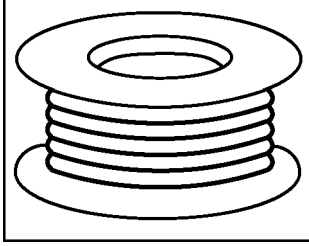
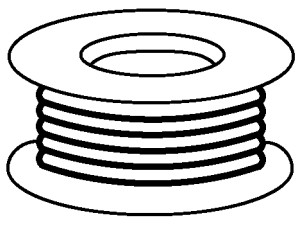
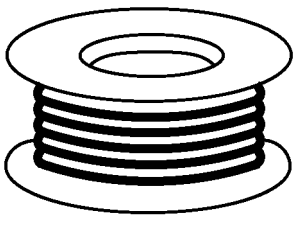
- PbF solder has a melting point that is 50° ~ 70° F, (30° ~ 40°C) higher than Pb solder. Please use a soldering iron with temperature control and adjust it to 700° ± 20° F, (370° ± 10°C).
  Exercise care while using higher temperature soldering irons.:
  Do not heat the PCB for too long time in order 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).



2.1.1. 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 manufac turer'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 sizes 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
		

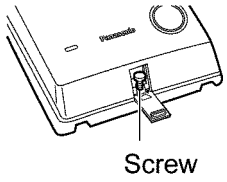
3 Specifications

Dimensions (D x W x H):	27 mm x 98 mm x 130 mm
Weight:	about 190g

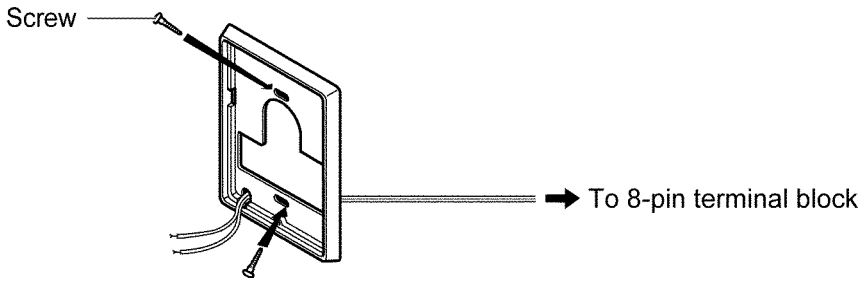
4 Installation Instructions

4.1. Installing the Doorphone

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.

