

MICRO COMPONENT SYSTEM RDX-E600MK2

RX-E600MK2

SERVICE MANUAL

RX-E600MK2

This Service Manual describes only the items that differ from RX-E600/NX-E400's.
For the items not described in this Service Manual, refer to RX-E600/NX-E400
100923 Service Manual.

The RDX-E600MK2 is composed of the RX-E600MK2 and the DVD-E600MK2.
This service manual is for the RX-E600MK2.
For the DVD-E600MK2 service manual, please refer to the following publication
number:

DVD-E600MK2 100984

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel.
It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

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100983

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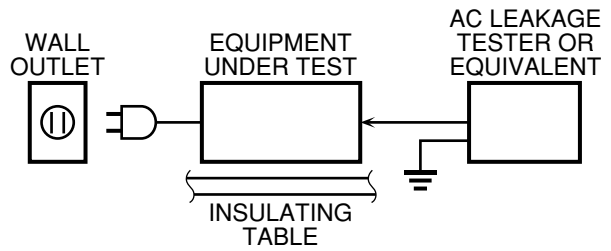
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YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

'05.10

■ TO SERVICE PERSONNEL

1. Critical Components Information
Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
2. Leakage Current Measurement (For 120V Models Only)
When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.
 - Meter impedance should be equivalent to 1500 ohms shunted by 0.15μF.



- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the manufacturing process except soldering of the P.C.B. ass'y contains LEAD. In addition, other electrical/electronic and /or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

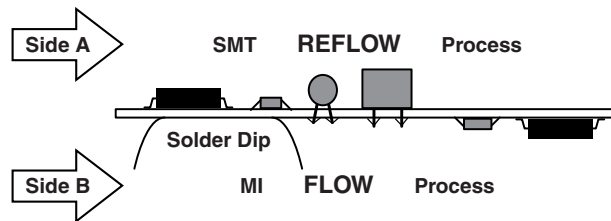
Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

About Lead Free Solder

The P.C.B.s installed in this unit are soldered using the following solder.

	SIDE A	SIDE B
MAIN P.C.B	-	Lead Free Solder
OPERATION P.C.B	-	Lead Free Solder



Among some types of lead free solder currently available, it is recommended to use one of the following types for the repair work.

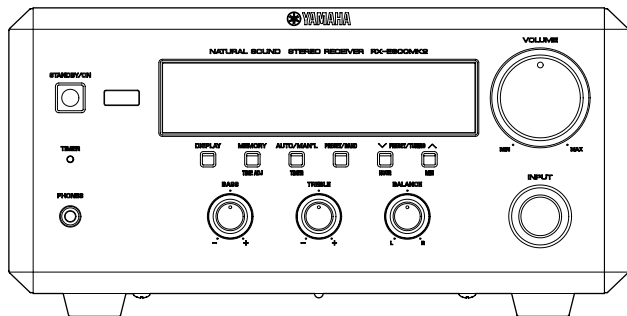
- Sn + Ag + Cu (tin + silver + copper)
- Sn + Cu (tin + copper)
- Sn + Zn + Bi (tin + zinc + bismuth)

Caution:

1. As the melting point temperature of the lead free solder is about 30°C to 40°C (50°F to 70°F) higher than that of the lead solder, be sure to use a soldering iron suitable to each solder.
2. If lead solder must be used, be sure to remove lead free solder from each terminal section of the parts to be replaced and from the area around it completely before soldering, or make sure that the lead free solder and lead solder melt together fully.

