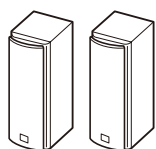


ONKYO SERVICE MANUAL

7.1ch Home Theater Speaker Package MODEL HTP-990(B)

Front speakers (SKF-980)



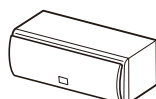
Front speakers



(White) (Red)

Speaker cables 11 ft.
(3.5 m)

Center speaker (SKC-980)

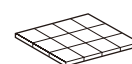


Center speaker



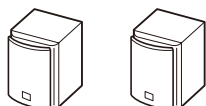
(Green)

Speaker cable 10 ft.
(3.0 m)

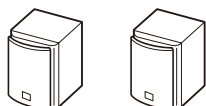


Cork stoppers (12 pcs.)
for front and center speakers

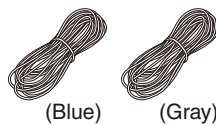
Surround speakers (SKR-980) Surround back speakers (SKB-980)



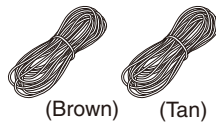
Surround speakers



Surround back speakers



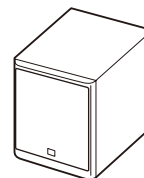
(Blue) (Gray)



(Brown) (Tan)

Speaker cables 26 ft. (8.0 m)

Powered subwoofer (SKW-980)



Subwoofer



RCA cable 10 ft. (3.0 m)

Black model

B MDC	120V AC, 60Hz
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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK.

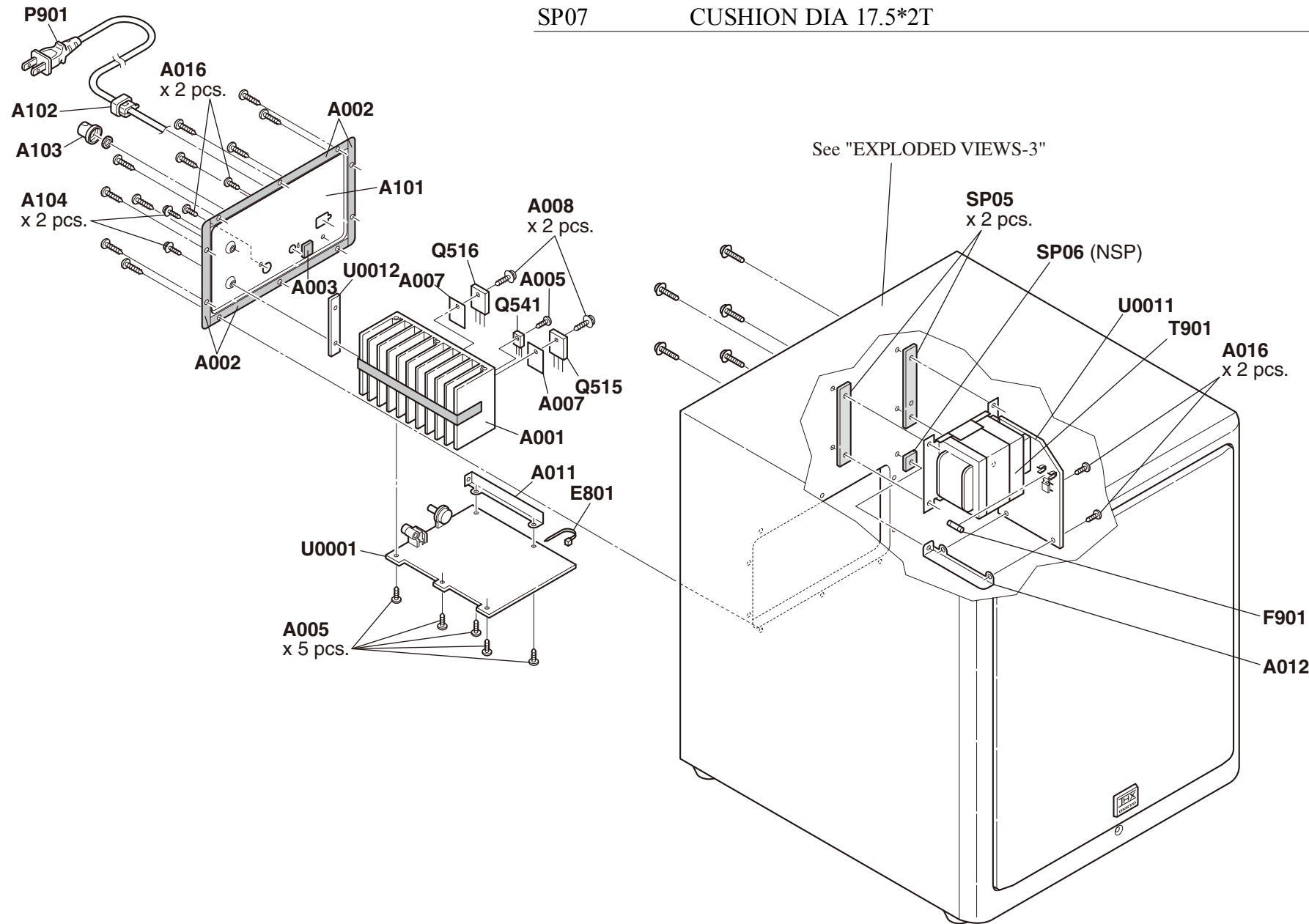
REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL. MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED ARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO SOUND & VISION CORPORATION
Service Department

EXPLODED VIEWS - 1
SKW-980

REF. NO.	PART NAME	DESCRIPTION	Q'TY	PART NO. (SN)
SKW-980				
SP01A	SPK SYSTEM ASSY SKW-980(B)MDC		1	000-SKW-980BMDC
SP01B	SUBWOOFER ASSY	Without AMP unit,SPEAKER unit and Power transformer	1	000-SKW-980BMDCESER
SP02	GRILLE BOARD ASSY SKW-960 CARB P		1	113-0BW960-11
SP02	FOOT SKW-540	FOOT SKW-540	4	D249-W54001B-00
SP03	WOOFER (FPI)	SUB WF NS-424 (FPI)	1	300-DNS4243000
SP04	LED HARNESS ASSY SKW750		1	335-SKW750-01
SP05	CUSHION CR RUBBER SKW-460		2	442-902138-00
SP06	CUSHION CR RUBBER SKW-538		1	442-902143-00
SP07	CUSHION DIA 17.5*2T		4	442-902133-00