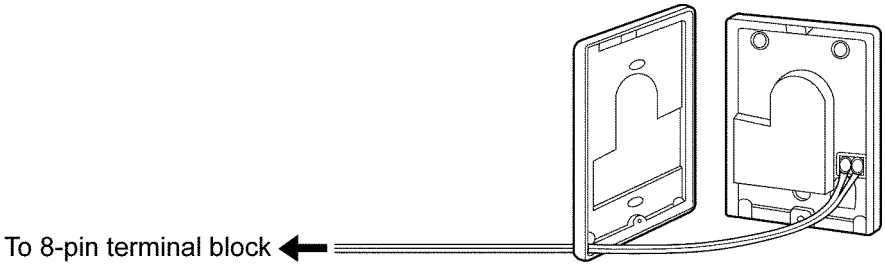


Note

 : when a doorphone plate has been fixed to the wall

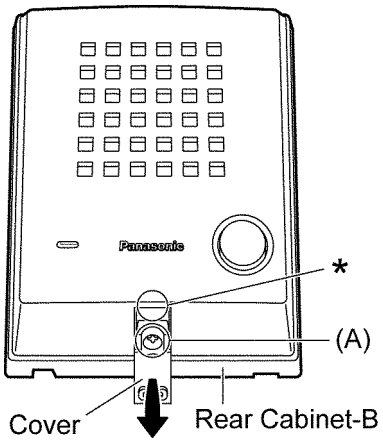
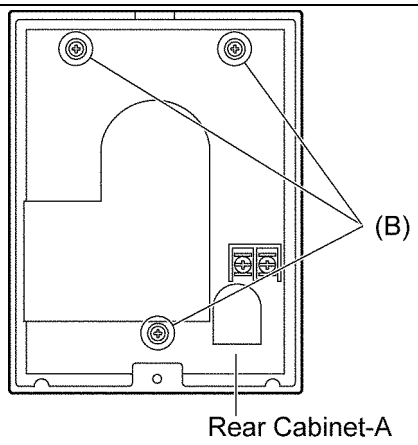
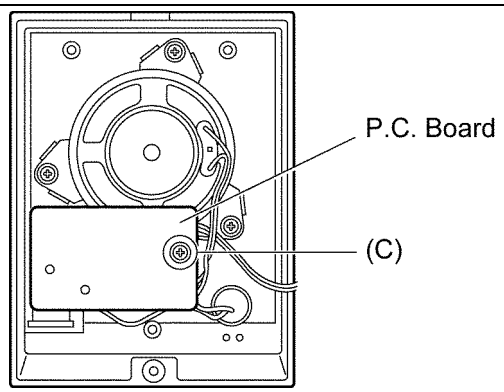
 : when you wish to install the doorphone directly onto the wall

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



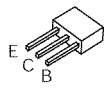
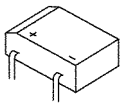
4. Re-attach the 2 halves and re-insert the screw.

5 Disassembly and Assembly Instructions

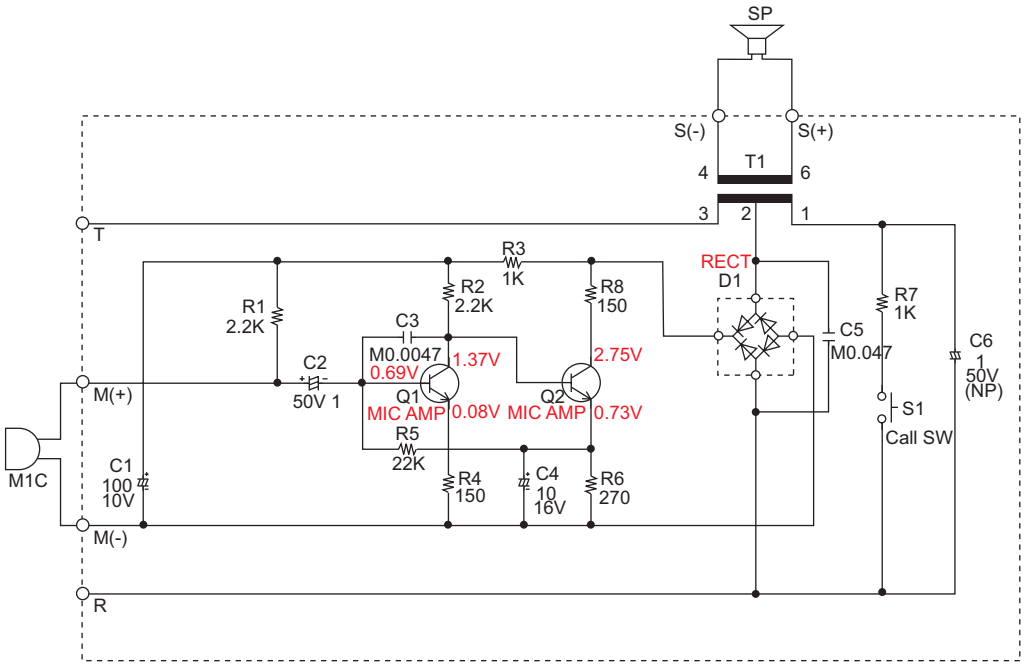
1. Remove 1 Screws (A). 2. Remove rear cabinet-B. * Note: When tightening the screw(s), do not scratch cabinet wall with a driver shaft.	
3. Remove 3 Screws (B). 4. Remove rear cabinet-A.	
5.Remove 1 Screws (C). 6. Remove P.C. Board.	

