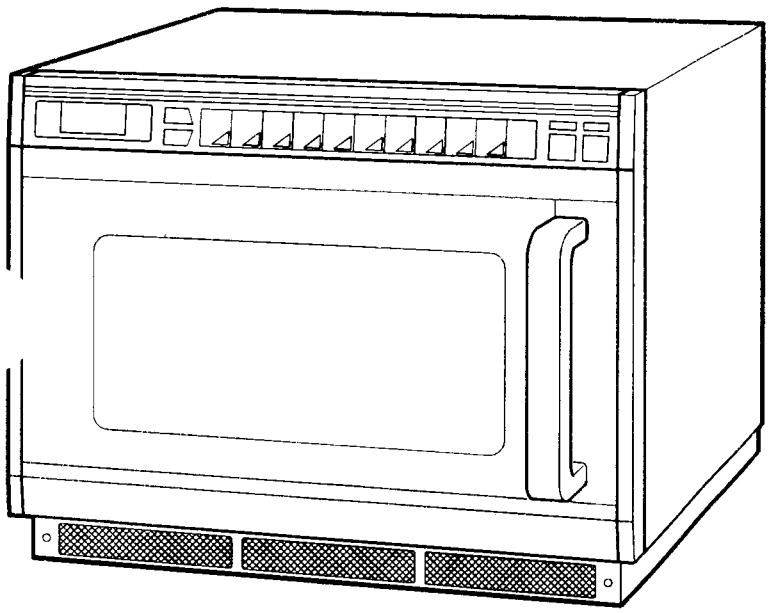
SANYO

SERVICE MANUAL Microwave Oven

EM-C1800K(Germany)
EM-C1800K(U.K)



Model No.	Pro.Code No.
EM-C1800KSD	437 476 00
EM-C1800KUK	437 476 01

Foreword

Read this manual carefully, especially precaution on microwave energy, and follow the procedure strictly, careless servicing and testing may expose yourself to the microwave energy leakage.

PRECAUTIONS

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not operate or allow the oven to be operated with the door open.
(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:
(1)Interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.
(c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.
(d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

REFERENCE NO. SM-640176

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CAUTION
MICROWAVE RADIATION
PERSONNEL SHOULD NOT BE EXPLOSED TO THE MICROWAVE ENERGY WHICH MAY RADIATE FROM THE MAGNETRON OR OTHER MICROWAVE GENERATING DEVICE IF IT IS IMPROPERLY USE OR CONNECTED. ALL INPUT MICROWAVE CONNECTIONS, WAVEGUIDE, FLANGES, AND GASKETS MUST BE SECURE. NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED. NEVER LOOK INTO AN OPEN WAVEGUIDE OR ANTENNA WHILE THE DEVICE IS ENERGIZED.

1. ADJUSTMENT PROCEDURES

TO AVOID POSSIBLE EXPOSURE TO MICROWAVE ENERGY LEAKAGE, THE FOLLOWING ADJUSTMENTS OF THE INTERLOCK SWITCHES SHOULD BE MADE ONLY BY AUTHORIZED SERVICE PERSONNEL.

PRIMARY INTERLOCK SWITCH, INTERLOCK MONITOR SWITCH AND DOOR SENSING SWITCH ADJUSTMENT

(Figure 1)

(1) Loosen 2 screws securing the lever stopper.
(2) Adjust the lever stopper position so that it is pushed up and pull backward until there is about zero gap between the latch lever and the switch body on the door primary interlock switch and the at the same time there is about zero gap between latch lever and the switch body on the door sensing switch when the door latch is securely locked.
(3) Tighten the lever stopper screws securely.
(4) Make sure the interlock monitor switch closes after the primary interlock switch opens the door is opened very slowly, according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 6.
(5) Make sure the interlock monitor switch opens before the primary interlock switch closes when the door is closed very slowly, according to CHECKOUT PROCEDURE FOR SWITCHES" on page 7.
(6) Make sure the microwave energy leakage should be no greater than 5 mW/cm^2 to allow to measurement uncertainty when measured with a detector. *(All service adjustments must be made for minimum microwave energy leakage readings.)*

NOTE: If the interlock monitor circuit operates and at the same time the fuse blows with the door opened, be sure to replace the control circuit board because relay 3 and 4 on the control circuit board, the door sensing switch and the electric circuit related on the door sensing switch, which act as Secondary Interlock switch.

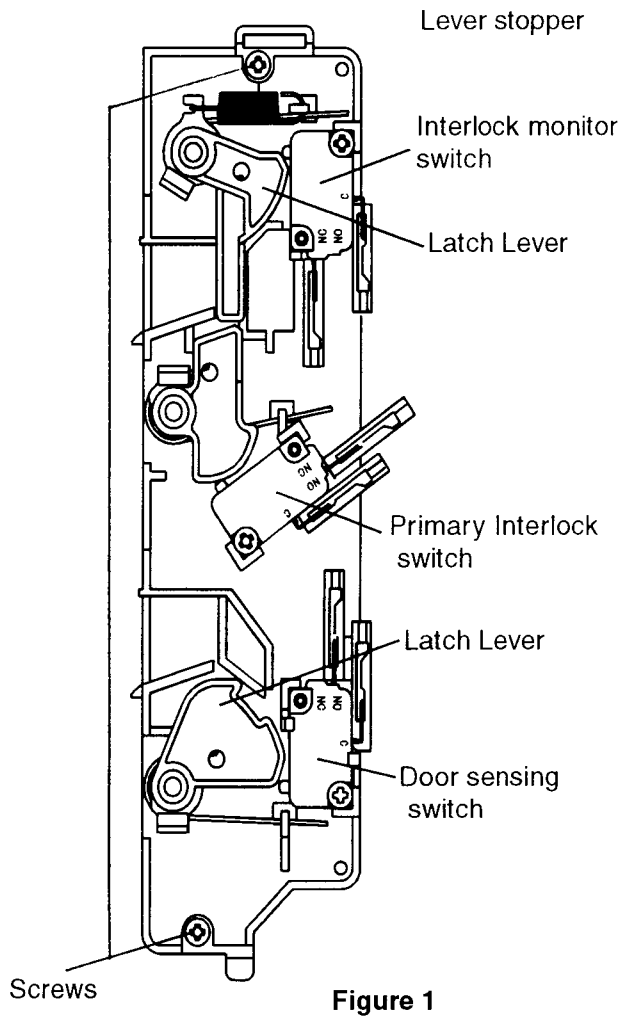


Figure 1

2.SPECIFICATIONS

Microwave output ..... 1,800W to 180W
Frequency 2,450MHz
Power supply 230V, 50Hz
Rated current ..... 13 Amp.
Safety Device .....
Thermal limitter (Magnetron) 150°C Open
80°C Close
Thermistor (Magnetron) . 200°C Open
108°C Close
Thermistor(Duct) ..... 120°C Open
Fuse (Cartridge Type) 250V 10A
Micro switch, Relay
Primary interlock Switch
Interlock monitor Switch
Door sensing Switch and
Relay RL-3 and 4
Max. input time ..... Electronic Digital, up to
Manual 10min.
Memory 30min.
Overall Dimensions ..... 422(W)x540(D)x335(H) mm
Oven cavity size ..... 330(W)x330(D)x230(H) mm
Effective Capacity of Oven Cavity 19.1
liters
Net weight 32Kg

3. POWER OUTPUT MEASUREMENT

(1) Prepare 1000+5g tap water.
(2) Adjust water temperature to 10 ± 2°C.
(3) Pour water into a container made of borosilicate Glass, 190mm outer diameter cylinder, maximum 3mm thickness.
Note :Use the container kept on the room temperature.
(4) place the container on the center of oven cavity.
(5) Set the heating time for 27 seconds and rating full power and then start oven.
(6) Take the container out immediately when heating time is up.
(7) Stir water for making even water temperature in the container.
(8) Measure water temperature.

Water temperature rise shall be 8 to 12°C.

4. PRECATIONS AND REPAIR SERVICE TIPS

PRELIMINARY

A. SINCE NEALY 4,000 VOLTS EXISTS IN SOME CIRCUITS OF THIS MICROWAVE OVEN, REPAIRS SHOULD BE CARRIED OUT WITH GREAT CARE.

B. TO AVOID POSSIBLE EXPOSURE TO MICROWAVE ENERGY LEAKAGE, THE FOLLOWING PRECATIONS MUST BE TAKEN BEFORE SERVICING.

(1) Before the power is applied.
(a) Open and close door several times to make sure the door interlock switch and interlock monitor switch operation properly.
(Listen for the clicking sound from switches.)
make sure the interlock monitor switch is closed after the latch interlock switch is open when the door is opened. (See pages 1 and 8)
(b) Make sure the perforated screen and the choke dielectric of the door are correctly mounted.
(2) After the power is applied.
(a) Open and close the door to see if the interlock mechanism operates properly.
(b) Check microwave energy leakage with a leakage detector and confirm the energy leakage is below 5mW/c m^2.
(3) Do not operate the unit until it is completely repaired if any of the following conditions exists.
(a) Door is not closed firmly against the cavity front.
(b) The hinge is broken.
(c) The choke dielectric or the door seal is damaged.
(d) The door is bent or warped, or there is any other visible damage to the oven that may cause microwave energy leakage.
Note: Always keep the seal clean.
(e) Make sure that there are no defective parts in the interlock mechanism.
(f) Make sure that there are no defective parts in the microwave generating and transmission assembly.
(especially wave guide)
(4) Following items should be checked after the unit is repaired.
(a) The interlock monitor switch is connected correctly and firmly.
(b) The magnetron gasket on the magnetron is properly positioned.
(c) Waveguide and oven cavity are intact. (No leakage of microwave energy).
(d) The door can be properly closed and the safety switches work properly.
(e) The oven must be stopped when the door is opened or the time is up.

The oven must not be operated with any of the above components removed or bypassed.

HINT FOR LAMP-CHANGE
Before removing the cabinet, pull out the main-plug. If you want to check the new lamp with the open Cabinet, take care of the following safety-cautions: Do not touch live parts. The lamp holder is not connected to the earth protection lead by a metric screws.