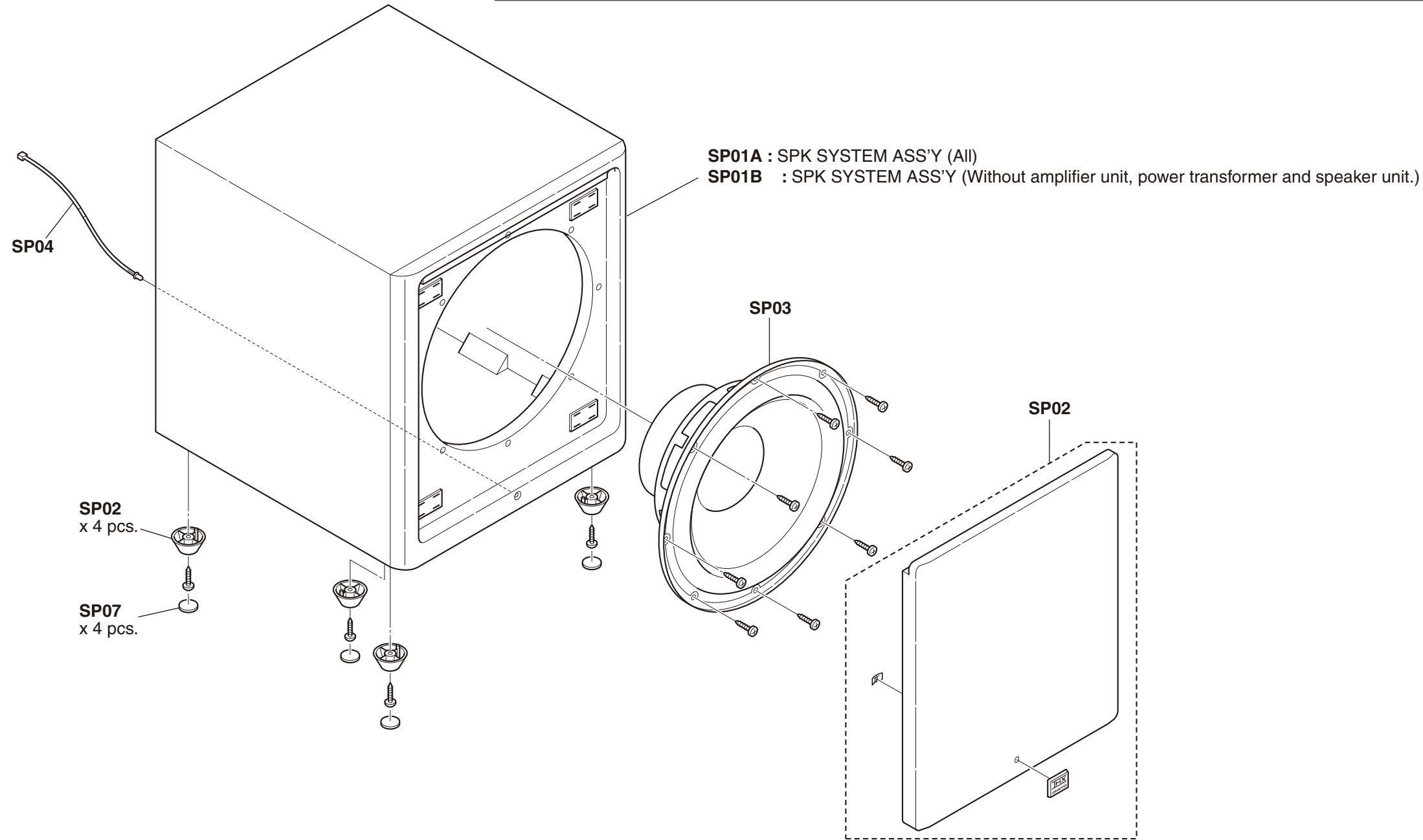
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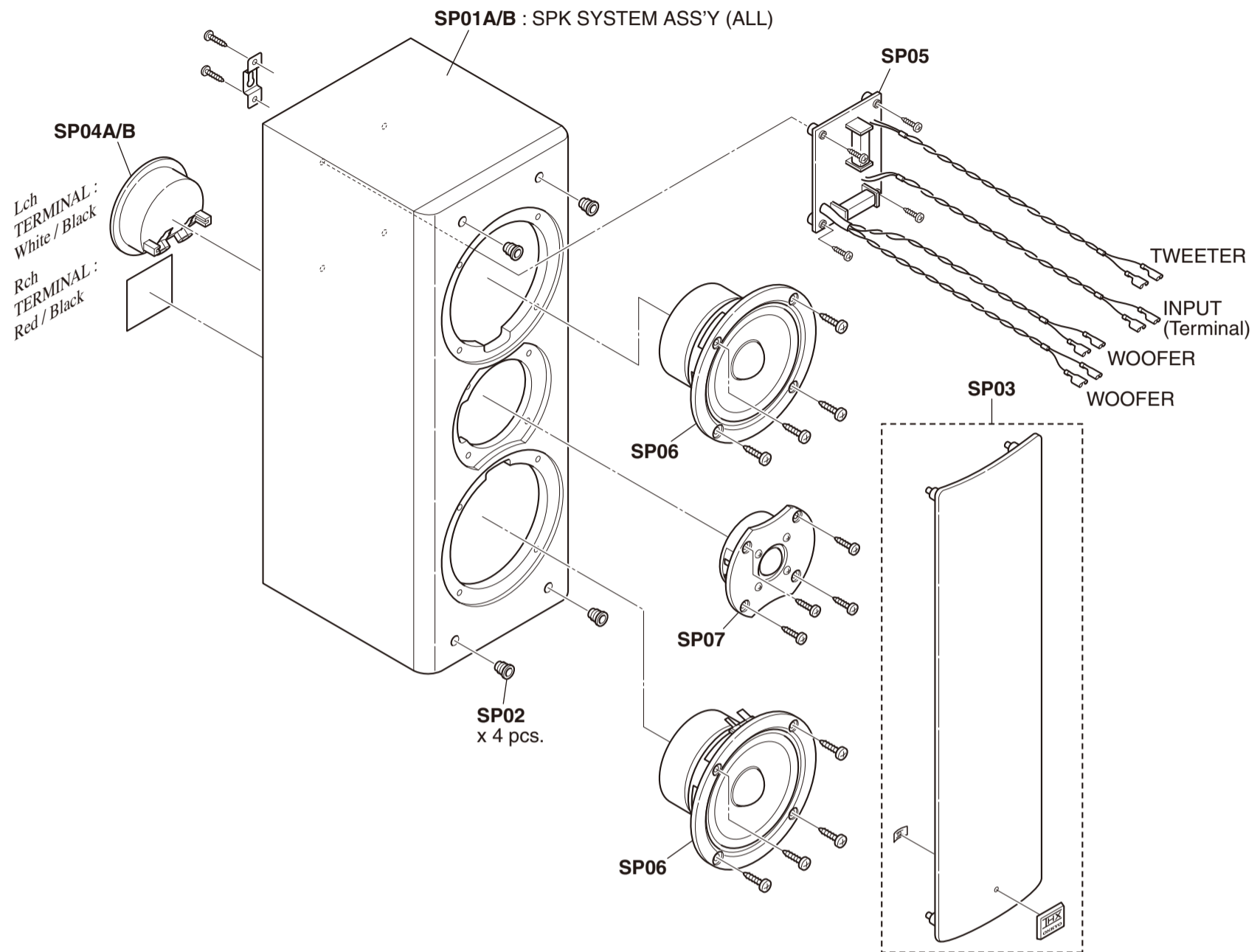


EXPLODED VIEWS - 2
SKW-980

REF. NO.	PART NAME	DESCRIPTION	Q'TY	PART NO. (SN)
SKW-980				
SP01A	SPK SYSTEM ASSY SKW-980(B)MDC		1	000-SKW-980BMDC
SP01B	SUBWOOFER ASSY	Without AMP unit,SPEAKER unit and Power transformer	1	000-SKW-980BMDCESER
SP02	GRILLE BOARD ASSY SKW-960 CARB P		1	113-0BW960-11
SP02	FOOT SKW-540	FOOT SKW-540	4	D249-W54001B-00
SP03	WOOFER (FPI)	SUB WF NS-424 (FPI)	1	300-DNS4243000
SP04	LED HARNESS ASSY SKW750		1	335-SKW750-01
SP05	CUSHION CR RUBBER SKW-460		2	442-902138-00
SP06	CUSHION CR RUBBER SKW-538		1	442-902143-00
SP07	CUSHION DIA 17.5*2T		4	442-902133-00