6 Miscellaneous

6.1. Terminal Guide of the ICs, Transistors and Diodes

	
2SC3311	PQVDS1YB60F1

7 Schematic Diagram



KX-T7765X SCHEMATIC DIAGRAM

7.1. Circuit Operation

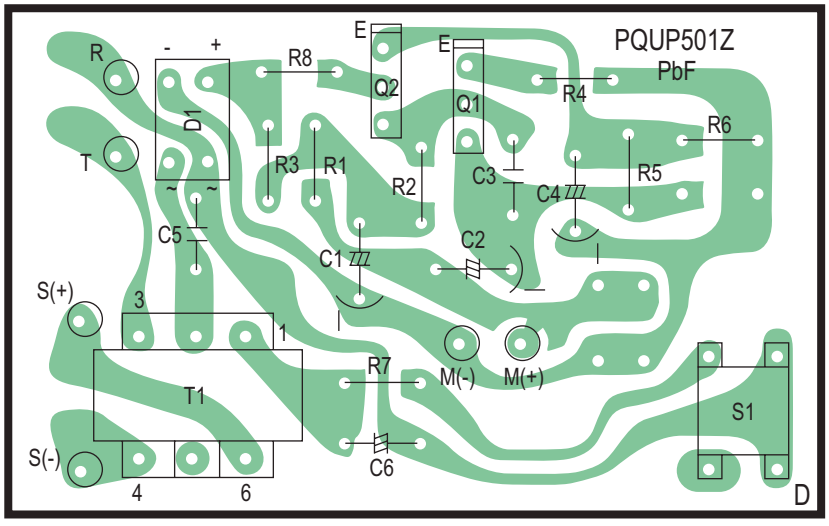
1. Call circuit
   Depressing switch S1 causes terminals 1 and 2 to be shorted through R7, therefore a call is detected at the doorphone adaptor side.
2. Conversation
   The transmited voice signal is sent to the doorphone adaptor via the following path.
   Mic → Q1, 2 → (Mic amp.) → D1 → T1 → Doorphone adaptor.
   The received voice signal is received at the SP via the terminal 1 → T1.

Note:

1. S1: Call switch.

8 Printed Circuit Board

8.1. Component View



KX-T7765X CIRCUIT BOARD Component View

9 Appendix Information of Schematic Diagram

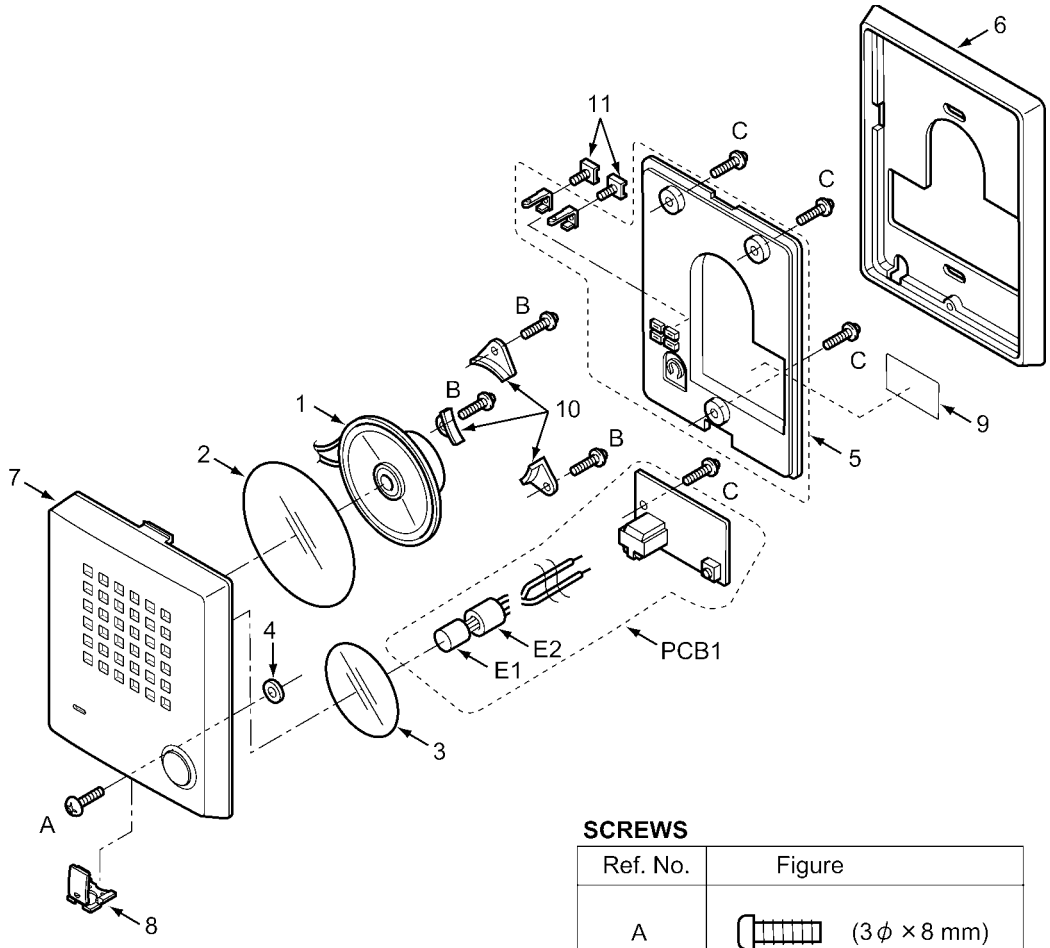
Note:

