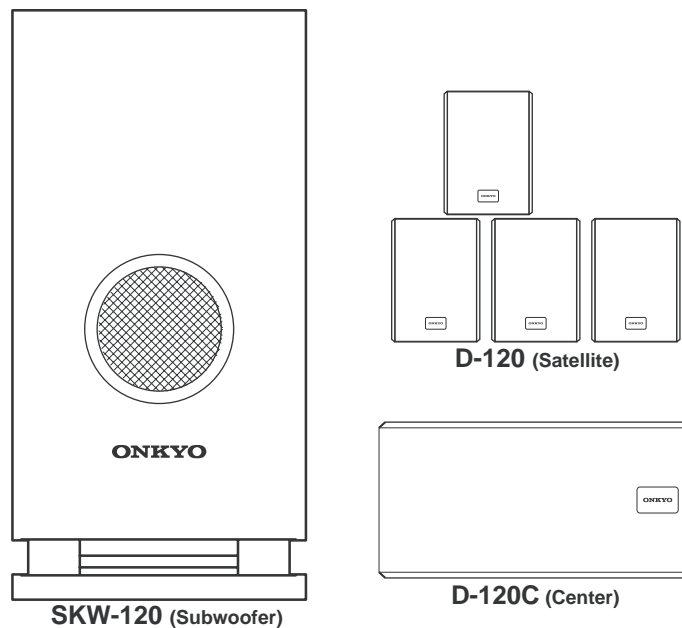


ONKYO SERVICE MANUAL


HTP-120 SKW-120/D-120C/D-120 SPEAKER SYSTEM



Black model

BMDD	120V AC, 60Hz
------	---------------

SAFETY-RELATED COMPONENT WARNING!!

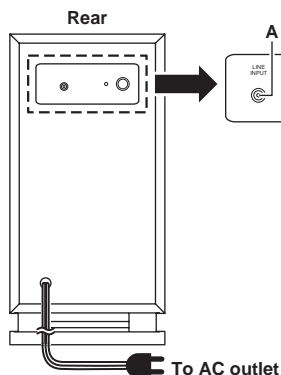
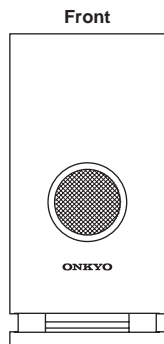
THE MARK  FOUND ON SOME COMPONENT PARTS INDICATES THE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK.

WHEN REPLACING, BE SURE TO USE PARTS OF IDENTICAL DESIGNATION.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

PANEL VIEW

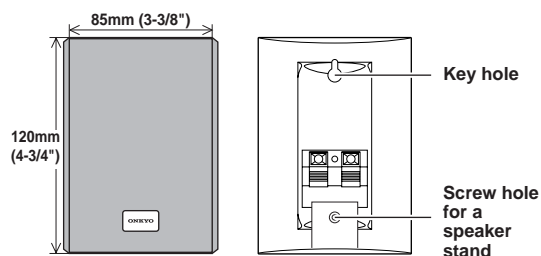
Subwoofer SKW-120



- A. LINE INPUT (input jack)**
Connect this jack to the SUBWOOFER PREOUT jack of the DR-S2.2.
- B. Indicator**
The indicator changes from red to green when the subwoofer receives a signal.
- C. OUTPUT LEVEL (Output level adjusting knob)**
Use this knob to adjust the output level of the subwoofer.

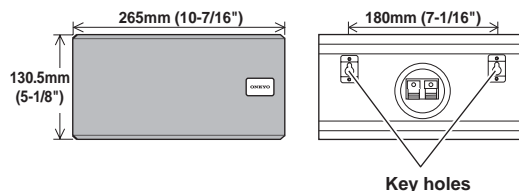
Satellite speakers D-120

(Front left/right, Surround left/right)



The badge can be rotated depending on the angle you position the speaker.

Center speaker D-120C



The badge can be rotated depending on the angle you position the speaker.

The satellite speakers (D-120) and the center speaker (D-120C) have colored labels on the backs for easy identification. Match the color of the label with the corresponding speaker cable when connecting the speakers. The DR-S2.2 SPEAKER terminals are also colored to match the corresponding speaker cable. Connect the cable with a colored line to the negative (-) terminal.

The label colors and the corresponding speakers are as follows:

- Front left speaker and speaker cable: White
- Front right speaker and speaker cable: Red
- Center speaker and speaker cable: Green
- Surround left speaker and speaker cable: Blue
- Surround right speaker and speaker cable: Grey

A

B

C

D

SPECIFICATIONS

1

Subwoofer SKW-120

Type	Bass-reflex with built-in power amplifier
Use	For superbass-range reproduction
Frequency response	30-120 Hz (when used with the DR-S2.2)
Maximum output power	60 W
Dynamic output power	120 W
Input impedance	9.5 k ohm
Sensitivity	Line 65 mV
Speaker	20-cm woofer
Power supply	AC 120 V, 60 Hz
Power consumption	70 W (AC 120 V, 60 Hz)
Dimensions (W x H x D)	235 x 493 x 488 mm 9-1/4" x 19-7/16" x 19-3/16"
Weight	14.3 kg 31.5 lbs
Others	Auto standby on/off