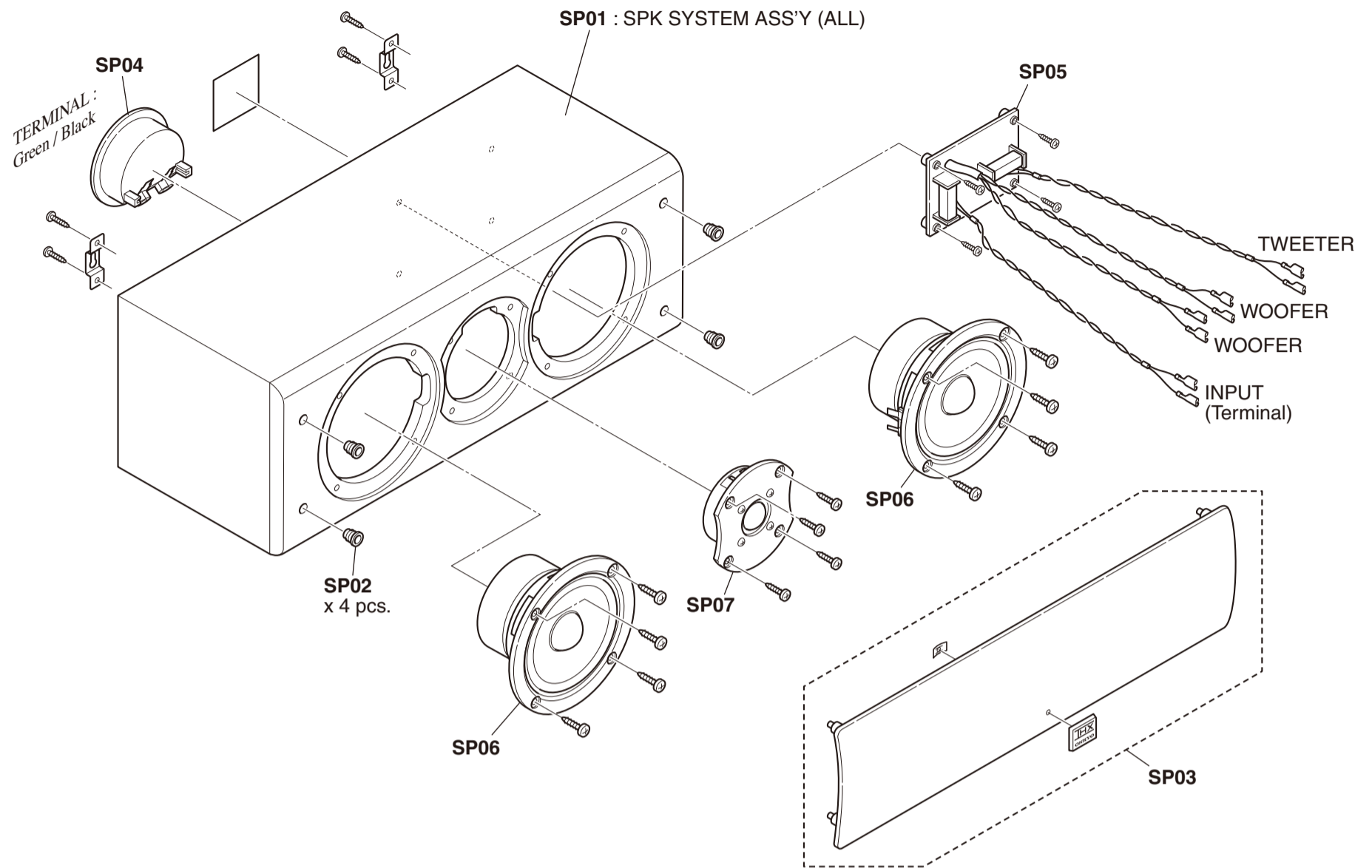
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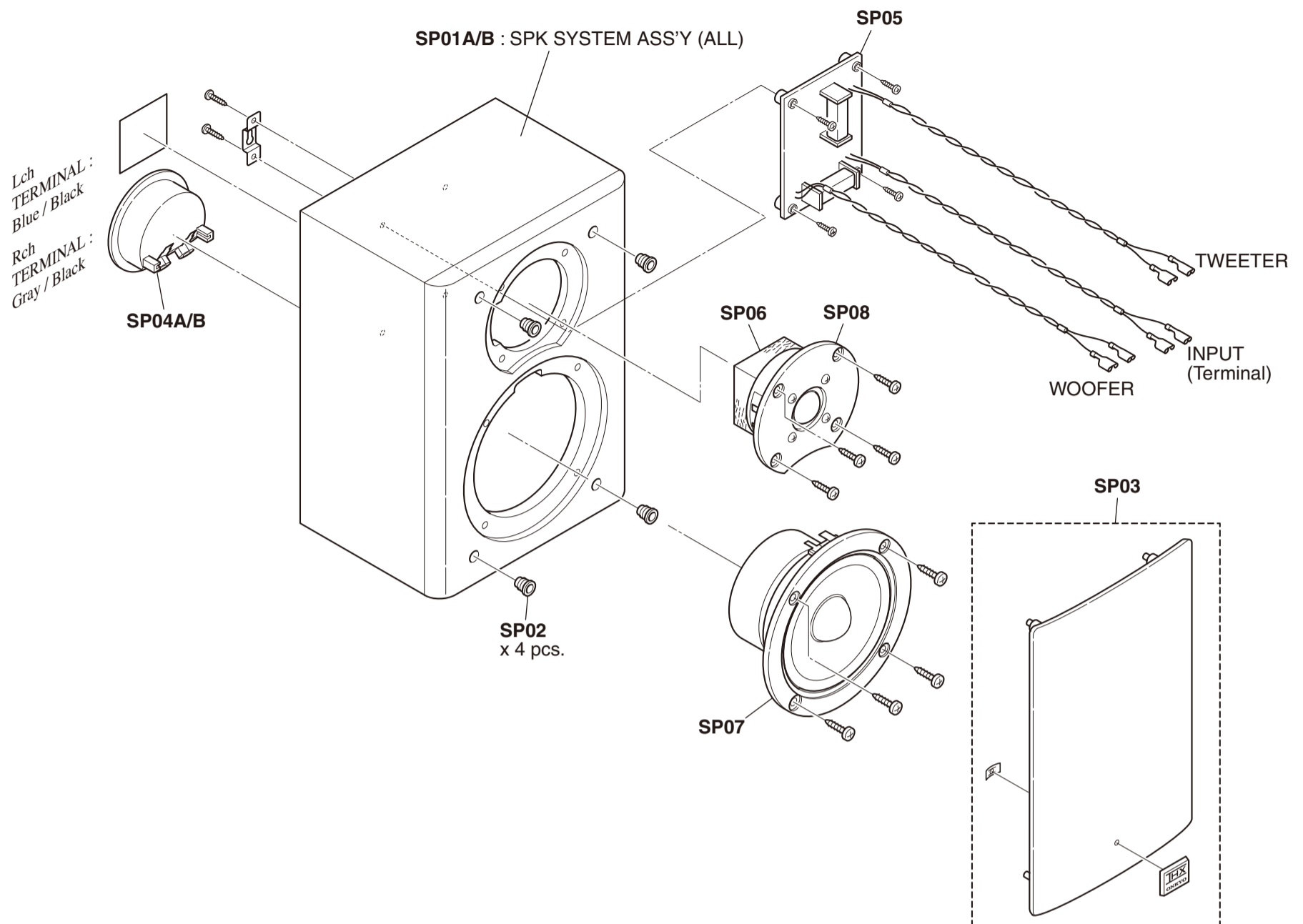
EXPLODED VIEWS - 3
SKF-980L / SKF-980R


REF. NO.	PART NAME	DESCRIPTION	Q'TY	PART NO. (SN)
SKF-980L(B)				
SP01A	SPK SYSTEM ASSY SKF-990FL(B)MDC	WITH SPEC LABEL	1	000-SKF990FLBMDCCSER
SP02	CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
SP03	CLOTH FRAME ASSY SKF-960(B)	with Grille Cloth and Logo	1	D201-F96001B-50
SP04A	TERMINAL	H8107B BLK/WHITE	1	332-H8107B-42
SP05	CROSSOVER SKF/C-940		1	311-SKF940-00
SP06	Woofers (ONKYO)	OAE(JITRA)	2	W1277C
SP07	Tweeter (ONKYO)	OAE(JITRA)	1	TW3208B
SKF-980R(B)				
SP01B	SPK SYSTEM ASSY SKF-990FR(B)MDC	WITH SPEC LABEL	1	000-SKF990FRBMDCCSER
SP02	CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
SP03	CLOTH FRAME ASSY SKF-960(B)	with Grille Cloth and Logo SKF-960(B)	1	D201-F96001B-50
SP04B	TERMINAL	H8107B BLK/RED	1	332-H8107B-02
SP05	CROSSOVER SKF/C-940		1	311-SKF940-00
SP06	Woofers (ONKYO)	OAE(JITRA)	2	W1277C
SP07	Tweeter (ONKYO)	OAE(JITRA)	1	TW3208B