5.CIRCUIT DIAGRAM

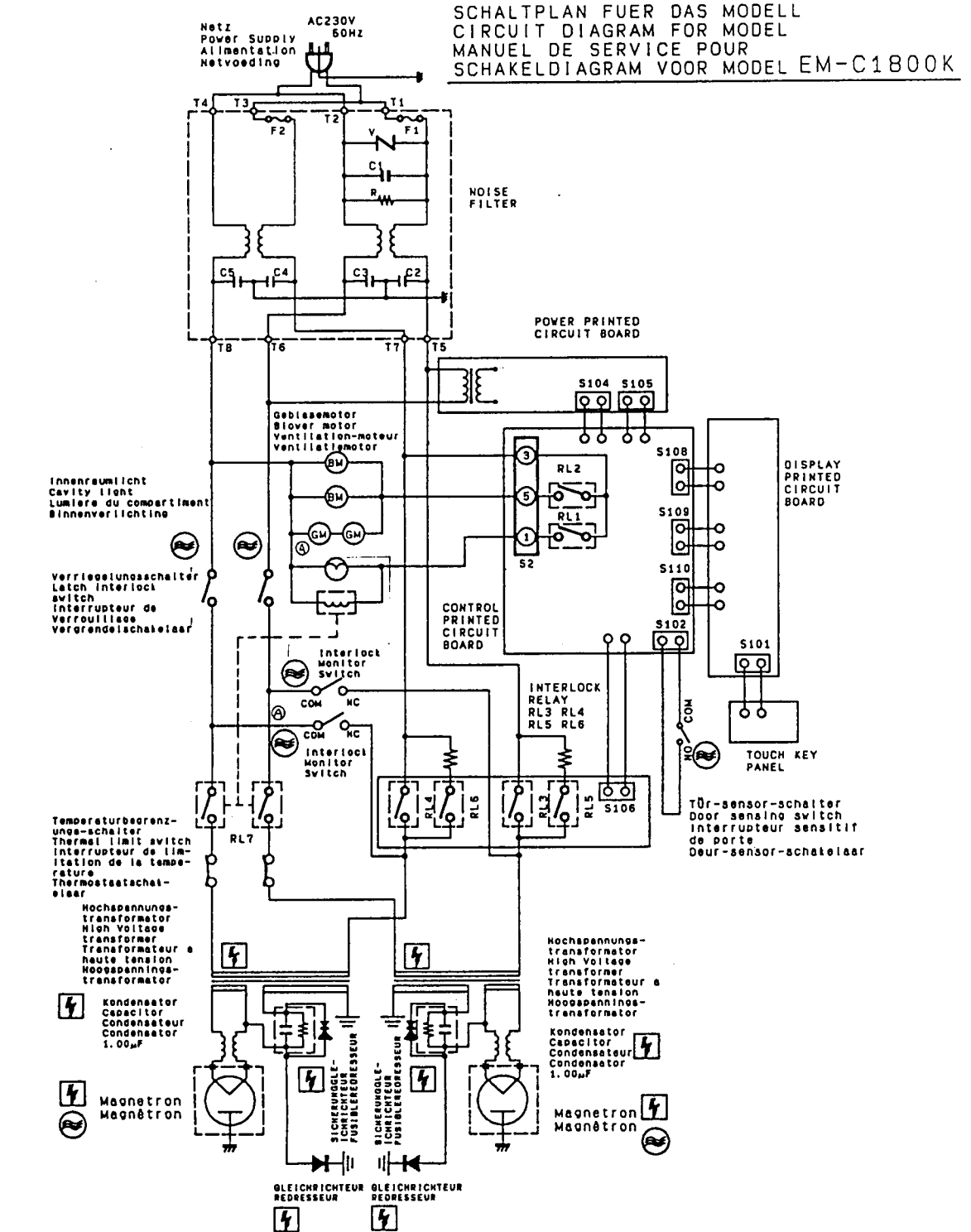


Figure 2

6. TEST PROCEDURES AND TROUBLESHOOTING

CAUTION

-DISCONNECT THE POWER SUPPLY CORD FROM THE WAL OUTLET WHENEVER REMOVING THE CABINET FROM THE UNIT.
PROCEED WITH TESTS ONLY AFTER DISCHARGING THE HIGH VOLTAGE CAPACITOR AND REMOVING THE LEAD WIRES ON THE PRIMARY WINDING OF THE HIGH VOLTAGE TRANSFOREMER. (SEE FIGURE 3)

A. TEST PROCEDURES

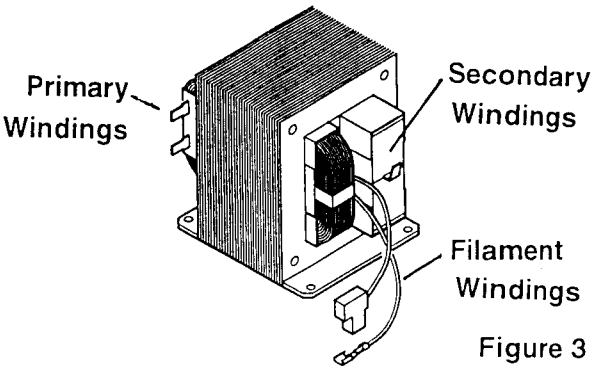
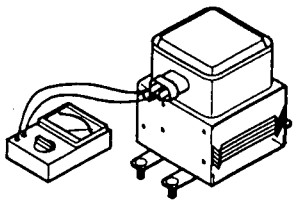
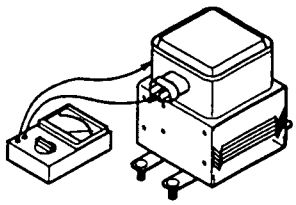
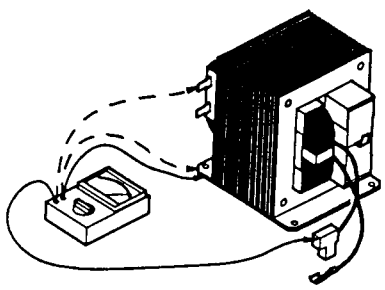
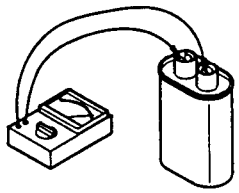
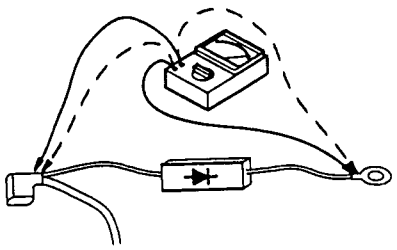
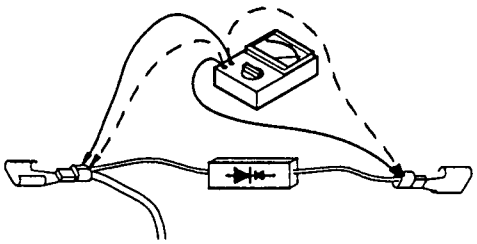
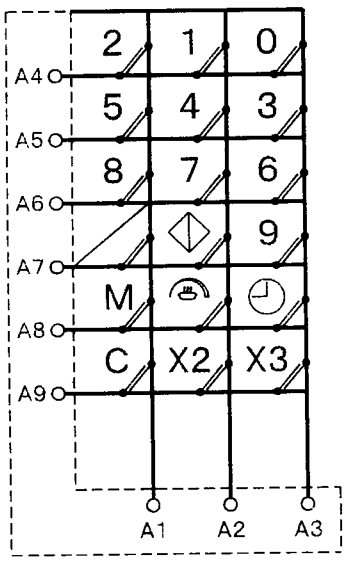
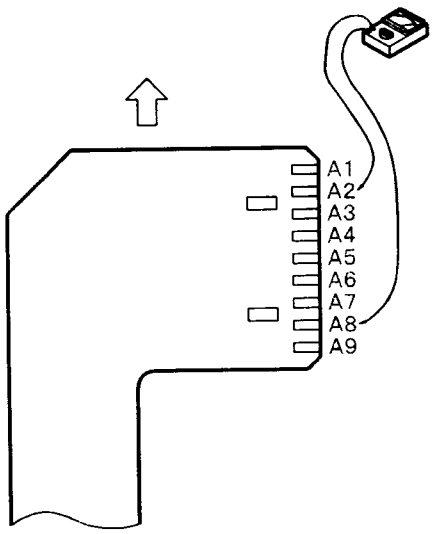


Figure 3

COMPONENT	CHECKOUT PROCEDURE	RESULT
MAGNETRON	1) Check for resistance: Across the filament terminal of the magnetron with an ohm - meter on Rx1 scale.  Figure 4	Normal reading: Less than 1 ohm.
	2) Check for resistance: Between each filament terminal of the magnetron and the chassis ground with an ohm-meter on highest scale.  Figure 5	Normal reading: Infinite ohms.
HIGH-VOLTAGE TRANSFORMER	1) Measure the resistance: With an ohm-meter on R x1 scale. a. Primary winding; b. Filament winding; c. Secondary winding; 2) Measure the resistance: With an ohm-meter on highest scale. a. Primary winding to ground; b. Filament winding to ground;  Figure 6	Normal reading: Approximately 1.0 ohms Less than 1 ohm. Approximately 60 ohms Normal reading: Infinite ohms. Infinite ohms. Note: Remove varnish of measured point.

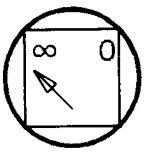
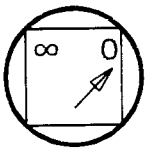
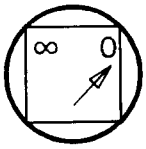
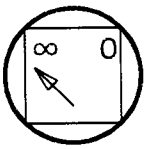
COMPONENT	CHECKOUT PROCEDURE	RESULT
HIGH-VOLTAGE CAPACITOR Including Bleeder Resistor	Measure the resistance: Across two terminals with an ohm-meter on highest scale.  **Figure 7**	Normal reading: Momentarily indicates several ohms, and gradually to 10 meg-ohms. Abnormal reading: Indicates continuity or 10 meg-ohms from the beginning.
HIGH-VOLTAGE DIODE	Measure the resistance: Across two terminals with an ohm-meter on highest scale.  **Figure 8**	Normal reading: Indicate about the middle position in one direct (forward) and infinite ohms in the reverse direction, using meter with a 9-volt battery. NOTE - Some digital meter may show over even in a forward direction because low measuring voltage of meter does not allow the meter to pass through the high voltage diode. Abnormal reading: Indicates continuity or infinite ohms in both directions.
FUSE DIODE	Measure the resistance: Across two terminals with an ohm-meter on highest scale.  **Figure 9**	Normal reading: Indicate infinite ohms in both directions. Abnormal reading: Indicates continuity in both directions or continuity in one direction and infinite ohms in reversed direction.