1. DC voltage measurements are taken with an oscilloscope or a tester with a ground.
2. 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 the manufacturer's specified parts.

10 Exploded View and Replacement Parts List

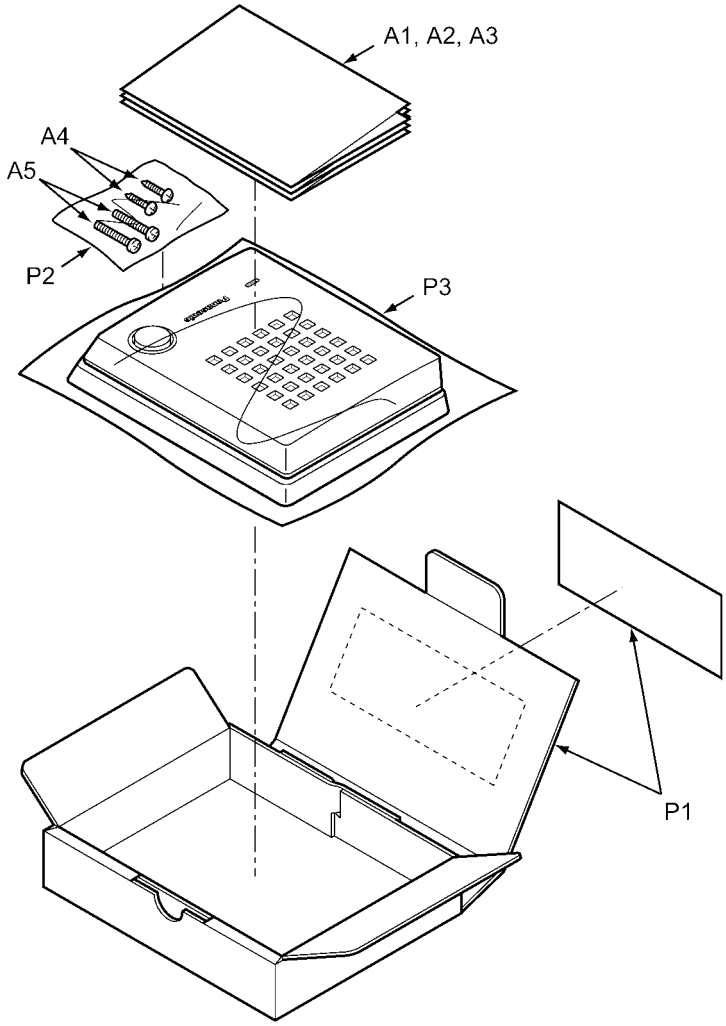
10.1. Cabinet and electrical Parts Location