Center speaker D-120C

Type	2 way bass reflex
Frequency response	100 Hz-25 kHz
Maximum input power	50 W
Output sound pressure level	85 dB/W/m
Impedance	6 ohm
Speaker	8-cm woofer x 2 1.5-cm tweeter
Cabinet capacity	1.5 L
Dimensions (W x H x D)	265 x 130.5 x 79.5 mm 10-7/16" 5-1/8" 3-1/8"
Weight	1.3 kg 2.9 lbs.
Others	Magnetic shielding

2

Satellite speaker D-120

Type	2 way bass reflex
Frequency response	100 Hz-25 kHz
Maximum input power	40 W
Output sound pressure level	82 dB/W/m
Impedance	6 ohm
Speaker	8-cm woofer 1.5-cm tweeter
Cabinet capacity	0.8 L
Dimensions (W x H x D)	85 x 120 x 112 mm 3-3/8" x 4-3/4" x 4-7/16"
Weight	0.7 kg 1.5 lbs.
Others	Magnetic shielding

Accessories

- Audio connection cable (1 pc.)
 - 3.5 m speaker cables (3 pcs.: white, red, green)
 - 8 m speaker cables (2 pcs.: blue, grey)
 - Spacers for Subwoofer (4 pcs.)
 - Spacers for Satellite and Center speakers (black, 20 pcs.)
 - Horizontal mounting base (1 pc.)
 - Double-faced adhesive tapes (2 pcs.)
 - Cushioning pads (2 pcs.)
 - Instruction manual (this manual)
- Specifications and appearance may subject to change for improvement without prior notice.

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SERVICE NOTE

1. Replacing the fuses



This symbol located near the fuses indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.



Ce symbole indique que le fusible utilise est a rapide. Pour une protection permanente, n'utiliser que fusibles de meme type. Ce dernier est la qu le present symbol est appse.

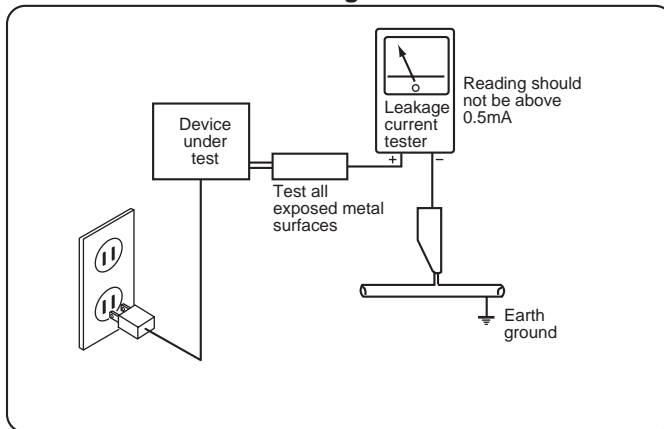
CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252159 or 252253	2A-UL/T-237 or 2A-T/UL-ST2

2. Safety-check out

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and screw on the back panel.