FRONT PANEL

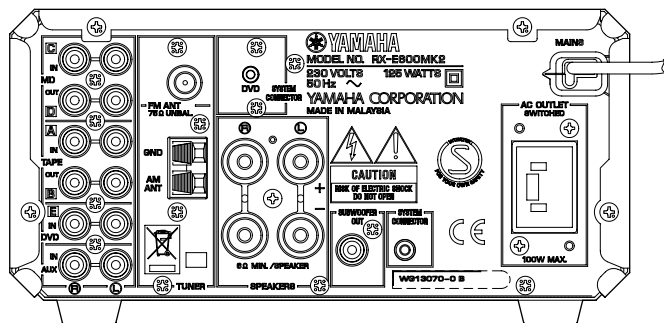
B, G, E models



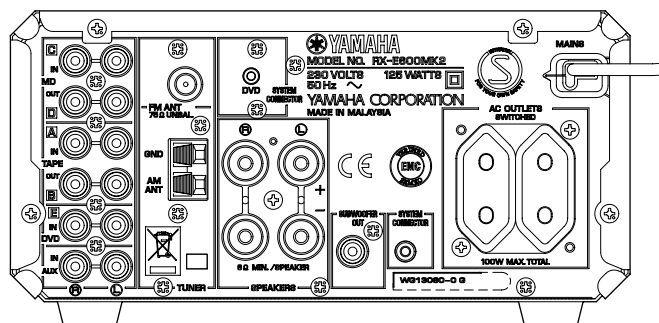
- **Finish**
 Silver Color B, G, E models
 Gold Color G, E models

REAR PANELS

B model

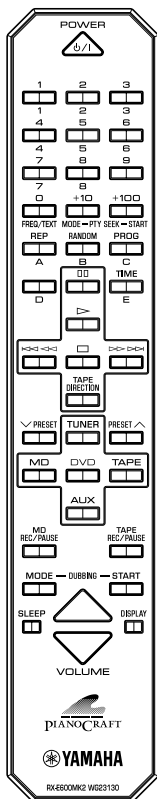


G, E models



REMOTE CONTROL PANEL

B, G, E models




RX-E600MK2

PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

- Components having special characteristics are marked  and must be replaced with parts having specifications equal to those originally installed.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