COMPONENT	CHECKOUT PROCEDURE	RESULT
POWER P.C.B	Check each voltage at connector S104 and S105 after removing each connector (female) from power circuit board. Pin No.3 (Ground) and 4,5, 1,2 at S105. Pin No.1 and 2 at S104. CAUTION: Proceed with the test only after removing the wire leads from the primary winding of high voltage transformer for your safety. Test procedures: a) Make sure that the power supply cord is not plugged in. b) Remove the connector S104 and S105 from the power circuit board. c) Plug the power supply cord. d) And then, measure each voltage.	Normal reading: Connection Pin No., Voltage(V) S105 #3 to #4 DC 12 #3 to #5 DC 16 #3 to #1 DC 30 #3 to #2 DC 35 S104 #1 to #2 AC 2.4
CONTROL P.C.B	Measure the voltage: Between test points TP-1, TP-2, TP-3, TP-4 and ground (See Figure 12 on page 23) Note - Proceed with the check of the control P.C.B to see if any one of the measured values is different from the specified values.	Test point TP, Voltage(V) TP-1 DC - 5 TP-2 DC - 12 TP-3 DC - 16 TP-4 DC - 35

COMPONENT	CHECKOUT PROCEDURE	RESULT
TOUCH KEY BOARD	Measure the resistance between terminals of FPC connector after removing it from S101.(Figure 10) NOTE - When reconnecting the FPC connector, make sure the holes on the connector are properly inserted in hook of the plastic fastener in S101. **MATRIX CIRCUIT FOR TOUCH KEY BOARD FPC CONNECTOR**  	Resistance Value: When touched: Less than 1 K ohms; When not touched: More than 1 meg ohms When checking key , connect ohm-meter as illustration below.  TERMINAL OF FPC CONNECTOR **FIGURE 10**

CHECKOUT PROCEDURE FOR SWITCHES

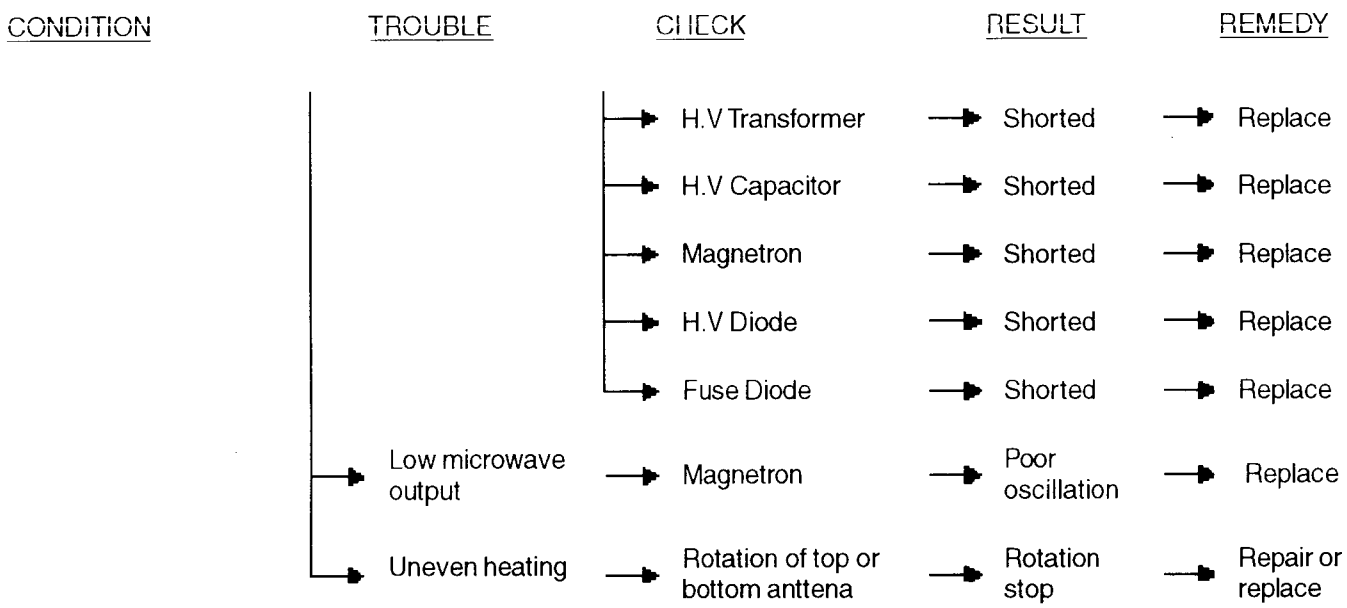
Disconnect the lead wires from the switches and check for the continuity of the switches, connecting an ohm-meter to its terminals.

SWITCHES (SEE Figure 1 on page 1)	CHECKOUT PROCEDURES	DOOR OPEN	DOOR CLOSE
PRIMARY INTERLOCK	Terminals "COM" and "NO"		
DOOR SENSING			
INTERLOCK MONITOR	Terminals "COM" and "NC"		

CAUTION: After checking the switches, make sure that the interlock monitor switch is properly connected according to the CIRCUIT DIAGRAM on page 3.

B.TROUBLESHOOTING

CONDITION	TROUBLE	CHECK	RESULT	REMEDY
Power is applied with normal voltage		Connection of FPC from Touch key Board	→ Incorrect	→ Reconnect
Timer is set Touch Select key	→ No display cooking time	Power circuit board (See page 6)	→ Voltage incorrect	→ Replace
		Control circuit board (See page 6)	→ Voltage incorrect	→ Replace
		Touch key board (See page 7)	→ Resistance incorrect	→ Replace
	→ Cooking operation will not start	Primary Interlock switch (See page 7)	→ No continuity	→ Replace
		Thermal protector	→ No continuity	→ Replace
		Door sensing switch (See page 7)	→ No continuity	→ Replace
		Control circuit board (See page 6)	→ Voltage incorrect	→ Replace
	→ Oven dose not heat up	Control circuit board (See page 6)	→ Voltage incorrect	→ Replace
		H.V Transformer (See page 4)	→ Resistance incorrect	→ Replace
		H.V Capacitor (See page 5)	→ Resistance incorrect	→ Replace
		Magnetron (See page 4)	→ Resistance incorrect	→ Replace
		Monitor switch (See page 7)	→ Contact on No continuity	→ Replace or Adjust
	→ Fuse(10A) blows off immediately	Blower motor	→ Shorted	→ Replace
		Step-down Transformer	→ Shorted	→ Replace



C. ERROR INDICATION

This model has some self diagnosis functions.
Display shows "E" depending on the trouble.

DISPLAY	Trouble	Situation
E-21	Thermistor for duct of cavity top is operated by over heating of 120°C	Buzzer will continuously beep tone. Blower motor will stop immediately. Then oven will stop heating.
E-31	Thermistor for lower magnetron or duct is shorted.	Blower motor will stop immediately. Then oven will stop heating.
E-32	Thermistor for lower magnetron or duct is disconnected or removed from connector socket.	Oven will stop heating. Blower motor will be operated.
U-10	Thermistor for Magnetron is operated by over heating of 200°C	Buzzer will continuously beep tone. Blower motor will stop immediately. Then oven will stop heating.
U-50	The purpose of this function is to prevent operation when there is no food in the oven	Open and close the door, and then touch the key before 1 minute passes

7. DISASSEMBLY INSTRUCTIONS

- OVEN MUST BE DISCONNECTED FROM ELECTRICAL OUTLET WHEN MAKING REPLACEMENTS, REPAIRS, ADJUSTMENT AND CONTINUITY CHECKS BEFORE PROCEEDING WITH ANY REPAIR WORK AFTER DISCONNECTING, WAIT AT LEAST 1 MINUTE, UNTIL THE CAPACITOR IN THE HIGHVOLTAGE AREA HAS FULLY DISCHARGED.

A. REMOVING PRIMARY INTERLOCK SWITCH

(See Figure 1 on page 1)

(1) Disconnect all lead wires from the primary interlock switch.
(2) Remove 2 screws securing the lever stopper.
(3) Remove 1 screw securing the switches. Then pull out the switches.
(4) Make necessary adjustment, and make microwave energy leakage check according to "1. ADJUSTMENT PROCEDURE FOR SWITCHES" an page 1, after it is replaced with new one, and check proper operation of it according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 7.

B.REMOVING INTERLOCK MONITOR AND DOOR SENSING SWITCH

(See Figure on page 1)

(1) Disconnect all lead wires from the interlock monitor switch and door sensing switch.
(2) Remove 1 screw securing the these switches. Then pull out the switches.
(3) Make necessary adjustments or replacement of switch by the reversing step (2) and check microwave energy leakage according to "1. ADJUSTMENT PROCEDURE FOR SWITCHES" on page 1, after it is replaced with new one, and check proper operation of it according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 7.

WHEN REPLACING ANY DOOR MICROSWITCH, REPLACE WITH THE SAME TYPE SWITCH SPECIFIED ON THE PARTS LIST.

C. REMOVING FUSE

Remove the 10A fuse with screwdriver.

NOTES

- When replacing the 10A fuse, be sure to use an exact repair part.
- If the 10A fuse blows immediately, check the primary interlock switch, the relay 3 and 4 (on the control circuit board) and the interlock monitor switch according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 8. and make sure to check the microwave energy leakage according to "1. ADJUSTMENT PROCEDURE FOR SWITCHES" on page 1, when the primary interlock switch, the relay 3 and 4 or the interlock monitor switch is adjusted or replaced.
- If the primary interlock switch, the relay 3 and 4 or the interlock monitor switch operate properly, determine which of the followings is defective : control circuit board, blower motor, gear motor, high voltage transformer, high voltage capacitor, high voltage diode or magnetron.
- If the high voltage diode is defective replace not only the high voltage diode but also the fuse diode.