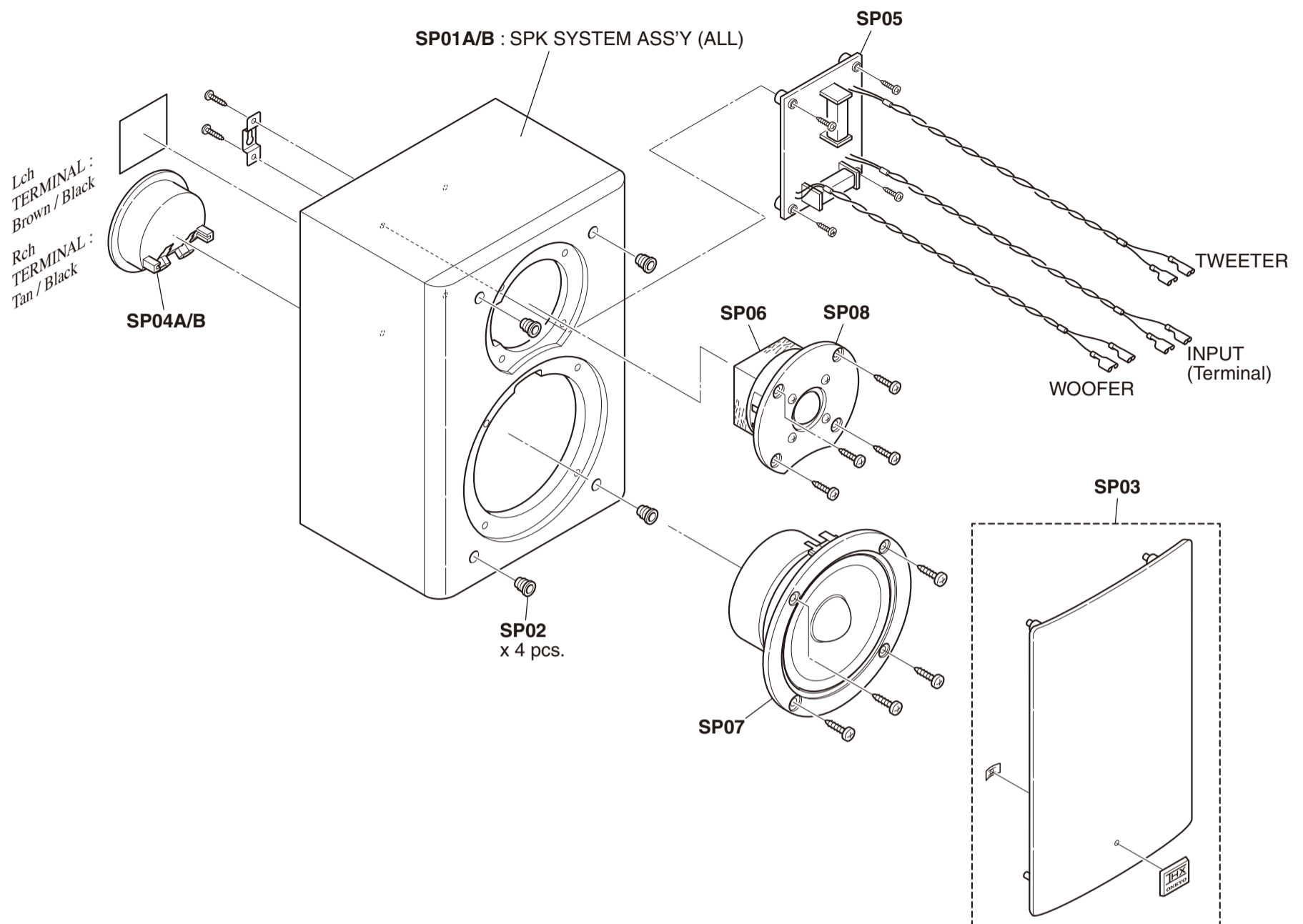
EXPLODED VIEWS - 4
SKC-980



REF. NO.	PART NAME	DESCRIPTION	Q'TY	PART NO. (SN)
SKC-980(B)				
SP01	SPK SYSTEM ASSY SKC-990C(B)MDC	WITH SPEC LABEL	1	000-SKC990CBMDCSSER
SP02	CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
SP03	CLOTH FRAME ASSY SKC-960(B)	with Grille Cloth and Logo	1	D201-C96001B-50
SP04	TERMINAL	H8107B BLK/GREEN	1	332-H8107B-32
SP05	CROSSOVER SKF/C-940		1	311-SKF940-00
SP06	Woofers (ONKYO)	OAE(JITRA)	2	W1277C
SP07	Tweeter (ONKYO)	OAE(JITRA)	1	TW3208B

EXPLODED VIEWS - 5
SKR-980L / SKR-980R


REF. NO.	PART NAME	DESCRIPTION	Q'TY	PART NO. (SN)
SKR-980L(B)				
SP01A	SPK SYSTEM ASSY SKR-990SL(B)MDC	Completed unit, with SPEC LABEL	1	000-SKR990SLBMDCCSER
SP02	CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
SP03	CLOTH FRAME ASS'Y SKM-960(B)	with Grille Cloth and Logo	1	D201-M96001B-50
SP04A	TERMINAL H8107B	BLK/BLUE	1	332-H8107B-82
SP05	CROSSOVER SKM/B-940		1	311-SKM940-00
SP06	S.ABSORBER	for TWEETER : 25tx50x50	1	443-925404-00
SP07	Woofer (ONKYO)	OAE(JITRA)	1	W1367B
SP08	Tweeter (ONKYO)	OAE(JITRA)	1	TW3223A
SKR-980R(B)				
SP01B	SPK SYSTEM ASSY SKR-990SR(B)MDC	Completed unit, with SPEC LABEL	1	000-SKR990SRBMDCCSER
SP02	CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
SP03	CLOTH FRAME ASS'Y SKM-960(B)	with Grille Cloth and Logo	1	D201-M96001B-50
SP04B	TERMINAL H8107B	BLK/GRAY	1	332-H8107B-22
SP05	CROSSOVER SKM/B-940		1	311-SKM940-00
SP06	S.ABSORBER	for TWEETER : 25tx50x50	1	443-925404-00
SP07	Woofer (ONKYO)	OAE(JITRA)	1	W1367B
SP08	Tweeter (ONKYO)	OAE(JITRA)	1	TW3223A

EXPLODED VIEWS - 6
SKB-980L / SKB-980R


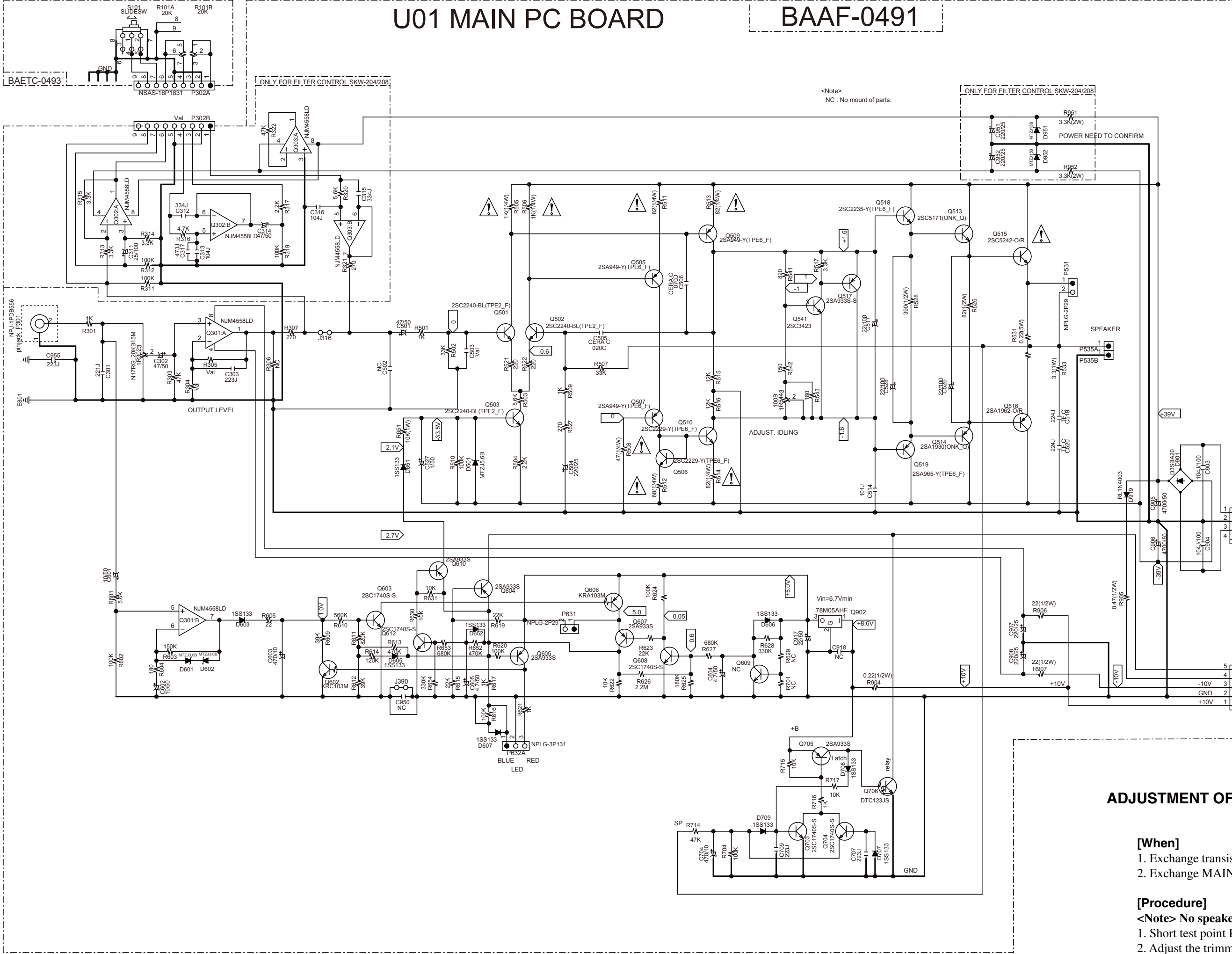
REF. NO.	PART NAME	DESCRIPTION	Q'TY	PART NO. (SN)
SKB-980L(B)				
SP01A	SPK SYSTEM ASSY SKB-990BL(B)MDC	Completed unit, with SPEC LABEL	1	000-SKB990BLBMDCCSER
SP02	CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
SP03	CLOTH FRAME ASSY SKM-960(B)	with Grille Cloth and Logo	1	D201-M96001B-50
SP04A	TERMINAL	BLK/BROWN	1	332-H8107B-92
SP05	CROSSOVER SKM/B-940		1	311-SKM940-00
SP06	S.ABSORBER	for TWEETER : 25tx50x50	1	443-925404-00
SP07	Woofer (ONKYO)	OAE(JITRA)	1	W1367B
SP08	Tweeter (ONKYO)	OAE(JITRA)	1	TW3223A
SKB-980R(B)				
SP01B	SPK SYSTEM ASSY SKB-990BR(B)MDC		1	000-SKB990BRBMDCCSER
SP02	CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
SP03	CLOTH FRAME ASSY SKM-960(B)	with Grille Cloth and Logo	1	D201-M96001B-50
SP04B	TERMINAL H8107B	BLK/TAN	1	332-H8107B-A2
SP05	CROSSOVER SKM/B-940		1	311-SKM940-00
SP06	S.ABSORBER	for TWEETER : 25tx50x50	1	443-925404-00
SP07	Woofer (ONKYO)	OAE(JITRA)	1	W1367B
SP08	Tweeter (ONKYO)	OAE(JITRA)	1	TW3223A