C.A.EL.CHP	: CHIP ALUMI.ELECTROLYTIC CAP	L.EMIT	: LIGHT EMITTING MODULE
C.CE	: CERAMIC CAP	LED.DSPLY	: LED DISPLAY
C.CE.ARRAY	: CERAMIC CAP ARRAY	LED.INFRD	: LED,INFRARED
C.CE.CHP	: CHIP CERAMIC CAP	MODUL.RF	: MODULATOR,RF
C.CE.ML	: MULTILAYER CERAMIC CAP	PHOT.CPL	: PHOTO COUPLER
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP	PHOT.INTR	: PHOTO INTERRUPTER
C.CE.SAFTY	: RECOGNIZED CERAMIC CAP	PHOT.RFLCT	: PHOTO REFLECTOR
C.CE.TUBLR	: CERAMIC TUBULAR CAP	PIN.TEST	: PIN,TEST POINT
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP	PLST.RIVET	: PLASTIC RIVET
C.EL	: ELECTROLYTIC CAP	R.ARRAY	: RESISTOR ARRAY
C.MICA	: MICA CAP	R.CAR.	: CARBON RESISTOR
C.ML.FLM	: MULTILAYER FILM CAP	R.CAR.CHP	: CHIP RESISTOR
C.MP	: METALLIZED PAPER CAP	R.CAR.FP	: FLAME PROOF CARBON RESISTOR
C.MYLAR	: MYLAR FILM CAP	R.FUS	: FUSABLE RESISTOR
C.MYLAR.ML	: MULTILAYER MYLAR FILM CAP	R.MTL.CHP	: CHIP METAL FILM RESISTOR
C.PAPER	: PAPER CAPACITOR	R.MTL.FLM	: METAL FILM RESISTOR
C.PLS	: POLYSTYRENE FILM CAP	R.MTL.OXD	: METAL OXIDE FILM RESISTOR
C.POL	: POLYESTER FILM CAP	R.MTL.PLAT	: METAL PLATE RESISTOR
C.POLY	: POLYETHYLENE FILM CAP	RSNR.CE	: CERAMIC RESONATOR
C.PP	: POLYPROPYLENE FILM CAP	RSNR.CRYS	: CRYSTAL RESONATOR
C.TNTL	: TANTALUM CAP	R.TW.CEM	: TWIN CEMENT FIXED RESISTOR
C.TNTL.CHP	: CHIP TANTALUM CAP	R.CEMENT	: CEMENT RESISTOR
C.TRIM	: TRIMMER CAP	SCR.BND.HD	: BIND HEAD B-TITE SCREW
CN	: CONNECTOR	SCR.BW.HD	: BW HEAD TAPPING SCREW
CN.BS.PIN	: CONNECTOR,BASE PIN	SCR.CUP	: CUP TITE SCREW
CN.CANNON	: CONNECTOR,CANNON	SCR.TERM	: SCREW TERMINAL
CN.DIN	: CONNECTOR,DIN	SCR.TR	: SCREW,TRANSISTOR
CN.FLAT	: CONNECTOR,FLAT CABLE	SUPRT.PCB	: SUPPORT,P.C.B.
CN.POST	: CONNECTOR,BASE POST	SURG.PRTCT	: SURGE PROTECTOR
COIL.MX.AM	: COIL,AM MIX	SW.TACT	: TACT SWITCH
COIL.AT.FM	: COIL,FM ANTENNA	SW.LEAF	: LEAF SWITCH
COIL.DT.FM	: COIL,FM DETECT	SW.LEVER	: LEVER SWITCH
COIL.MX.FM	: COIL,FM MIX	SW.MICRO	: MICRO SWITCH
COIL.OUTPT	: OUTPUT COIL	SW.PUSH	: PUSH SWITCH
DIOD.ARRAY	: DIODE ARRAY	SW.RT.ENC	: ROTARY ENCODER
DIODE.BRG	: DIODE BRIDGE	SW.RT.MTR	: ROTARY SWITCH WITH MOTOR
DIODE.CHP	: CHIP DIODE	SW.RT	: ROTARY SWITCH
DIODE.VAR	: VARACTOR DIODE	SW.SLIDE	: SLIDE SWITCH
DIOD.Z.CHP	: CHIP ZENER DIODE	TERM.SP	: SPEAKER TERMINAL
DIODE.ZENR	: ZENER DIODE	TERM.WRAP	: WRAPPING TERMINAL
DSCR.CE	: CERAMIC DISCRIMINATOR	THRMST.CHP	: CHIP THERMISTOR
FER.BEAD	: FERRITE BEADS	TR.CHP	: CHIP TRANSISTOR
FER.CORE	: FERRITE CORE	TR.DGT	: DIGITAL TRANSISTOR
FET.CHP	: CHIP FET	TR.DGT.CHP	: CHIP DIGITAL TRANSISTOR
FL.DSPLY	: FLUORESCENT DISPLAY	TRANS	: TRANSFORMER
FLTR.CE	: CERAMIC FILTER	TRANS.PULS	: PULSE TRANSFORMER
FLTR.COMB	: COMB FILTER MODULE	TRANS.PWR	: POWER TRANSFORMER ASS'Y
FLTR.LC.RF	: LC FILTER,EMI	TUNER.AM	: TUNER PACK,AM
GND.MTL	: GROUND PLATE	TUNER.FM	: TUNER PACK,FM
GND.TERM	: GROUND TERMINAL	TUNER.PK	: FRONT-ENDTUNER PACK
HOLDER.FUS	: FUSE HOLDER	VR	: ROTARY POTENTIOMETER
IC.PRTCT	: IC PROTECTOR	VR.MTR	: POTENTIOMETER WITH MOTOR
JUMPER.CN	: JUMPER CONNECTOR	VR.SW	: POTENTIOMETER WITH ROTARY SW
JUMPER.TST	: JUMPER,TEST POINT	VR.SLIDE	: SLIDE POTENTIOMETER
L.DTCT	: LIGHT DETECTING MODULE	VR.TRIM	: TRIMMER POTENTIOMETER

• **Notes**

For the MAIN P.C.B.'s parts, refer to RX-E600/NX-E400 Service Manual.