D. REMOVING DISPLAY CIRCUIT BOARD

(1) Disconnect all lead wires of the Control panel from the Control PCB and Power PCB.
(2) Remove 4 screws securing the Control panel Ass'y to the oven cavity.
(3) Push up and pull out the Control panel Ass'y.
(4) Remove 4 screws securing the Display PCB.
(5) Take out the Display PCB and push up the lever end of the plastic fastener and remove the FPC connector from the connector socket S101.

CAUTION:
When replacing new Display PCB please take big care that all 10 LED heads shoul dexacty be inserted into the square holes of control frame all at once. Never force to push any LED lead in the PCB.

E. REMOVING MAGNETRONS

(1) Remove 2 screws securing the thermal limitter .
(2) Disconnect 2 lead wires from the magnetron terminals by removing 2 connectors.
(3) Remove thermistor (lower magnetron) by pulling horizontally.
(4) Remove 4 hex nuts (upper magnetron) or 2 hex nuts (lower magnetron)securing to the waveguide.
(5) Remove lower magnetron.
(6) Take out the magnetron VERY CAREFULLY.

NOTES

- When removing the magnetron, make sure that its dome does not hit any adjacent parts, or it may be damaged.
- When replacing the magnetron, be sure to install the magnetron gasket in the correct position and be sure that the gasket is in good condition.
- After replacing the magnetron, check for microwave make sure the microwave energy leakage is below the limit of the regulation ($5mW/cm^2$).

F. CHANGING POWERSUPPLY CORD

(See exploded view on page 15)

(1) Unfasten 1 screw for earth and pull out 2 wires of power cord from terminal plate.

(2) Remove1 screw for bottom bracket of cord bushing.

(3) install the new power supply cord with reverse procedure of above (1) to (2).

WARNING:

For the changing the power supply cord, never use other than following.

Key No.	Order No.	Parts Name
4	617 208 1076	Power cord Ass'y(Germany)
5	617 196 9184	Power cord Ass'y(UK)
6	617 078 3132	Cord bush (UK)
7	617 140 1332	Cord bush (Germany)
39	617 125 3832	Bottom bracket (UK)
40	617 140 1349	Bottom bracket (Germany)

G. REMOVING CERAMIC TRAY ASS'Y

(See Fig.11)

(1) Take off the cabinet.

(2) Put (insert) a screwdriver in the 9 mm diameter hole locating at lower hinge of left side of the oven cavity. And push the tray up with the screwdriver.

(3) Open the door and take out the tray very carefully.

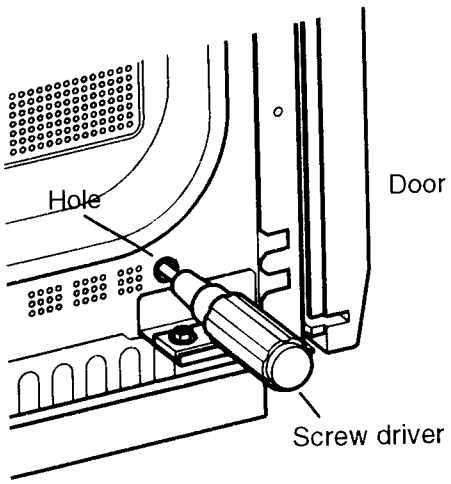


Figure 11

H.REMOVING DOOR

Remove 2 hex nuts securing the upper hinge, remove 3 hex nuts securing the lower hinge and remove1 special screwsecuring the door arm (located at the bottom of the door sash).

NOTES

- After replacing the door, be sure to check that the primary interlock switch, the door sensing switch and the interlock monitor swich operate normally. (See pages 1 and 7)
- After replacing the door, check for microwave energy leakage with a leakage detector. Microwave energy leakage must be below the limit of 5mW/c m^2.

I.HOW TO RESET THE MEMORY OF ACCUMULATIVE COOKING TIME

1. Push the keys step by step as follows,
   " C ", " ◴ ", " 8 ", "8 "," 8 ", " 1 "
   " ◇ ", " ◇ ".
   The display will show accumulative cooking time in display window.

2. Then push the keys as follows.
   " 0 ", " M ".
   Accumulative cooking time will be cleared.

J.CAUTION FOR CUSTOMER ON OPENING AND CLOSING DOOR

When the Microwave oven is in operation, should the customer open the door slightly and close, the breaker of the house will occasionally be cut off. It is necessary to explain to the customer not to exercise such matter.

When the Door is opened slightly between 2 or 3 mm distance, primary interlock switch turn OFF, and operation stops.

However door sensing switch will remain ON, and if door is closed, primary interlock switch activates and operation resumes immediately.

At such time microwave oven will start any time. Therefore a big In-rush currnet flows, and thus Breaker will be cut off.

CHECKING ACCUMULATIVE COOKING TIME, NUMBER OF DOOR OPERATIONS AND CONTROL OF THE BUZZER SOUND

Display shows accumulative cooking time or the number of door operations by key operation. Also, you can change any remaining cooking time, buzzer sound or buzzer volume.

	Operation	Display window
1	C • Touch " C " key.	0 • "0" appears in the display.
2	• Touch " ◴ " key.	0 • The colon and Power level "10" bar appear in the display.
3	8 8 8 • Touch number "8" three times.	8.88 • The "8.88" appears in the display.
*	• Stages 1 to 3 are the same for all options. Input the 4th digit as follows to check or change the modes.	
4	1 • Input one of the following options (1-0) using the PROGRAMME SELECTION key.	88.81 • e.g. Input "1" (accumulative cooking time).
5	◈ • Touch " ◈ " key.	88.81 • All 4 digits will be flashing.
6	◈ • Touch " ◈ " key again.	2.15 • The number "215" shows total cooking hours OR.
		0 • In case where options other than 1 or 2 were selected in stage 4, "0" appears in the display confirming that the new setting has been accepted.
7	C • Touch " C " key.	0 • In case of option 1 or 2, the CLEAR key must be touched to clear the display. (Not necessary for options 3 to 0)

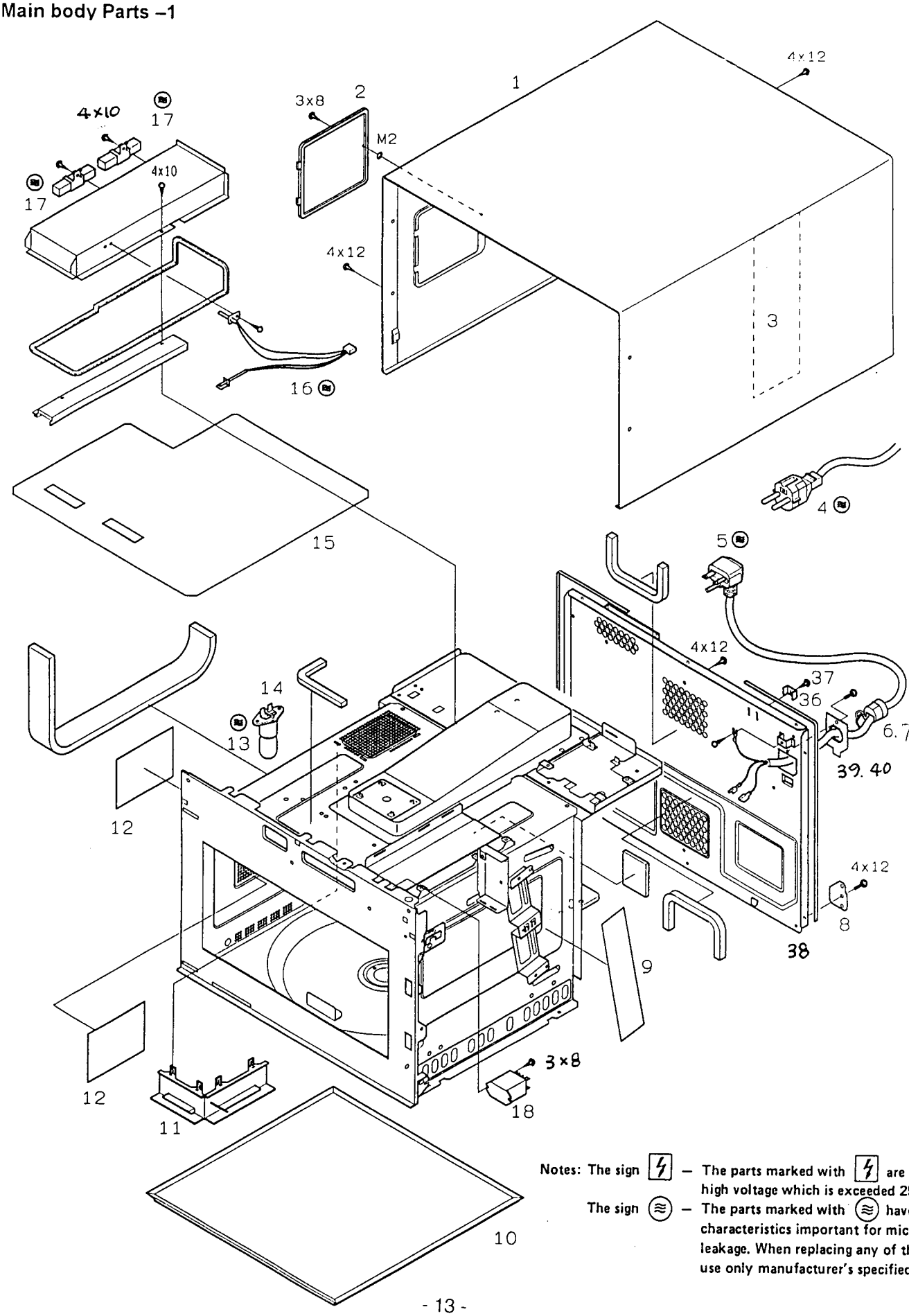
The following modes can be selected by inputting one of the numbers below at the operation stage "4".