SCHEMATIC DIAGRAM

POWERED SUBWOOFER

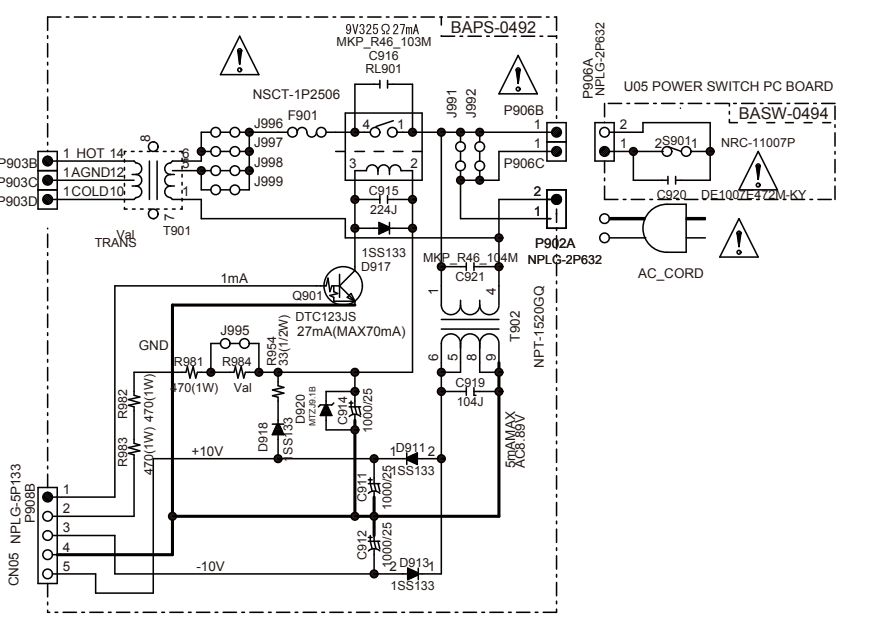
U01 MAIN PC BOARD

BAAF-0491



THE COMPONENTS IDENTIFIED BY MARK ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED. * VOLTAGE (MEASURED WITH VOLTMETER) IS DC VOLTAGE. (NO INPUT SIGNAL).
ELECTROLYTIC CAPACITORS () ARE IN μ F/VV.
ALL CAPACITORS ARE IN μ F/50V UNLESS OTHERWISE NOTED.
EX) 030-30F 330-330F 331-330F 333-0.033 μ F
CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.
ATTENTION
AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET CALIBRATION COMME INDIQUE.
THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE FOR CONTINUED PROTECTION AGAINST FIRE HAZARD. REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE MAKING ADJACENT TO THE SYMBOL.
CE SYMBOLE INDIQUE QUE LE FUSIBLE UTILISE EST A LENT. E POUR UNE PROTECTION PERMANENTE. UTILISER QUE DES FUSIBLES DE MEME TYPE. CE DERNIER EST INDIQUE LA QU LE PRESENT SYMBOLE EST APPOSE.

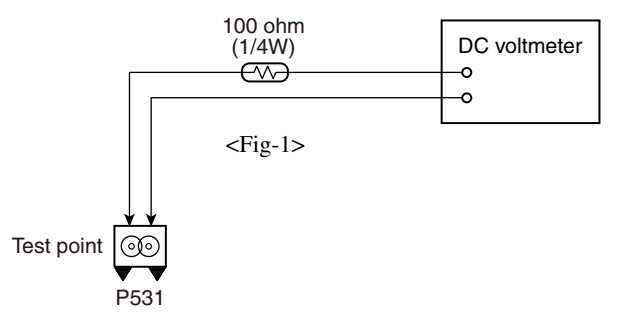


ADJUSTMENT OF IDLING CURRENT

- [When]
1. Exchange transistors (Q505 - Q519).
2. Exchange MAIN PC board ass'y (NAAF-8829).

[Procedure]

- <Note> No speaker load and No input signal.
1. Short test point P631 for amplifier is under active mode.
2. Adjust the trimming resistor R544 so that the reading of multimeter becomes 52 ohm to 53 ohm.
3. Connect the DC voltmeter to test point P531. <Fig-1>
4. Connect the power cord into the AC outlet.
5. Confirm the voltage of above point after 6 minutes to 8 minutes. (Heat running)
6. When less than 3.20 mV : Readjust the trimming resistor above so that the voltage becomes 4.5 mV to 5.0 mV.
When 3.30 mV to 5.20 mV : Not necessary to adjust.
When 5.21 mV to 10.0 mV : Readjust the trimming resistor above so that the voltage becomes 5.0 mV to 5.5 mV.
When 10.1 mV to 20.0 mV : Readjust the trimming resistor above so that the voltage becomes 5.6 mV to 6.0 mV.
7. Disconnect the power cord from the AC outlet.
8. Disconnect the DC voltmeter.



NIS-PWB	MODEL	AC	F901	T901(MAIN)	T902(SUB)	Output Power	R964	J995	Q515	Q516	C905,C906	C921	R304	R305	J316(FILTER)	C303	C503	J991,J992(AC SW)	R714	P535A(SP CABLE)	MODEL
BAAF-0491-2A	SKW-204DMVT	120V	5A/125V	NPT-1558DG	NPT-1525JG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/71	104M	2.2K	22K	NC	224J	NC	68K	200991188UL	SKW-204DMVT	
BAAF-0491-2G	SKW-540DMD	120V	5A/125V	NPT-1539D	NPT-1520JG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/71	104M	2.2K	33K	TA10	223J	224J	TA7.5	68K	200991188UL	SKW-540DMD
BAAF-0491-2C	SKW-960DMD	120V	5A/125V	NPT-1558D	NPT-1520JG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/71	104M	2.2K	22K	TA10	223J	224J	TA7.5	47K	200991188UL	SKW-960DMD
BAAF-0491-1A	SKW-960DMPP	230V	1.6A/250V	NPT-1539P	NPT-1520GG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/71	104M	2.2K	22K	TA10	223J	224J	NC	47K	200991188UL	SKW-960DMPP
BAAF-0491-1C	SKW-501EMPP	230V	1.6A/250V	NPT-1568M	NPT-1520GG	100W	NC	TA5	2SC5242-OR	2SA1962-OR	4700/50	NC	27K	33K	TA10	223J	224J	NC	47K	200991188UL	SKW-501EMPP
BAAF-0491-2E	SKW-770DMMO	230V	1.6A/250V	NPT-1558M	NPT-1520GG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/71	104M	2.2K	33K	TA10	223J	224J	NC	47K	200991188UL	SKW-770DMMO
BAAF-0491-2H	SKW-580DMD	120V	5A/125V	NPT-1578D	NPT-1520JG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/83	104M	82K	33K	TA10	223J	474J	TA7.5	47K	200991188UL	SKW-580DMD
BAAF-0491-2D	SKW-580DMMO	230V	1.6A/250V	NPT-1558M	NPT-1520GG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/71	104M	82K	33K	TA10	223J	474J	TA7.5	47K	200991188UL	SKW-580DMMO
BAAF-0491-2I	SKW-780DMD	120V	5A/125V	NPT-1578D	NPT-1520JG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/71	104M	27K	33K	TA10	223J	224J	TA7.5	47K	200991188UL	SKW-780DMD
BAAF-0491-2F	SKW-980DMD	120V	5A/125V	NPT-1539D	NPT-1520JG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/71	104M	2.2K	8.2K	TA10	223J	224J	TA7.5	68K	200991188UL	SKW-980DMD
BAAF-0491-1F	SKW-938MPP	230V	1.6A/250V	NPT-1539P	NPT-1520GG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/71	104M	2.2K	8.2K	TA10	223J	224J	TA7.5	68K	200991188UL	SKW-938MPP
BAAF-0491-1B	SKW-208MPP	230V	1.6A/250V	NPT-1539P	NPT-1520GG	150W	470(1W)	NC	2SC5359-OR	2SA1987-OR	5600/71	104M	27K	33K	NC	NC	NC	NC	47K	200991188UL	SKW-208MPP