The chip resistor is not supplied as a replacement part.

* When a chip resistor is necessary, use the following part.

AAX60720: CHIP RESISTOR SAMPLE BOOK

P.C.B. OPERATION

Ref. No.	Part No.	Description	Markets
*	WG115800	P. C. B.	OPERATION:SI
	CB707	VU281700 CN	17P
	C707	UM416220 C. EL	2.2uF 50V
	C708	UM397100 C. EL	10uF 16V
	C710-711	VE326100 C. MYLAR. ML	0.12uF 50V
	C712-713	UM388100 C. EL	100uF 10V
	C714	VU545000 C. EL	47000uF 5.5V
	C715-716	UA654330 C. MYLAR	0.033uF 50V
	C717	UM416100 C. EL	1uF 50V
	C720	UM388100 C. EL	100uF 10V
	C721	UA654100 C. MYLAR	0.01uF 50V
	C723	UA654100 C. MYLAR	0.01uF 50V
	C724	UM416220 C. EL	2.2uF 50V
	C725	UA654100 C. MYLAR	0.01uF 50V
	D701	VU171900 DIODE. ZENR	UDZ5.1B 5.1V
	D702	VT332900 DIODE	1SS355
	D703	VU171900 DIODE. ZENR	UDZ5.1B 5.1V
	D704	VR711400 LED(gr)	SLR-325MC
	D705	VU171900 DIODE. ZENR	UDZ5.1B 5.1V
	D706-709	VT332900 DIODE	1SS355
	D710-711	VU172100 DIODE. ZENR	UDZS6.2B 6.2V
*	IC700	X6072C00 IC. CPU	M30217M8-A105FP
	JK700	V3589000 JACK. MNI	HTJ-035-18EBGT
	JK701	WD662100 JACK. PIN	4P JY-2522
	Q700	VD678500 TR. DGT	DTA114ES
	Q701	VV655700 TR. DGT	DTC144EKA
	Q702	VP872700 TR	2SC4488 S, T
	Q703	VV556500 TR	2SA1037K Q, R, S
	ST700-702	V4040500 SCR. TERM	M3
	SW700	V9291700 SW. RT. ENC	XREB12105PVB25F
	SW701-707	V2014900 SW. TACT	EVQ21304M
	U700	V3872300 L. DTCT	PIC-28143TH5
	V700	V3579300 FL. DSPLY	16-BT-67GN
	VR700	V3555600 VR	B20KΩ
	VR701	V3555700 VR	W25KΩ
	VR702	V3555800 VR	MN100KΩ
	XL700	VQ328900 RSNR. CRYST	32.768KHz
	XL701	V7718300 RSNR. CE	CSTLS10M0653-B0
%		VR519500 SHEET/FL	GD
		V3688300 SHEET/FL	SI
		V3747400 SPACER/FL	T4x6x18
		V3747500 SUPRT/FL	

%: Note on the OPERATION P.C.B.