INPUT OPTIONS

1 . . . Accumulative cooking time.
2 . . . The number of door operations. (100 times)
3 . . . Indication of remaining cooking time (when cooking is interrupted by door opening).
4 . . . To cancel remaining cooking time (when cooking is interrupted by door opening).
5 . . . Tone of the buzzer on cooking completion. (Pip, Pip, Pip)
6 . . . Tone of the buzzer on cooking completion. (Peep)
7 . . . The volume of the buzzer. (quiet)
8 . . . The volume of the buzzer. (medium)
9 . . . The volume of the buzzer. (loud)
0 . . . The volume of the buzzer. (none)

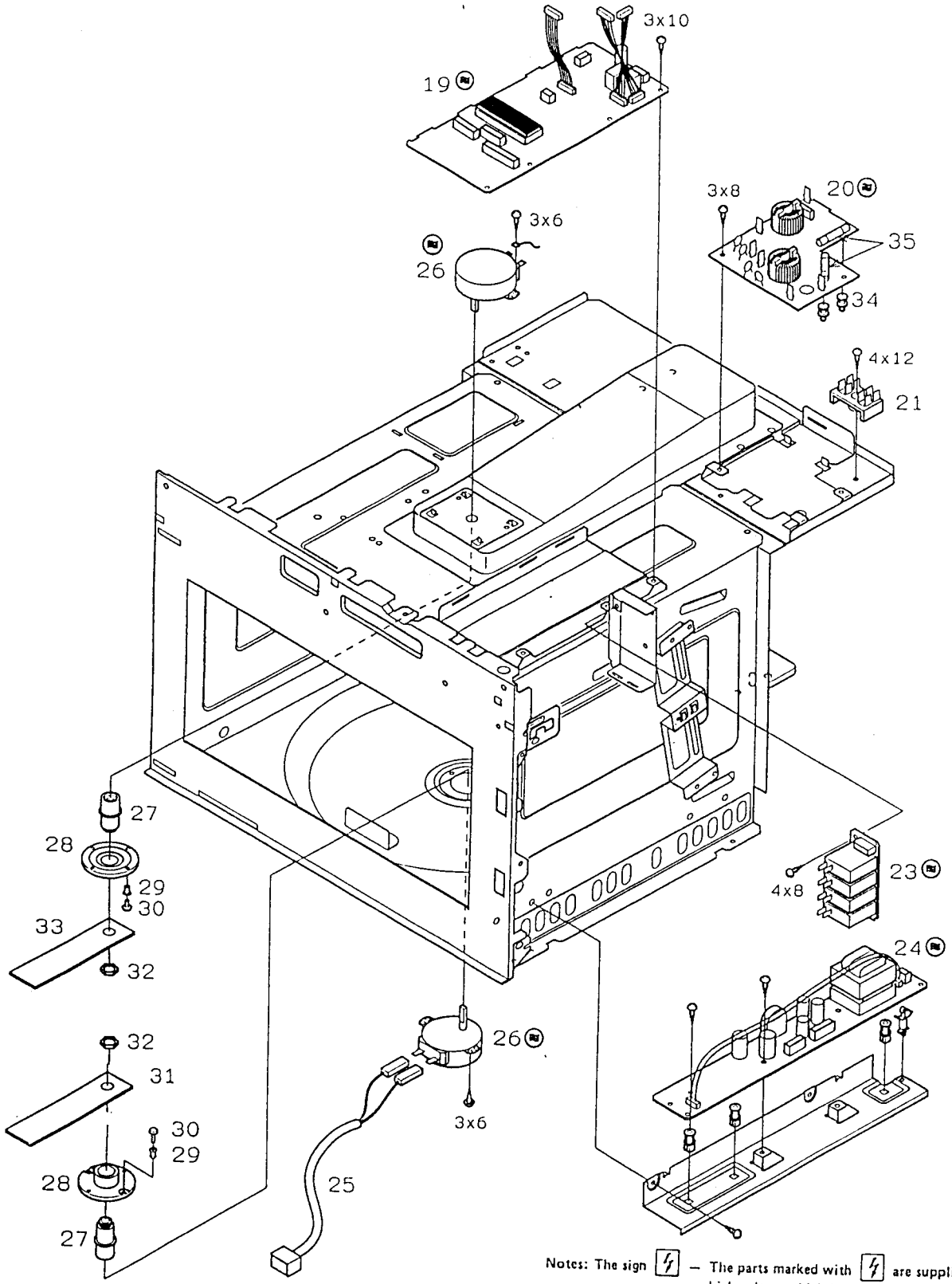
8.EXPLODED VIEW AND PARTS LIST

Main body Parts –1



Notes: The sign ⚡ – The parts marked with ⚡ are supplied high voltage which is exceeded 250V.

The sign ≋ – The parts marked with ≋ have special characteristics important for microwave leakage. When replacing any of these pa. use only manufacturer's specified parts.



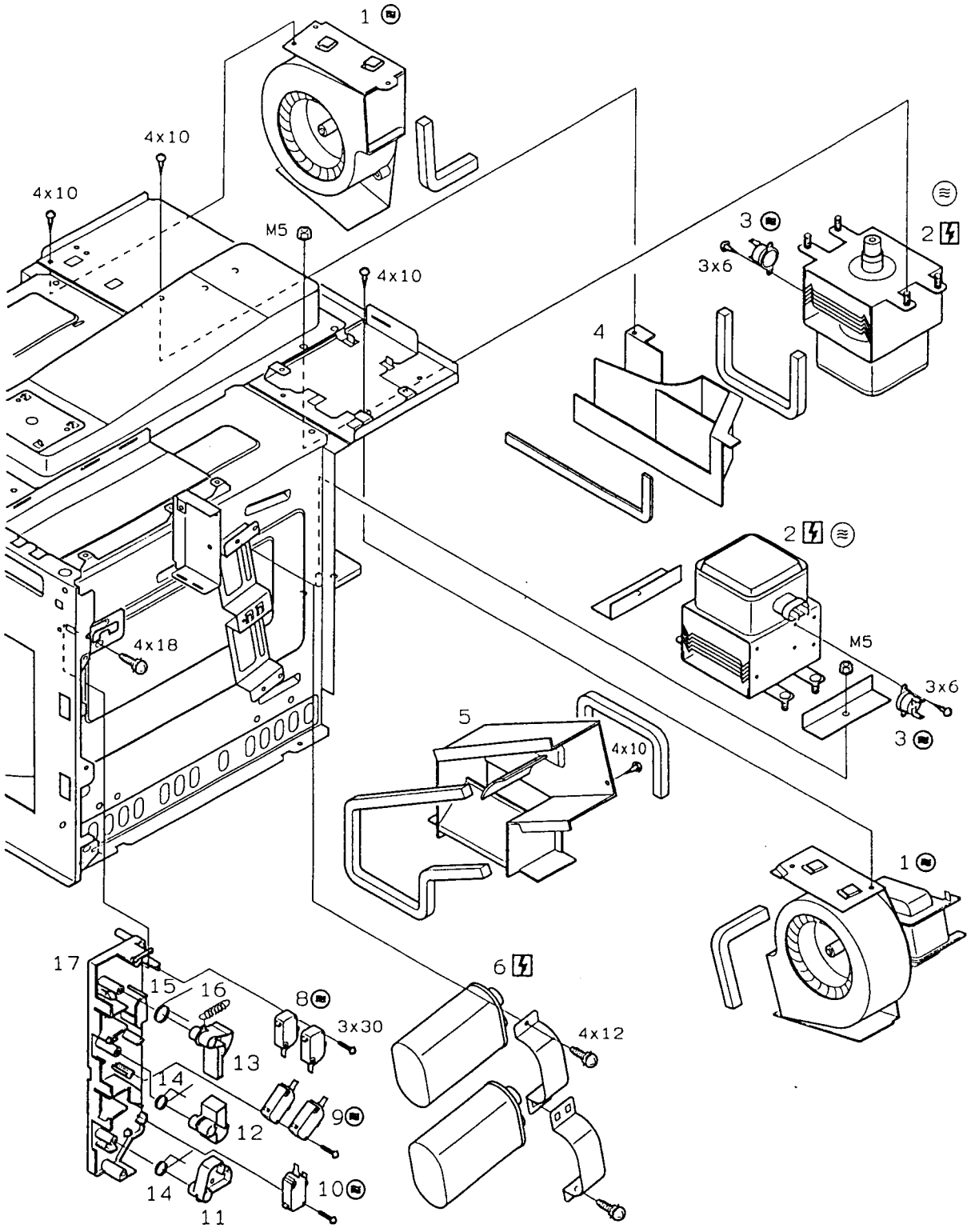
Notes: The sign ⚡ – The parts marked with ⚡ are supplied high voltage which is exceeded 250V.

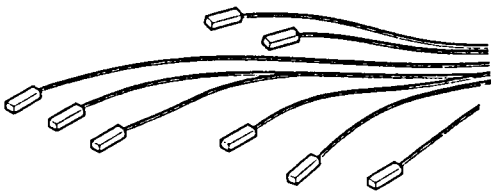
The sign ≋ – The parts marked with ≋ have special characteristics important for microwave leakage. When replacing any of these parts use only manufacturer's specified parts.

Main body Parts –1

KEY NO.	SERVICE PART NO.	DESCRIPTION		Q TY.
1	617-120-2854	CABINET		1
2	617-055-9584	FRAME PLATE ASS'Y		1
3	617-123-9942	INSU. SHEET		1
4	617-208-1076	CORD COMP. GERMANY		1
5	617-196-9177	CORD COMP. UK		1
6	617-078-3132	CORD BUSH. UK	SR-6N3-4	1
7	617-140-1332	CORD BUSH GERMANY		1
8	617-179-6087	FRAME B.C.T	LGCC T1.2	1
9	617-202-7845	INSU. SHEET		1
10	617-120-4230	SHELF ASS'Y		1
11	617-120-4148	STIRRER GUIDE		1
12	617-120-3387	LIGHT OPENING COVER		2
13	617-149-3009	LAMP	240/250V 25W E-14	2
14	617-077-6356	LAMP SOCKET	OKUNO PA0 2A250VT150	2
17 219 0099 ← 15	617-120-3370	CAVITY COVER		1
16	617-202-5261	THERMISTOR ASS'Y		1
17	402-061-1505	CERAMIC RES 25 J 20W	MTST ERF-20HMJ250	2
18	617-131-3789	RELAY		1
19	617-214-1602	P.C.B COMP.CONTROL	C-BOARD	1
20	617-206-7506	P.C.B COMP. NOIZE FILTER		1
21	617-192-2110	TERMINAL PLATE		1
23	617-202-0150	P.C.B COMP. RELAY		1
24	617-214-1619	P.C.B COMP. POWER	P-BOARD	1
25	617-130-4879	HARNESS		1
26	617-209-9422	GEAR MOTOR	M2CJ29AA49-H UL	2
27	617-120-3325	ANTENNA SHAFT	AL	2
28	617-120-3318	BEARING		2
29	617-121-9265	CLIP		4
30	617-121-5519	GRROMET	PTFE	4
31	617-217-5911	ANTENNA LOWER		1
32	617-120-3349	SPECIAL NUT	AL	2
33	617-120-3332	ANTENNA UPPER	AL	1
34	617-207-6836	CLIP		2
35	423-018-7609	FUSE 250V 10A		2
36	617-195-1295	SPECIAL WASHER	BRASS T1.0 NI PLATIN	1
37	412-006-9800	SCR TRS 4X12		1
38	617-214-4801	FRAME REAR PLATE ASS'Y		1
39	617-125-3832	BOTTOM BRCKET UK		1
40	617-140-1349	BOTTOM BRCKET GERMANY		1