HTP-990

<Note>

Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

NOTE : THE COMPONENTS IDENTIFIED BY THE MARK ! ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

HTP-990

EXPLODED VIEWS PARTS LIST

REF. NO.	PART NAME	DESCRIPTION	Q'TY	PART NO. (SN)	REMARKS
SKF-980L(B)					
	SPK SYSTEM ASSY SKF-990FL(B)MDC	Completed unit, with SPEC LABEL	1	000-SKF990FLBMDCCSER	
	CATCHING HOLDER D-N3X		4	D230-DN3X01B-01	
	CLOTH FRAME ASSY SKF-960(B)	with Grille Cloth and Logo	1	D201-F96001B-50	
	TERMINAL	H8107B BLK/WHITE	1	332-H8107B-42	
	CROSSOVER SKF/C-940		1	311-SKF940-00	
	Woofers (ONKYO)	OAE(JITRA)	2	W1277C	
	Tweeter (ONKYO)	OAE(JITRA)	1	TW3208B	
SKF-980R(B)					
	SPK SYSTEM ASSY SKF-990FR(B)MDC	Completed unit, with SPEC LABEL	1	000-SKF990FRBMDCCSER	
	CATCHING HOLDER D-N3X		4	D230-DN3X01B-01	
	CLOTH FRAME ASSY SKF-960(B)	with Grille Cloth and Logo SKF-960(B)	1	D201-F96001B-50	
	TERMINAL	H8107B BLK/RED	1	332-H8107B-02	
	CROSSOVER SKF/C-940		1	311-SKF940-00	
	Woofers (ONKYO)	OAE(JITRA)	2	W1277C	
	Tweeter (ONKYO)	OAE(JITRA)	1	TW3208B	
SKC-980(B)					
	SPK SYSTEM ASSY SKC-990C(B)MDC	Completed unit, with SPEC LABEL	1	000-SKC990CBMDCCSER	
	CATCHING HOLDER D-N3X		4	D230-DN3X01B-01	
	CLOTH FRAME ASSY SKC-960(B)	with Grille Cloth and Logo	1	D201-C96001B-50	
	TERMINAL	H8107B BLK/GREEN	1	332-H8107B-32	
	CROSSOVER SKF/C-940		1	311-SKF940-00	

Woofers (ONKYO)	OAE(JITRA)	2	W1277C
Tweeter (ONKYO)	OAE(JITRA)	1	TW3208B
SKR-980L(B)			
SPK SYSTEM ASSY SKR-990SL(B)MDC	Completed unit, with SPEC LABEL	1	000-SKR990SLBMDCCSER
CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
CLOTH FRAME ASS'Y SKM-960(B)	with Grille Cloth and Logo	1	D201-M96001B-50
TERMINAL H8107B	BLK/BLUE	1	332-H8107B-82
CROSSOVER SKM/B-940		1	311-SKM940-00
S.ABSORBER	for TWEETER : 25tx50x50	1	443-925404-00
Woofers (ONKYO)	OAE(JITRA)	1	W1367B
Tweeter (ONKYO)	OAE(JITRA)	1	TW3223A
SKR-980R(B)			
SPK SYSTEM ASSY SKR-990SR(B)MDC	Completed unit, with SPEC LABEL	1	000-SKR990SRBMDCCSER
CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
CLOTH FRAME ASS'Y SKM-960(B)	with Grille Cloth and Logo	1	D201-M96001B-50
TERMINAL H8107B	BLK/GRAY	1	332-H8107B-22
CROSSOVER SKM/B-940		1	311-SKM940-00
S.ABSORBER	for TWEETER : 25tx50x50	1	443-925404-00
Woofers (ONKYO)	OAE(JITRA)	1	W1367B
Tweeter (ONKYO)	OAE(JITRA)	1	TW3223A
SKB-980L(B)			
SPK SYSTEM ASSY SKB-990BL(B)MDC	Completed unit, with SPEC LABEL	1	000-SKB990BLBMDCCSER
CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
CLOTH FRAME ASSY SKM-960(B)	with Grille Cloth and Logo	1	D201-M96001B-50
TERMINAL	BLK/BROWN	1	332-H8107B-92
CROSSOVER SKM/B-940		1	311-SKM940-00
S.ABSORBER	for TWEETER : 25tx50x50	1	443-925404-00
Woofers (ONKYO)	OAE(JITRA)	1	W1367B
Tweeter (ONKYO)	OAE(JITRA)	1	TW3223A
SKB-980R(B)			
SPK SYSTEM ASSY SKB-990BR(B)MDC	Completed unit, with SPEC LABEL	1	000-SKB990BRBMDCCSER
CATCHING HOLDER D-N3X		4	D230-DN3X01B-01
CLOTH FRAME ASSY SKM-960(B)	with Grille Cloth and Logo	1	D201-M96001B-50
TERMINAL H8107B	BLK/TAN	1	332-H8107B-A2

	CROSSOVER SKM/B-940		1	311-SKM940-00	
	S.ABSORBER	for TWEETER : 25tx50x50	1	443-925404-00	
	Woofers (ONKYO)	OAE(JITRA)	1	W1367B	
	Tweeter (ONKYO)	OAE(JITRA)	1	TW3223A	
SKW-980					
SP01A	SPK SYSTEM ASSY SKW-980(B)MDC	Completed unit, with SPEC LABEL	1	000-SKW-980BMDC	
SP01B	SUBWOOFER ASSY	Without AMP unit,SPEAKER unit and Power transformer	1	000-SKW-980BMDCESER	
SP02	GRILLE BOARD ASSY SKW-960 CARB P		1	113-0BW960-11	
SP02	FOOT SKW-540	FOOT SKW-540	4	D249-W54001B-00	
SP03	WOOFER (FPI)	SUB WF NS-424 (FPI)	1	300-DNS4243000	
SP04	LED HARNESS ASSY SKW750		1	335-SKW750-01	
SP05	CUSHION CR RUBBER SKW-460		2	442-902138-00	For Power Transformer
SP06	CUSHION CR RUBBER SKW-538		1	442-902143-00	
SP07	CUSHION DIA 17.5*2T		4	442-902133-00	for FOOT
[SEMI CONDUCTOR]					
Q515	TR	2SC5359-R	1	2203082	
Q515 or	TR	2SC5359-O	(1)	2203083	
Q516	TR	2SA1987-R(Q)	1	2203072	
Q516 or	TR	2SA1987-O	(1)	2203073GR	
Q541	TR	2SC3423-Y	1	2202104	
Q541 or	TR	2SC3423-O	(1)	2202103	
[CHASSIS SCREW]					
A001	HEAT SINK	230	1	27160591	
A002	CUSHION	---	2	28141682	
A003	CUSHION	---	1	28141691	
A005	SCREW	3TTB+8B(3BC)	6	838430088GR	
A007	ISO SHEET	AC262	2	223025	
A008	SCREW	3SMS8W.SW+14B(CU)	2	801634	
A011	RETAINER	(PCB)	1	27142025	
A012	RETAINER	(TRANS)SKW-538	1	27142177A	
A016	SCREW	3TTB+8B(3BC)	4	838430088GR	
A101	REAR PANEL	SKW-980DAMP(X)MDD/MDC(S&V)	1	27124184B	N
A102	BUSHING	S-RELIEF #2271	1	27300750	
A103	KNOB	(VOL)	1	28326463	