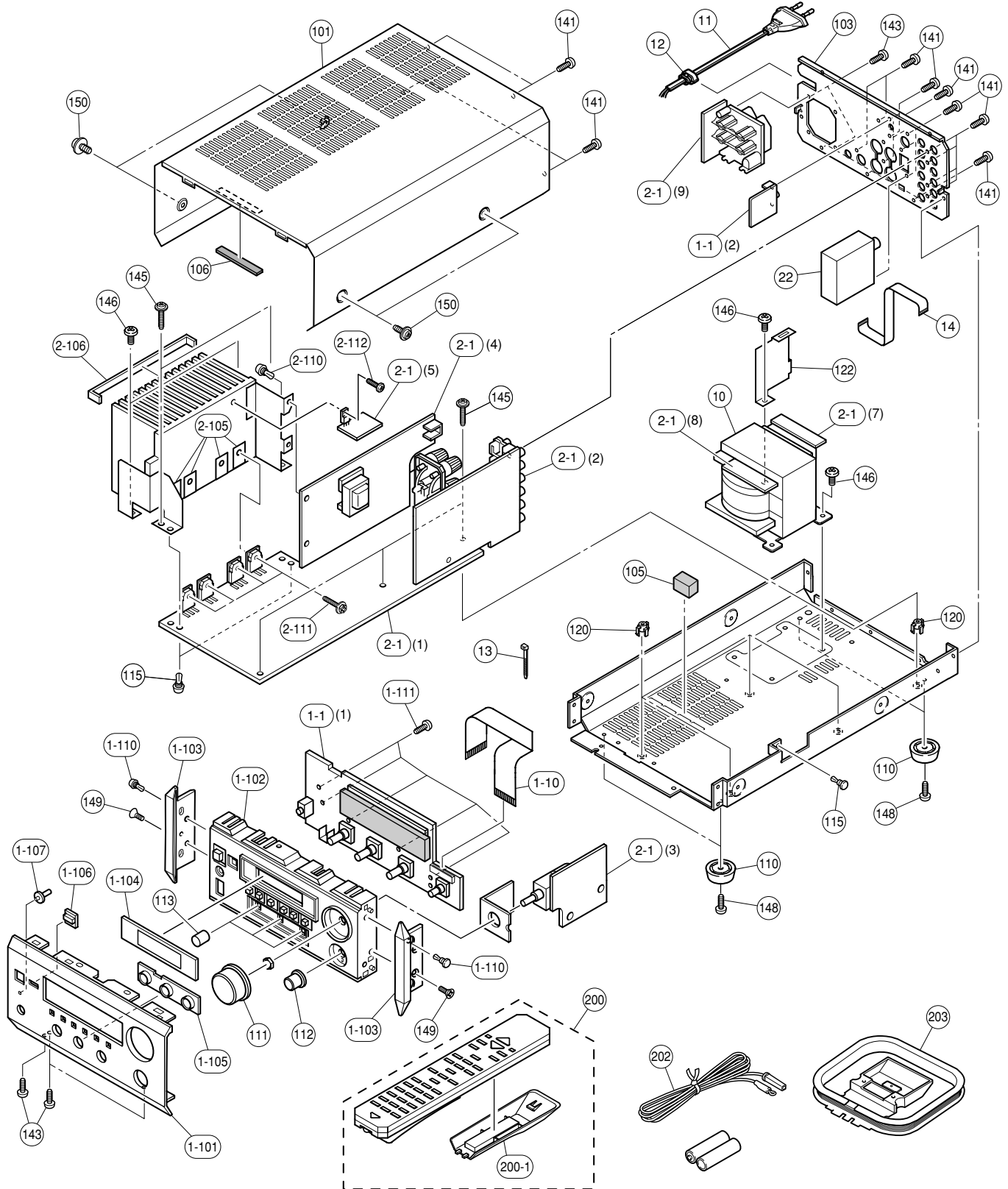
Of the OPERATION P.C.B. part Nos., only the silver (SI) type part Nos. are included in the table.

The only different part between the gold (GD) and silver (SI) type parts is the sheet/FL that is attached to the fluorescent character display tube. When a gold (GD) type OPERATION P.C.B. becomes necessary, order a silver (SI) type OPERATION P.C.B. and a gold (GD) type sheet/FL (VR519500) and replace the sheet/FL of the silver (SI) type OPERATION P.C.B. with the gold (GD) type sheet/FL.

*: New Parts

RX-E600MK2

EXPLODED VIEW



%: Note on the OPERATION P.C.B.

Of the OPERATION P.C.B. part Nos., only the silver (SI) type part Nos. are included in the table.