Main body Parts –2





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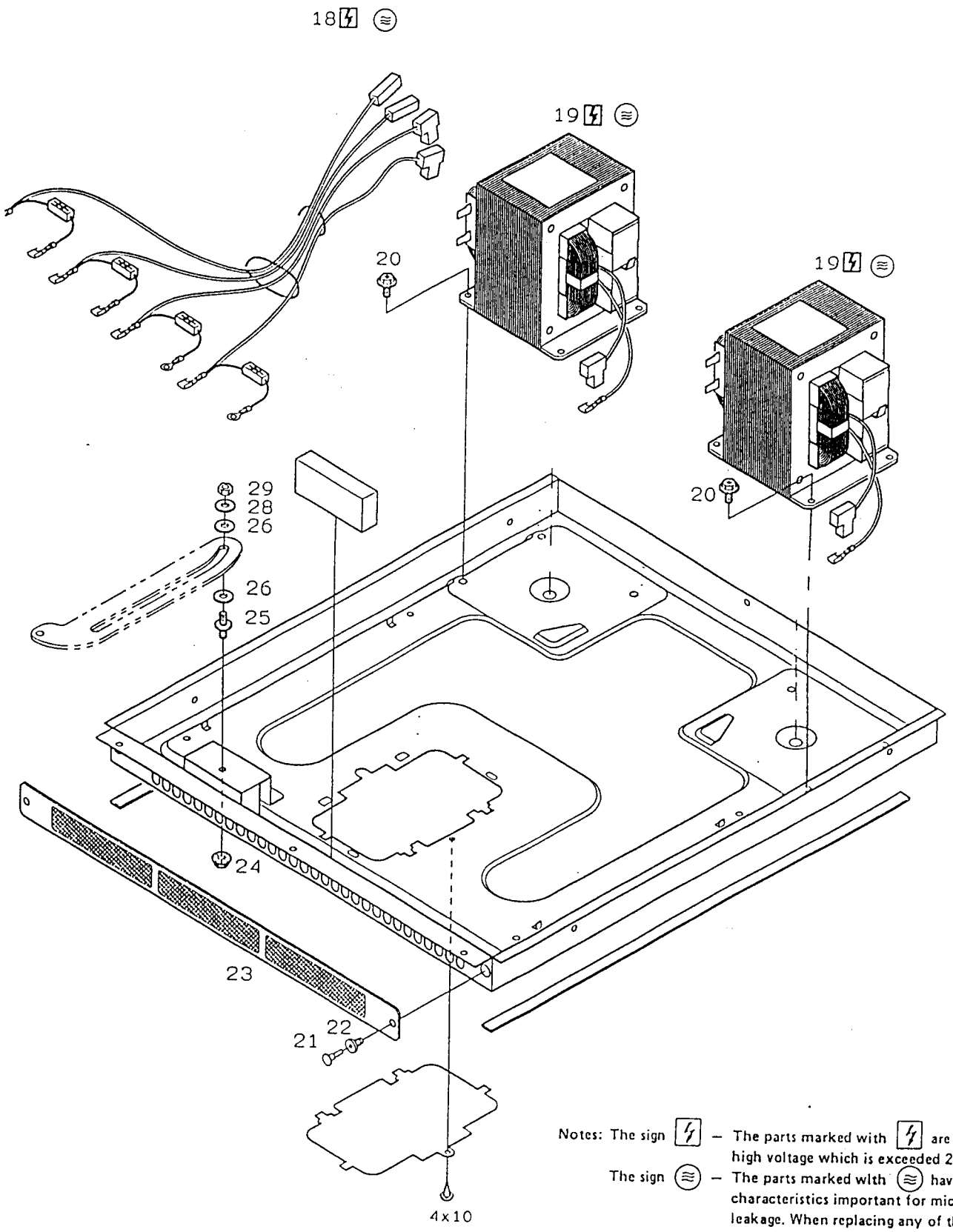


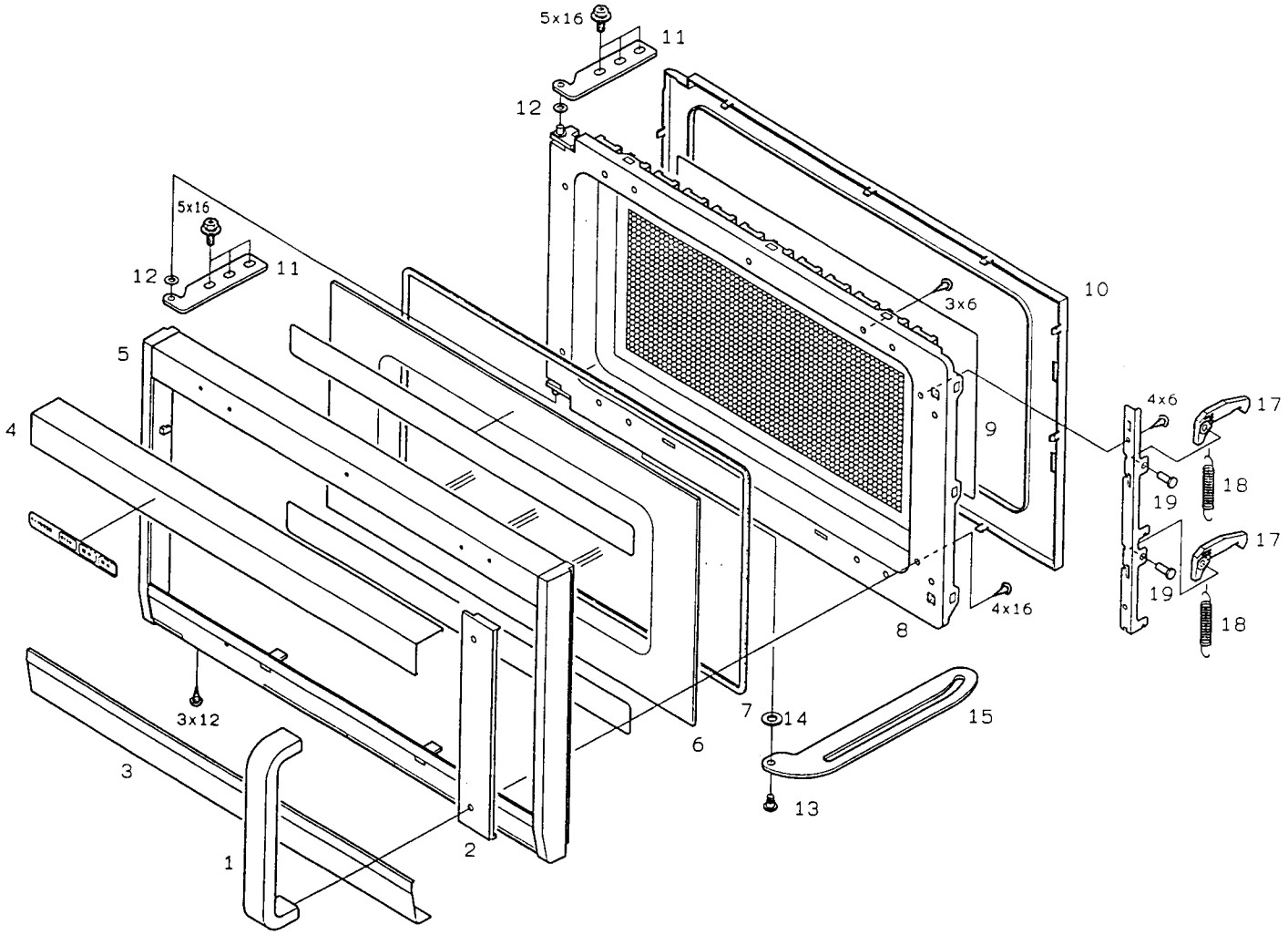
Notes: The sign ⚡ – The parts marked with ⚡ are supplied high voltage which is exceeded 250V.

The sign ≋ – The parts marked with ≋ have special characteristics important for microwave leakage. When replacing any of these parts use only manufacturer's specified parts.