A104	SCREW	3SMS8W.SW+14B(3BC)	2	801433GR	
A601	LABEL	LABEL SHEET	1	29360840A	
A602	TAPE	(SEROHAN)NITTO NO.29	1	29110149	
A604	TAPE	TAPE(CLOTH-16U)	1	29110083	
A903	SHEET	200x150t0.5	1	29095961	
[TRANS COIL]					
T901	P TRANS	NPT-1539D	1	2301863	!
[SW TRM]					
F901	FUSE	5A-UL/T-233	1	252326GR	!
F901C	LABEL	5A/125V	1	29360462	
P901	AC CORD	AS-UC-2	1	253368BLTK	!
P901 or	AC CORD	AS-UC-2	(1)	253368AYUN	!
[OTHERS]					
E801	WIRE TIE	BSK-1	1	260208	
[TUNER UNIT]					
U001	U0010 ~ U0012	BAAF-0491-2F *	1	1B139591-2F	N
U0010	MAIN PCB AS	BAAF-0491-2F	1	1B1395491-2F	N
U0011	POWER SUPPLY PCB AS	BAPS-0492-2F	1	1B1395492-2F	
U0012	ETC	BAETC-0498-2F	1	NSP	

PC BOARD PARTS LIST				HTP-990	
U001	U0010 ~ U0012	BAAF-0491-2F *	1	1B139591-2F	N
U0010	MAIN PCB AS	BAAF-0491-2F	1	1B1395491-2F	N
U0011	POWER SUPPLY PCB AS	BAPS-0492-2F	1	1B1395492-2F	
U0012	ETC	BAETC-0498-2F	1	NSP	
CIRCUIT NO.	PART NAME	DESCRIPTION	Q'TY	PART NO. (SN)	REMARKS
[SEMI CONDUCTOR]					
D501	ZENER D	MTZJ5.6B	1	224470562T	
D601	ZENER D	MTZJ3.6B	1	224470362T	
D602	ZENER D	MTZJ3.6B	1	224470362T	
D603	DIODE	ISS133	1	223163T	

D605	DIODE	ISS133	1	223163T
D606	DIODE	ISS133	1	223163T
D607	DIODE	ISS133	1	223163T
D651	DIODE	ISS133	1	223163T
D652	DIODE	ISS133	1	223163T
D707	DIODE	ISS133	1	223163T
D708	DIODE	ISS133	1	223163T
D709	DIODE	ISS133	1	223163T
D901	DIODE	D3SBA60	1	22380272F
D901 or	DIODE	RBV402	(1)	22380022F
D911	DIODE	ISS133	1	223163T
D913	DIODE	ISS133	1	223163T
D917	DIODE	ISS133	1	223163T
D918	DIODE	ISS133	1	223163T
D919	DIODE	RL1N4003	1	22380260T
D920	ZENER D	MTZ19.1B	1	224470912T
Q301	IC	NJM4558L-D	1	22240293
Q501	TR	2SC2240-BL(TPE2_F)	1	2211406T
Q502	TR	2SC2240-BL(TPE2_F)	1	2211406T
Q503	TR	2SC2240-BL(TPE2_F)	1	2211406T
Q505	TR	2SA949-O(TPE6_F)	1	2211353T
Q505 or	TR	2SA949-Y(TPE6_F)	(1)	2211354T
Q505 or	TR	KTA1024-Y	(1)	2215844T
Q506	TR	2SC2229-O(TPE6_F)	1	2211633T
Q506 or	TR	2SC2229-Y(TPE6_F)	(1)	2211634T
Q506 or	TR	KTC3206-Y	(1)	2215854T
Q507	TR	2SA949-O(TPE6_F)	1	2211353T
Q507 or	TR	2SA949-Y(TPE6_F)	(1)	2211354T
Q507 or	TR	KTA1024-Y	(1)	2215844T
Q509	TR	2SA949-O(TPE6_F)	1	2211353T
Q509 or	TR	2SA949-Y(TPE6_F)	(1)	2211354T
Q509 or	TR	KTA1024-Y	(1)	2215844T
Q510	TR	2SC2229-O(TPE6_F)	1	2211633T
Q510 or	TR	2SC2229-Y(TPE6_F)	(1)	2211634T

Q510 or	TR	KTC3206-Y	(1)	2215854T
Q513	TR	2SC5171(ONK_Q)	1	2203010
Q513 or	TR	KTD2061-Y	(1)	2203434
Q514	TR	2SA1930(ONK_Q)	1	2203000
Q514 or	TR	KTB1369-Y	(1)	2203424
Q517	TR	2SA933S-S	1	2213355T
Q517 or	TR	2SA933S-R	(1)	2213354T
Q517 or	TR	KTA1267-GR	(1)	2215995T
Q518	TR	2SC2235-Y(TPE6_F)	1	2211654T
Q519	TR	2SA965-Y(TPE6_F)	1	2211644T
Q602	TR	KRC103M	1	2215810T
Q602 or	TR	DTC124ES	(1)	2213160T
Q603	TR	2SC1740S-S	1	2213285T
Q603 or	TR	2SC1740S-R	(1)	2213284T
Q603 or	TR	KTC3199-GR	(1)	2215864T
Q604	TR	2SA933S-S	1	2213355T
Q604 or	TR	2SA933S-R	(1)	2213354T
Q604 or	TR	KTA1267-GR	(1)	2215995T
Q605	TR	2SA933S-S	1	2213355T
Q605 or	TR	2SA933S-R	(1)	2213354T
Q605 or	TR	KTA1267-GR	(1)	2215995T
Q606	TR	KRA103M	1	2215780T
Q606 or	TR	DTA124ES	(1)	2212600T
Q607	TR	2SA933S-S	1	2213355T
Q607 or	TR	2SA933S-R	(1)	2213354T
Q607 or	TR	KTA1267-GR	(1)	2215995T
Q608	TR	2SC1740S-S	1	2213285T
Q608 or	TR	2SC1740S-R	(1)	2213284T
Q608 or	TR	KTC3199-GR	(1)	2215864T
Q610	TR	2SA933S-S	1	2213355T
Q610 or	TR	2SA933S-R	(1)	2213354T
Q610 or	TR	KTA1267-GR	(1)	2215995T
Q612	TR	2SC1740S-S	1	2213285T
Q612 or	TR	2SC1740S-R	(1)	2213284T

Q612 or	TR	KTC3199-GR	(1)	2215864T
Q703	TR	2SC1740S-S	1	2213285T
Q703 or	TR	2SC1740S-R	(1)	2213284T
Q703 or	TR	KTC3199-GR	(1)	2215864T
Q704	TR	2SC1740S-S	1	2213285T
Q704 or	TR	2SC1740S-R	(1)	2213284T
Q704 or	TR	KTC3199-GR	(1)	2215864T
Q705	TR	2SA933S-S	1	2213355T
Q705 or	TR	2SA933S-R	(1)	2213354T
Q705 or	TR	KTA1267-GR	(1)	2215995T
Q706	TR	DTC123JS	1	2213640T
Q901	TR	DTC123JS	1	2213640T
Q902	IC	78M05AHF(MPC78M05AHF)	1	222780055NEC
Q902 or	IC	78M05(NJM78M05FA)	(1)	222780055JRC
[TRANS COIL]				
T902	P TRANS	NPT-1520JQ	1	2301812A
[CAPACITOR]				
C301	UPZ C	2AUPZTF221JE	1	376332214T
C302	UTSP C	CE04W50V-47M(UTSP)	1	397584707T
C303	TF C	ECQ-V50V-223J	1	374722234T
C501	UTSP C	CE04W50V-47M(UTSP)	1	397584707T
C503	TF C	ECQ-V50V-224J	1	374722244T
C504	UTSP C	CE04W25V-220M(UTSP)	1	397552217T
C505	CERA C	CC45CH50V-020C	1	345340201T
C506	CERA C	CC45CH50V-070D	1	345340702T
C514	UPZ C	2AUPZTF101JE	1	376331014T
C517	VR C	CE04W100V-22M(VR)	1	394692207T
C519	TF C	ECQ-V50V-224J	1	374722244T
C520	TF C	ECQ-V50V-224J	1	374722244T
C526	VR C	CE04W100V-22M(VR)	1	394692207T
C527	UTSP C	CE04W50V-1M(UTSP)	1	397580107T
C528	VR C	CE04W100V-22M(VR)	1	394692207T
C601	UTSP C	CE04W50V-10M(UTSP)	1	397581007T
C602	UTSP C	CE04W50V-10M(UTSP)	1	397581007T