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MECHANICAL PARTS

Ref. No.	Part No.	Description	Remarks	Markets	
*	1-1	WG115800	P.C.B. ASS'Y	OPERATION	SI
	1-10	MF117120	FLEXIBLE FLAT CABLE	17P 120mm P=1.25	
*	1-101	WG131000	FRONT PANEL		GD
*	1-101	WG130900	FRONT PANEL		SI
	1-102	V8785100	SUB PANEL-RX		GD
	1-102	V8785000	SUB PANEL-RX		SI
	1-103	V8785200	PANEL/SIDE	H100	
	1-104	V8786500	SHEET/WINDOW		
	1-105	V8785600	ESCUTCHEON/3P		GD
	1-105	V8785500	ESCUTCHEON/3P		SI
	1-106	V8785300	LENS/REMOCON		
	1-107	V8785400	LENS/1P		
	1-110	VQ368600	PUSH RIVET	P3555-B	
	1-111	VF617600	PAN HEAD P-TIGHT SCREW	2.6x8 MFC2BL	
	2-1	V9332100	P.C.B. ASS'Y	MAIN	B
	2-1	V9332200	P.C.B. ASS'Y	MAIN	GE
	2-105	VV849300	RADIATION SHEET	19x24	
	2-106	VP922500	DAMPER	2x10x170	
	2-110	VQ368600	PUSH RIVET	P3555-B	
	2-111	VK173200	SCREW, TRANSISTOR	3x15 SP MFC2	
	2-112	EP600250	BIND HEAD B-TIGHT SCREW	3x8 MFZN2Y	
⚠	10	X2699A00	POWER TRANSFORMER		
⚠	11	WF723100	POWER CABLE	2m	B
⚠	11	VN363600	POWER CABLE	2m	GE
	12	V2438700	CORD STOPPER	10P1	
	13	VU590000	BINDING TIE	CBTD001B	
	14	MF115120	FLEXIBLE FLAT CABLE	15P 120mm P=1.25	
	22	V6782400	AM/FM TUNER	TFCE1E317A	
	101	V8784300	TOP COVER		GD
	101	V8784200	TOP COVER		SI
*	103	WG130700	REAR PANEL		B
*	103	WG130800	REAR PANEL		GE
	105	VQ390100	DAMPER	8x8x15	
	106	VP857700	DAMPER	4x6x5	
	110	V3688500	LEG	M0080-M0	
	111	WB249400	KNOB D30	VOLUME	GD
	111	WB249300	KNOB D30	VOLUME	SI
	112	WB248700	KNOB D15	INPUT	GD
	112	WB248600	KNOB D15	INPUT	SI
	113	V8786200	KNOB/D10-P		GD
	113	V8786100	KNOB/D10-P		SI
	115	VQ368600	PUSH RIVET	P3555-B	
	120	VR264400	SPACER	H8	
	122	V9817200	SHEET/BARRIER-RX		
	141	WE774100	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2B3	
	143	WE774300	BIND HEAD B-TIGHT SCREW	3x8 MFZN2W3	
	145	VT669400	PW HEAD B-TIGHT SCREW	3x15-8 MFC2	
	146	V2728500	BIND HEAD S-TIGHT SCREW	4x7 MFZN2BL	
	148	VT669300	PW HEAD B-TIGHT SCREW	3x8-8 MFC2	
	149	EP600790	FLAT HEAD B-TIGHT SCREW	3x8 MFZN2BL	
	150	VY712800	PW HEAD B-TIGHT SCREW	3x8-8 MFN133	
%		VR519500	SHEET, FL		GD
			ACCESSORIES		
*	200	WG231300	REMOTE CONTROL	RC-7060-01-00XX	
	200-1	AAX13340	BATTERY COVER	BLJYE 60050001	60050001
	202	VQ147100	INDOOR FM ANTENNA	1.4m 1pc	
	203	VR248500	AM LOOP ANTENNA	1.0m 1pc	
			BATTERY, MANGANESE	SUM-3N 2pcs	

* New Parts

RX-E600MK2



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