Main body Parts –2

KEY NO.	SERVICE PART NO.	DESCRIPTION		Q TY.
1	617-196-9245	BLOWER COMP.		2
2	415-002-6408	MAGNETRON 2M254(M)		2
3	617-214-7628	THERMOSTAT	NGT 03EN 150C	2
4	617-120-3431	DUCT MAG. UPPER		1
5	617-120-3448	DUCT MAG. LOWER		1
6	617-206-8220	CAPACITOR 1.0MFD		2
8	617-004-5230	MICRO SWITCH MONITOR	V-5220D-502	2
9	617-160-0438	MICRO SWITCH LATCH	YAMATAKE V-5930D-013	2
10	617-004-3724	MICRO SWITCH DOOR SENSING	V-5330DK	1
11	617-178-1182	LATCH LEVER		1
12	617-178-1175	LATCH LEVER		1
13	617-178-1168	LATCH LEVER		1
14	617-178-1205	SPRING	SUS304-WPB D0.65	2
15	617-178-1212	SPRING	SUS304-WPB D0.65	1
16	617-187-2217	SPRING	SUS304-WPB D0.7	1
17	617-178-1151	LEVER STOPPER		1
18	617-214-6553	HARNESS WIYH H.V DIODE		1
19	617-214-4474	HV TRANSFORMER	N5T-C1850	2
20	617-080-4196	SPECIAL SCREW		6
21	617-122-8908	CLIP		2
22	617-122-6379	GRROMET		2
23	617-120-3394	FILTER ASS'Y		1
24	411-055-0202	NUT HEX 5		1
25	617-080-3830	SPECIAL SCREW		1
26	617-080-5179	SPECIAL WASHER		2
28	617-080-5186	SPECIAL WASHER	SPG T1.0XD5XD13	1
29	411-004-3506	NUT HEX+FLG W/SRT 5		1

Door Parts



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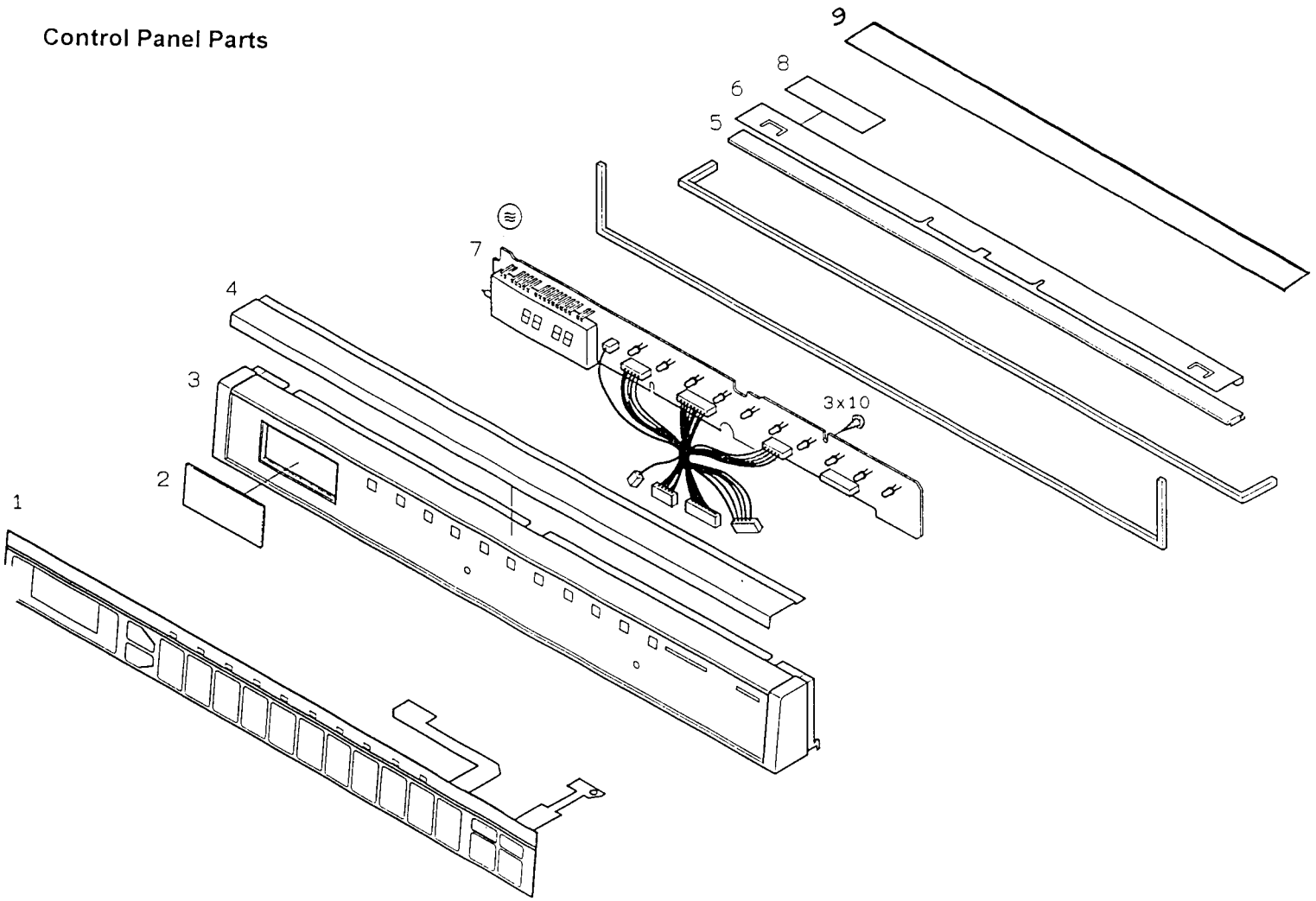
KEY NO.	SERVICE PART NO.	DESCRIPTION		Q TY.
1	617-201-9697	DOOR HANDLE	AL	1
2	617-201-9680	DOOR BASE	PP	1
3	617-120-3110	ORNAMENT PLATE		1
4	617-120-3127	ORNAMENT PLATE		1
5	617-120-3073	DOOR COVER		1
6	617-130-4862	DOOR PANEL		1
7	617-121-5489	PACKING		2
8	617-178-0734	DOOR ASS'Y		1
9	617-178-1441	DOOR PANEL		1
10	617-178-0840	CHOKE DIELECTRIC	FR-PET	1
11	617-120-3028	HINGE	SPHC T3	2
12	411-089-2500	WASHER F 5X10X0.8		2
13	617-080-3847	SPECIAL SCREW	SUS-304 D6	1
15	617-068-3623	DOOR ARM		1
17	617-068-1087	DOOR LATCH	DURACON GF25%	2
18	617-140-5392	SPRING	SWP-B D1.1	2
19	617-068-3579	ARM PIN	S30C ZK	2