C603	UTSP C	CE04W10V-470M(UTSP)	1	397534717T	
C604	UTSP C	CE04W50V-4.7M(UTSP)	1	397580477T	
C605	UTSP C	CE04W50V-4.7M(UTSP)	1	397580477T	
C704	UTSP C	CE04W10V-470M(UTSP)	1	397534717T	
C707	TF C	ECQ-V50V-223J	1	374722234T	
C709	TF C	ECQ-V50V-223J	1	374722234T	
C903	TF C	ECQ-V100V-104J	1	374731044T	
C904	TF C	ECQ-V100V-104J	1	374731044T	
C905	ELECT C	CE62W71V5600M	1	3504444	
C905 or	ELECT C	CE69W71V-5600M	(1)	3504484	
C906	ELECT C	CE62W71V5600M	1	3504444	
C906 or	ELECT C	CE69W71V-5600M	(1)	3504484	
C907	UTSP C	CE04W25V-220M(UTSP)	1	397552217T	
C908	UTSP C	CE04W25V-220M(UTSP)	1	397552217T	
C911	UTSK C	CE04W25V-1000M(UTSK)	1	398351027S	
C912	UTSK C	CE04W25V-1000M(UTSK)	1	398351027S	
C914	UTSK C	CE04W25V-1000M(UTSK)	1	398351027S	
C915	TF C	ECQ-V50V-224J	1	374722244T	
C916	IS C	MKP R46 103M	1	3500202S	!
C917	UTSP C	CE04W50V-22M(UTSP)	1	397582207T	
C919	TF C	ECQ-V50V-104J	1	374721044T	
C921	PLA C	MKP R46 104M	1	3800041S	
C955	TF C	ECQ-V50V-223J	1	374722234T	
[RESISTOR]					
R301	CARBON R	R16J-1K	1	417341024T	
R302	VARI R	N17RGL20KB15M	1	5151508	
R303	CARBON R	R16J-47K	1	417344734T	
R304	CARBON R	R16J-2.2K	1	417342224T	
R305	CARBON R	R16J-8.2K	1	417348224T	
R307	CARBON R	R16J-270	1	417342714T	
R501	CARBON R	R16J-1K	1	417341024T	
R502	CARBON R	R16J-33K	1	417343334T	
R503	CARBON R	R16J-5.6K	1	417345624T	
R504	CARBON R	R16J-2.2K	1	417342224T	

R505	NF CARBON R	R25J-1.0K	1	415471024T
R506	NF CARBON R	R25J-1.0K	1	415471024T
R507	CARBON R	R16J-33K	1	417343334T
R508	NF CARBON R	R25J-47	1	415474704T
R509	CARBON R	R16J-1K	1	417341024T
R510	CARBON R	R16J-100K	1	417341044T
R511	NF CARBON R	R25J-82	1	415478204T
R512	NF CARBON R	R25J-68	1	415476804T
R513	NF CARBON R	R25J-82	1	415478204T
R514	NF CARBON R	R25J-82	1	415478204T
R515	CARBON R	R16J-12K	1	417341234T
R516	CARBON R	R16J-12K	1	417341234T
R517	CARBON R	R16J-3.3K	1	417343324T
R521	CARBON R	R16J-220	1	417342214T
R522	CARBON R	R16J-220	1	417342214T
R526	METAL O R	RS1/2WBJ-82	1	443528204T
R527	CARBON R	R16J-270	1	417342714T
R528	METAL O R	RS1/2WBJ-390	1	443523914T
R531	METAL PR	RF-5EGKR22	1	4000201
R531 or	METAL PR	RGC55 0.22	(1)	4000132
R531 or	METAL P R	RGC55C 0.22 K	(1)	4000157
R531 or	METAL PR	MPR5W+5W 0R22	(1)	4000233
R533	METAL R	RNU1WCJ-3.3	1	453630334T
R541	NF CARBON R	R25J-820	1	415478214T
R542	CARBON R	R16J-150	1	417341514T
R543	CARBON R	R16J-180	1	417341814T
R544	TRIM R	N06HR100BC	1	5210399T
R601	CARBON R	R16J-5.6K	1	417345624T
R602	CARBON R	R16J-100K	1	417341044T
R603	CARBON R	R16J-150K	1	417341544T
R604	CARBON R	R16J-180	1	417341814T
R605	CARBON R	R16J-22	1	417342204T
R609	CARBON R	R16J-39K	1	417343934T
R610	CARBON R	R16J-560K	1	417345644T

R611	CARBON R	R16J-820K	1	417348244T
R612	CARBON R	R16J-39K	1	417343934T
R613	CARBON R	R16J-470K	1	417344744T
R614	CARBON R	R16J-120K	1	417341244T
R615	CARBON R	R16J-22K	1	417342234T
R616	CARBON R	R16J-100K	1	417341044T
R617	CARBON R	R16J-1K	1	417341024T
R619	CARBON R	R16J-22K	1	417342234T
R620	CARBON R	R16J-100K	1	417341044T
R621	CARBON R	R16J-1K	1	417341024T
R622	CARBON R	R16J-10K	1	417341034T
R623	CARBON R	R16J-22K	1	417342234T
R624	CARBON R	R16J-100K	1	417341044T
R625	CARBON R	R16J-180K	1	417341844T
R626	CARBON R	R16J-2.2M	1	417342254T
R627	CARBON R	R16J-680K	1	417346844T
R628	CARBON R	R16J-330K	1	417343344T
R630	CARBON R	R16J-10K	1	417341034T
R631	CARBON R	R16J-10K	1	417341034T
R651	METAL O R	RS1WBJ-10K	1	443621034T
R652	CARBON R	R16J-470K	1	417344744T
R653	CARBON R	R16J-680K	1	417346844T
R654	CARBON R	R16J-330K	1	417343344T
R704	CARBON R	R16J-100K	1	417341044T
R714	CARBON R	R16J-68K	1	417346834T
R715	CARBON R	R16J-10K	1	417341034T
R716	CARBON R	R16J-1K	1	417341024T
R717	CARBON R	R16J-10K	1	417341034T
R904	METAL R	RNU1/2WCJ-0.22	1	453532294T
R905	METAL R	RNU1/2WCJ-0.47	1	453534794T
R906	METAL O R	RS1/2WBJ-22	1	443522204T
R907	METAL O R	RS1/2WBJ-22	1	443522204T
R954	METAL O R	RS1/2WBJ-33	1	443523304T
R981	METAL O R	RS1WBJ-470	1	443624714T

R982	METAL O R	RS1WBJ-470	1	443624714T	
R983	METAL O R	RS1WBJ-470	1	443624714T	
R984	METAL O R	RS1WBJ-470	1	443624714T	
[SW TRM]					
E801	RETAINER	KANAGU(EARTH)	1	27141059	
F901A	FUSE HOL	NSCT-1P2506	1	25052609T	
F901Aor	FUSE HOL	NSCT-1P2031	(1)	25052133T	
F901B	FUSE HOL	NSCT-1P2506	1	25052609T	
F901Bor	FUSE HOL	NSCT-1P2031	(1)	25052133T	
P301	PIN JACK	NPJ-1PDB581	1	25045801	
P301 or	PIN JACK	NPJ-1PDBL382	(1)	25045567	
P301 or	PIN JACK	NPJ-1PDB556	(1)	25045774	
P531	PLUG	NPLG-2P29	1	25055038	
P535A	SOCKET AS	NSAS-2P1865	1	2009991199UL	
P631	PLUG	NPLG-2P29	1	25055038	
P632A	PLUG	NPLG-3P131	1	25055147	
P902A	PLUG	NPLG-2P632	1	25055676	
P903A	PLUG	NPLG-4P151	1	25055167	
P903B	SOCKET AS	NSAS-7P1834	1	20099900740UL	
P908A	SOCKET AS	NSAS-10P1152	1	2002A391040UL	
P908B	PLUG	NPLG-5P133	1	25055149	
RL901	RELAY	NRL-1P5A-DC9-179	1	25065669	!

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