SCREWS

Ref. No.	Figure
A	(3 ϕ × 8 mm)
B	(3 ϕ × 8 mm)
C	(3 ϕ × 10 mm)

10.2. Accessories and Packing Materials



10.3. Replacement Part List

Note:

1. RTL (Retention Time Limited)
   The "RTL" marking indicates that its Retention Time is Limited.
   When production is discontinued, this item will continue to be available only for a specific period of time. This period of time depends on the type of item, and the local laws governing parts and product retention.
   At the end of this period, the item will no longer be available.
2. Important safety notice
   Components identified by the ⚠ mark indicates special characteristics important for safety. When replacing any of these components, only use specified manufacture's 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 ERDS:Carbon ERJ:Chip	ERX:Metal Film ERG:Metal Oxide ER0:Metal Film	PQ4R:Chip 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 ECUV,PQCUV,ECUE:Chip ECQMS:Mica	ECCD,ECKD,ECBT,F1K,ECUV:Ceramic ECQE,ECQV,ECQG:Polyester ECEA,ECST,EEE:Electlytic 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 :16V 2A :100V

10.3.1. Cabinet and Electrical Parts

Ref. No.	Part No.	Part Name & Description	Remarks
1	PQAS6P05Z	SPEAKER	S
2	PQHR5059Z	WATER SHIELD PARTSSPEAKER	
3	PQHR5060Z	WATER SHIELD PARTS,MIC	
4	PQNW264Z	WASHER	
5	PSYF1T7765X	CABINET COVER ASS'YREAR CABINET-A ABS-HB	ABS-HB
6	PSYF2T7765X	CABINET COVER ASS'YREAR CABINET-B	ABS-HB
7	PSYMT7765X	FRONT CABINET	ABS-HB
8	PSHR1389Z1	SCREW COVER	S
9	PSYET7765X	NAME PLATE, AL	
10	RMS60Z	METAL PARTSBRACKET SPEAKER	
11	PQHE5010Z	SCREW WITH WASHER	
A	XSB3+8BN	SCREW	
B	XTW3+8PFJ7	SCREW	
C	XTW3+10PFJ7	SCREW	

10.3.2. Accessories and Packing Materials

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PSQW2492Z	IMPORTER'S NAME AND ADDRESS DIRECTORY	
A2	PSQW2401Y	WEEE LEAFLET	
A3	PSQW2627Z	IMFORMATION LEAFLET	
A4	XMM38+16BN	SCREW	
A5	XSB4+25BN	SCREW	
P1	PSZKT7765X	GIFT BOX	
P2	XZB06X10A05	PROTECTION COVER	
P3	XZB15X20A04	PROTECTION COVER	

10.3.3. Main P.C.Board Parts

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	PSWPT7765X	MAIN P.C.BOARD ASS'Y(RTL)	
		(TRANSISTOR)	
Q1	2SC3311	TRANSISTOR(SI)	
Q2	2SC3311	TRANSISTOR(SI)	
		(DIODE)	
D1	PQVDS1YB60F1	DIODE(SI)	
		(TRANSFORMER)	
T1	ETA14Y129AX	TRANSFORMER	
		(SWITCH)	
S1	K0H1BA000415	PUSH SWITCH	
		(RESISTORS)	
R1	ERDS2TJ222	2.2K	
R2	ERDS2TJ222	2.2K	
R3	ERDS2TJ102	1K	
R4	ERDS2TJ151	150	
R5	ERDS2TJ223	22K	
R6	ERDS2TJ271	270	
R7	ERDS2TJ102	1K	
R8	ERDS2TJ151	150	
		(CAPACITORS)	
C1	ECEA1CK101	100	S
C2	ECEA1HKS010	1	S
C3	ECQB1H472JF	0.0047	
C4	ECEA1CKS100	10	S
C5	ECQV1H473JZ	0.047	S
C6	ECEA1HN010S	1	S
		(OTHERS)	
E1	RJM142Z	MICROPHONE	S
E2	PQHG503Z	RUBBER PARTS,MIC	