Control Panel Parts

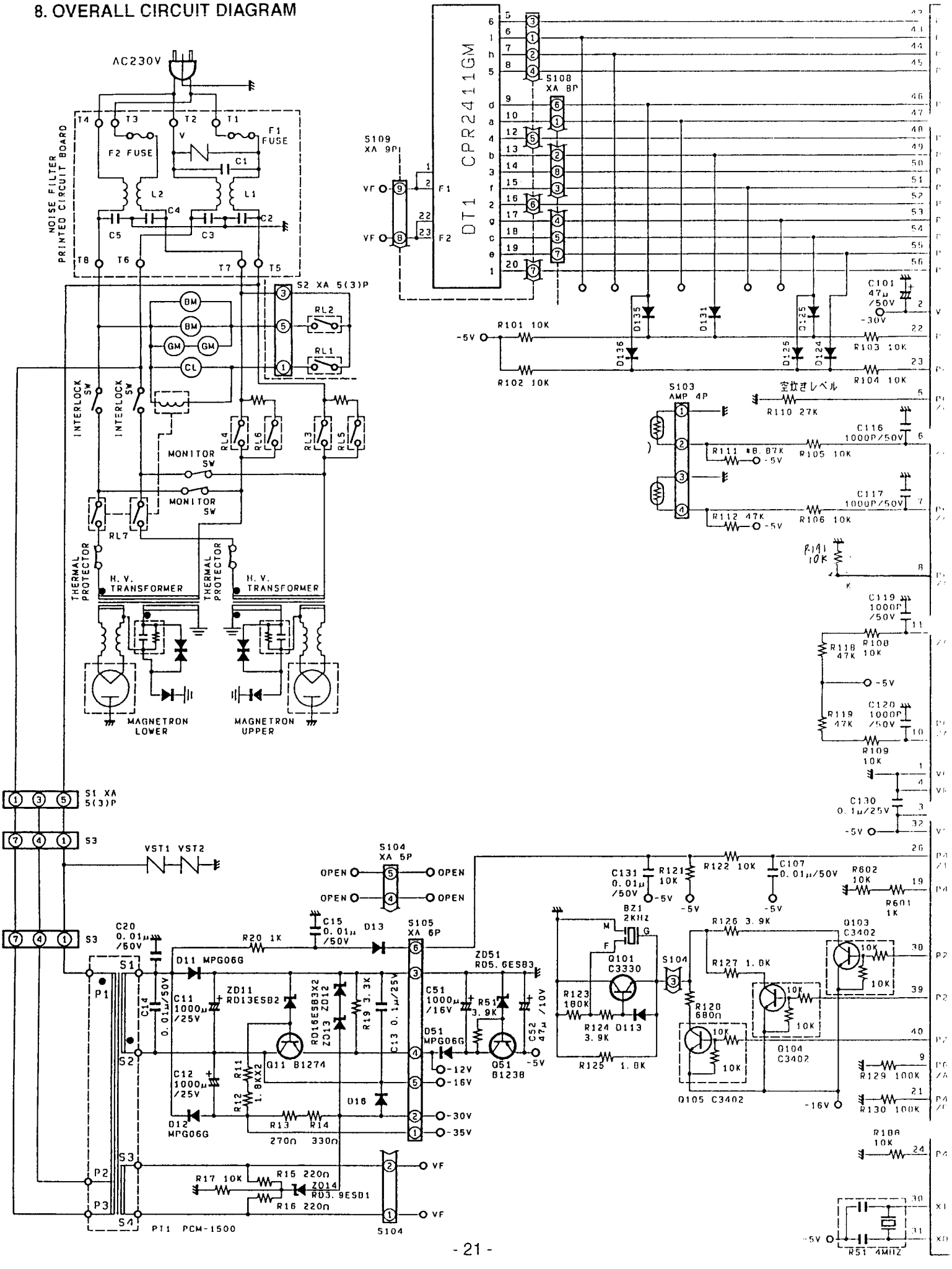


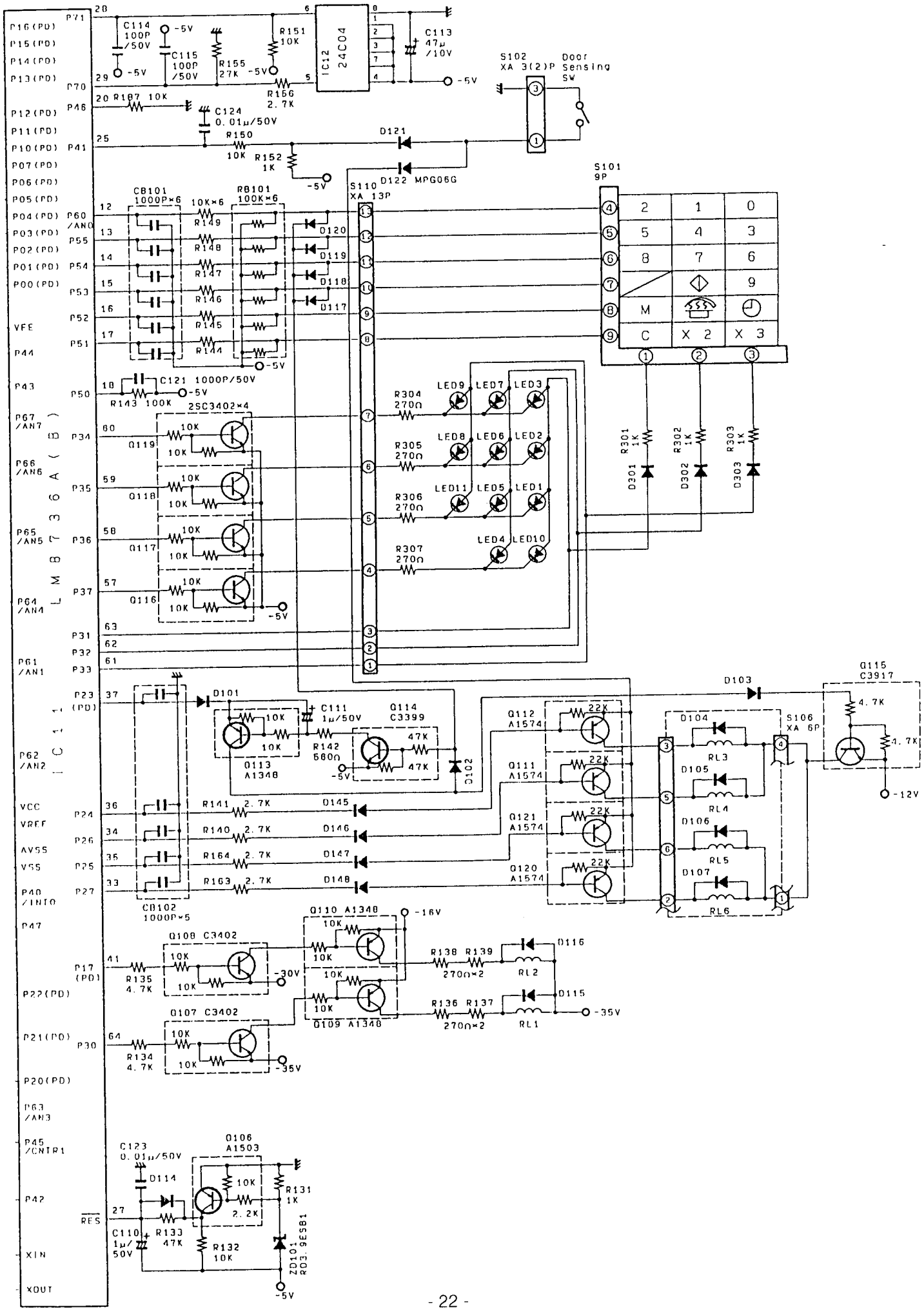
KEY NO.	SERVICE PART NO.	DESCRIPTION		Q TY.
1	617-178-3292	KEY BOARD		1
2	617-206-0873	CONTROL PLATE		1
3	617-120-3493	CONTROL BASE		1
4	617-201-9895	ORNAMENT PLATE		1
5	617-073-7616	CAVITY GASKET		1
6	617-073-9672	PACKING COVER		1
7	617-214-1626	P.C.B COMP. DISPLAY	D-BOARD	1
8	617-125-9872	INSU. SHEET		1
9	617-208-3377	CONTROL COVER		1

Printed Matter (Items not illustrated)

KEY NO.	SERVICE PART NO.	DESCRIPTION		Q TY.
1	617-214-6560	CORRUGATE BOX COMP.		1
2	617-195-1035	CORRUGATE BASE COMP.		1
3	617-195-4296	BODY CUSHION BED UPPER		1
4	617-120-3776	BODY CUSHION BED LOWER		1
5	617-195-1066	BODY CUSHION BED LOWER	POLYFOAM	1
6	617-130-3797	MENU LABEL TIMER		1
7	617-197-4416	PARTS BAG COMP.		1
8	617-214-6669	INST. MANUAL	D,F,GB,NL,I	1

8. OVERALL CIRCUIT DIAGRAM




LMB736A(B)
IC11
P16(PD)
P15(PD)
P14(PD)
P13(PD)
P12(PD)
P11(PD)
P10(PD)
P07(PD)
P06(PD)
P05(PD)
P04(PD)
P03(PD)
P02(PD)
P01(PD)
P00(PD)
VEE
P44
P43
P67 /AN7
P66 /AN6
P65 /AN5
P64 /AN4
P61 /AN1
P62 /AN2
VCC
VREF
AVSS
VSS
P40 /INT0
P47
P17 (PD)
P22(PD)
P21(PD)
P20(PD)
P63 /AN3
P45 /CNTR1
P42
RES
XIN
XOUT
IC12 24C04
C114 100P /50V
C115 100P /50V
R151 10K
R155 27K
R156 2.7K
C113 47μ /10V
S102 XA 3(2)P Door Sensing SW
R107 10K
C124 0.01μ/50V
R150 10K
R152 1K
D121
D122 MPG06G
S110 XA 13P
S101 9P
CB101 1000P×6
RB101 100K×6
10K×6
R149
R148
R147
R146
R145
R144
D120
D119
D118
D117
C121 1000P/50V
R143 100K
2SC3402×4
Q119
Q118
Q117
Q116
R304 270Ω
R305 270Ω
R306 270Ω
R307 270Ω
LED9 LED7 LED3
LED8 LED6 LED2
LED11 LED5 LED1
LED4 LED10
R301 1K
R302 1K
R303 1K
D301
D302
D303
D101
C111 1μ/50V
Q113 A1348
R142 560Ω
Q114 C3399
D102
Q112 A1574
Q111 A1574
Q121 A1574
Q120 A1574
22K
D103
Q115 C3917
4.7K
-12V
D104
D105
D106
D107
RL3
RL4
RL5
RL6
S106 XA 6P
R141 2.7K
R140 2.7K
R164 2.7K
R163 2.7K
D145
D146
D147
D148
CB102 1000P×5
Q110 A1348
Q108 C3402
Q107 C3402
Q109 A1348
-16V
-30V
-35V
R135 4.7K
R134 4.7K
R138 R139 270Ω×2
R136 R137 270Ω×2
D116
D115
RL2
RL1
C123 0.01μ/50V
D114
Q106 A1503
R131 1K
2.2K
R133 47K
R132 10K
C110 1μ/50V
ZD101 RD3.9ES-B1

CONTROL CIRCUIT BOARD

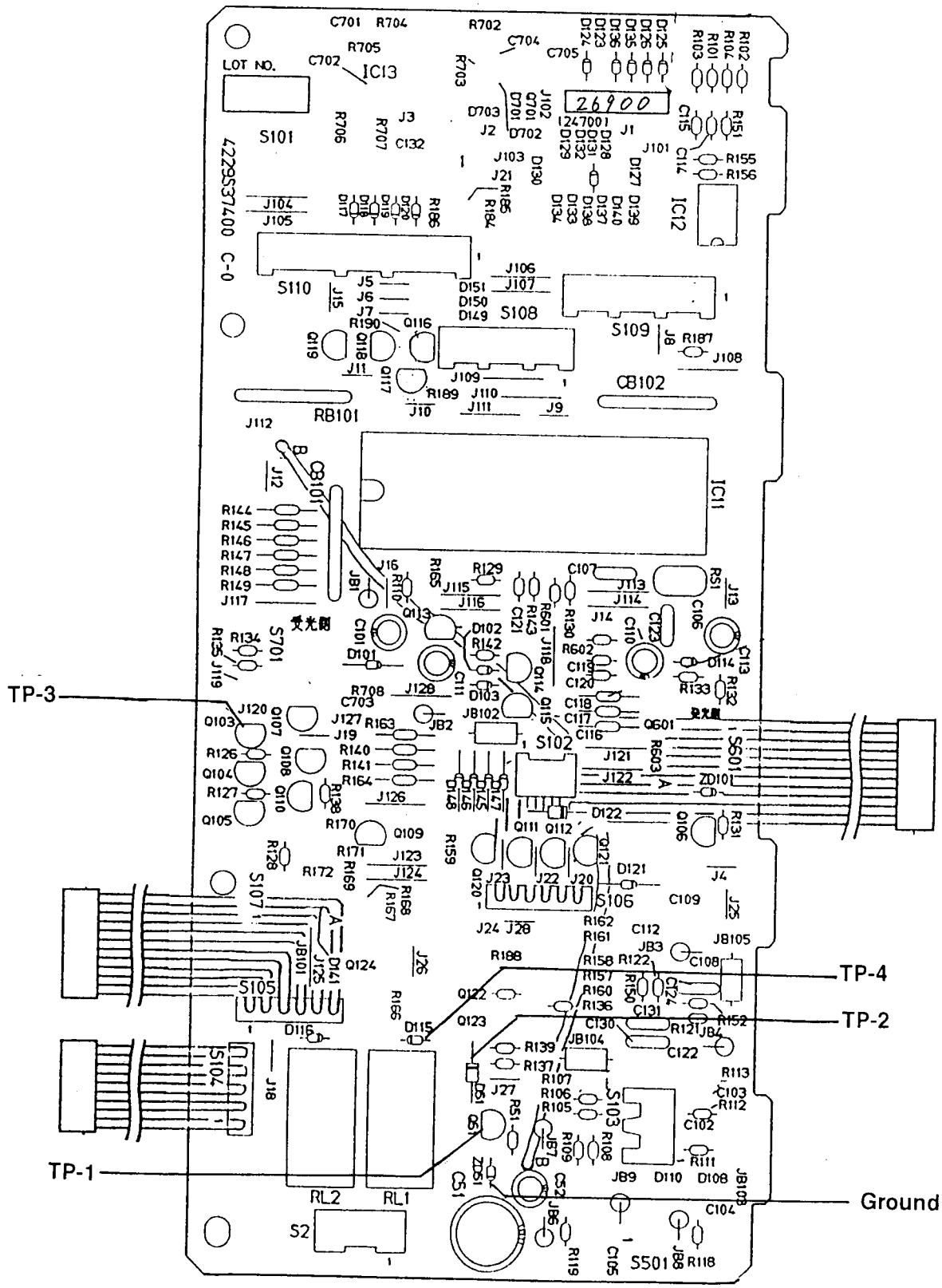


Figure 12

SANYO Electric Co., Ltd.
Osaka, Japan