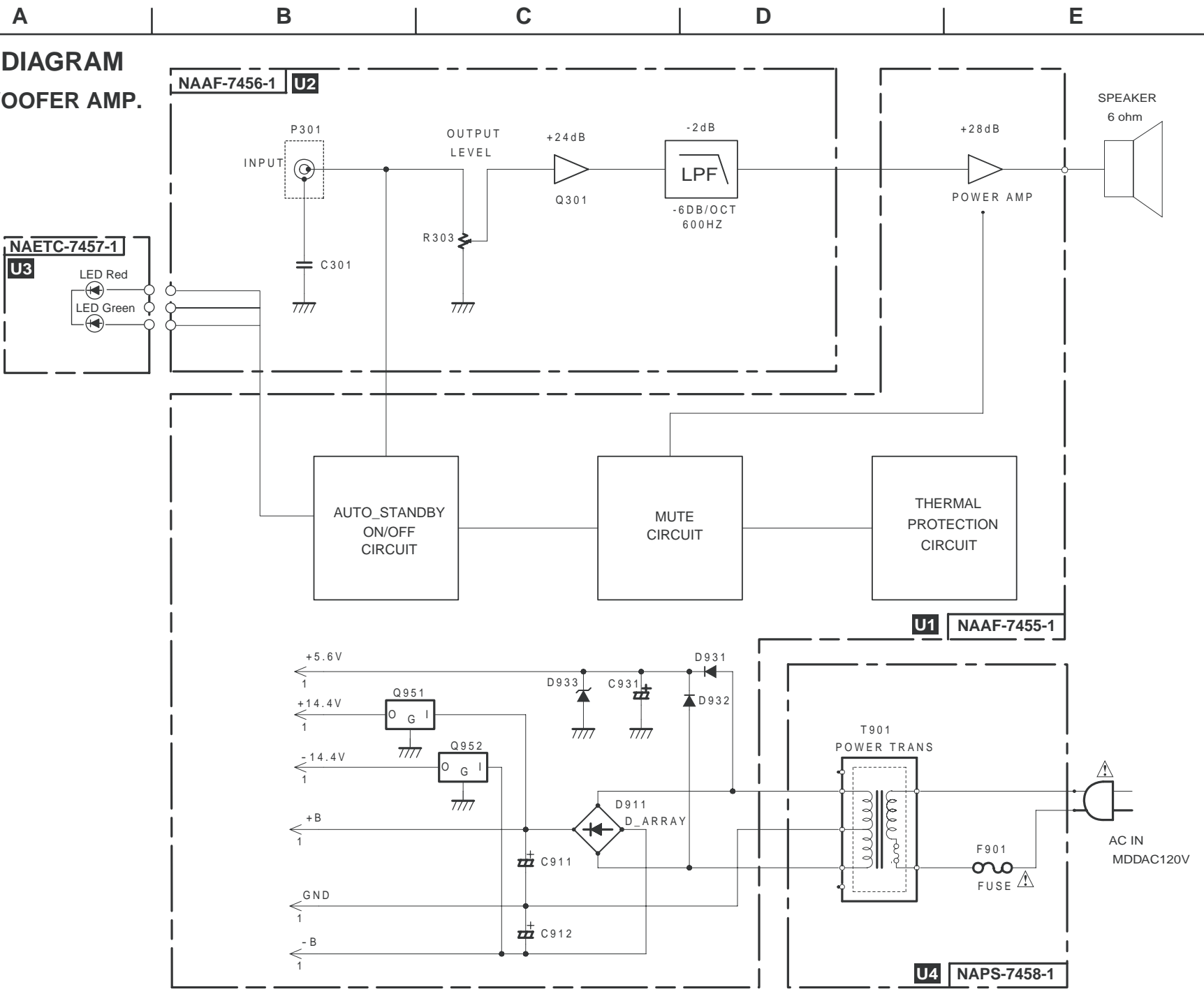
Specifications: 3.3M ohm \pm 10% at 500V.

AC Leakage Test



**BLOCK DIAGRAM
SUB WOOFER AMP.**

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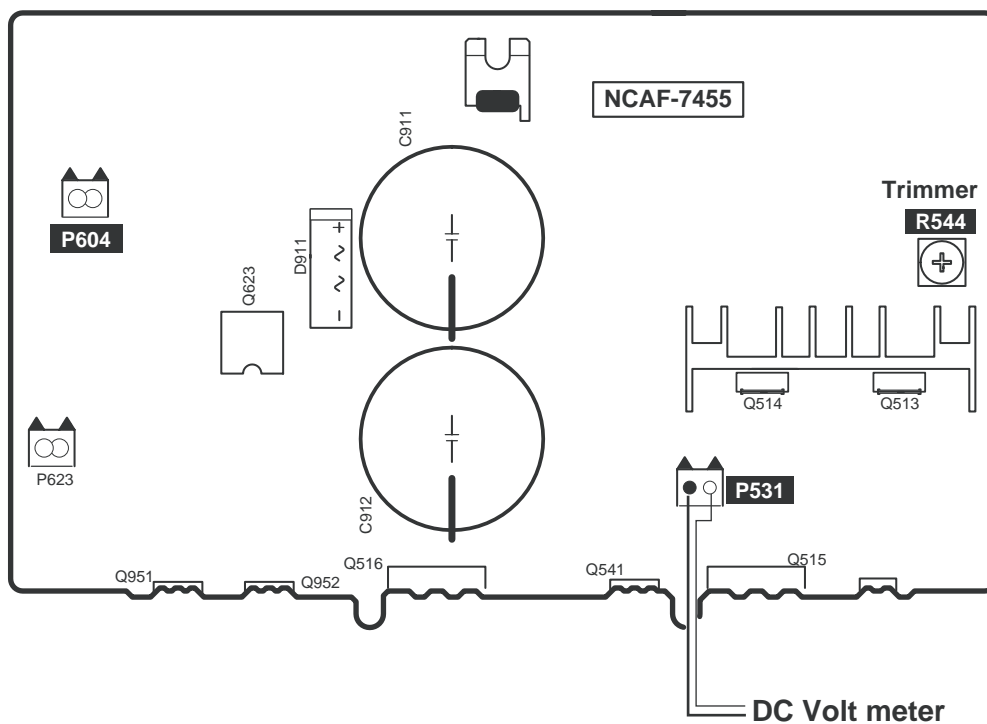


IDLING ADJUSTMENT

Adjustment of Idling current

- 1). Cancel the Auto standby ON mode.
P604 is short.
- 2). Connect the DC volt meter to P531.
- 3). At the no load and no input signal condition.
- 4). Turn on the power switch.
And adjust 0.25mV by trimmer (R544) on Main PC board.
- 5). After heat run for about 5 minutes, and set 4mV by R544 again.

Printed circuit board view from component side



Setting position of shipping

Output level ----- MIN

EXPLODED VIEW PARTS LIST

Amp section

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

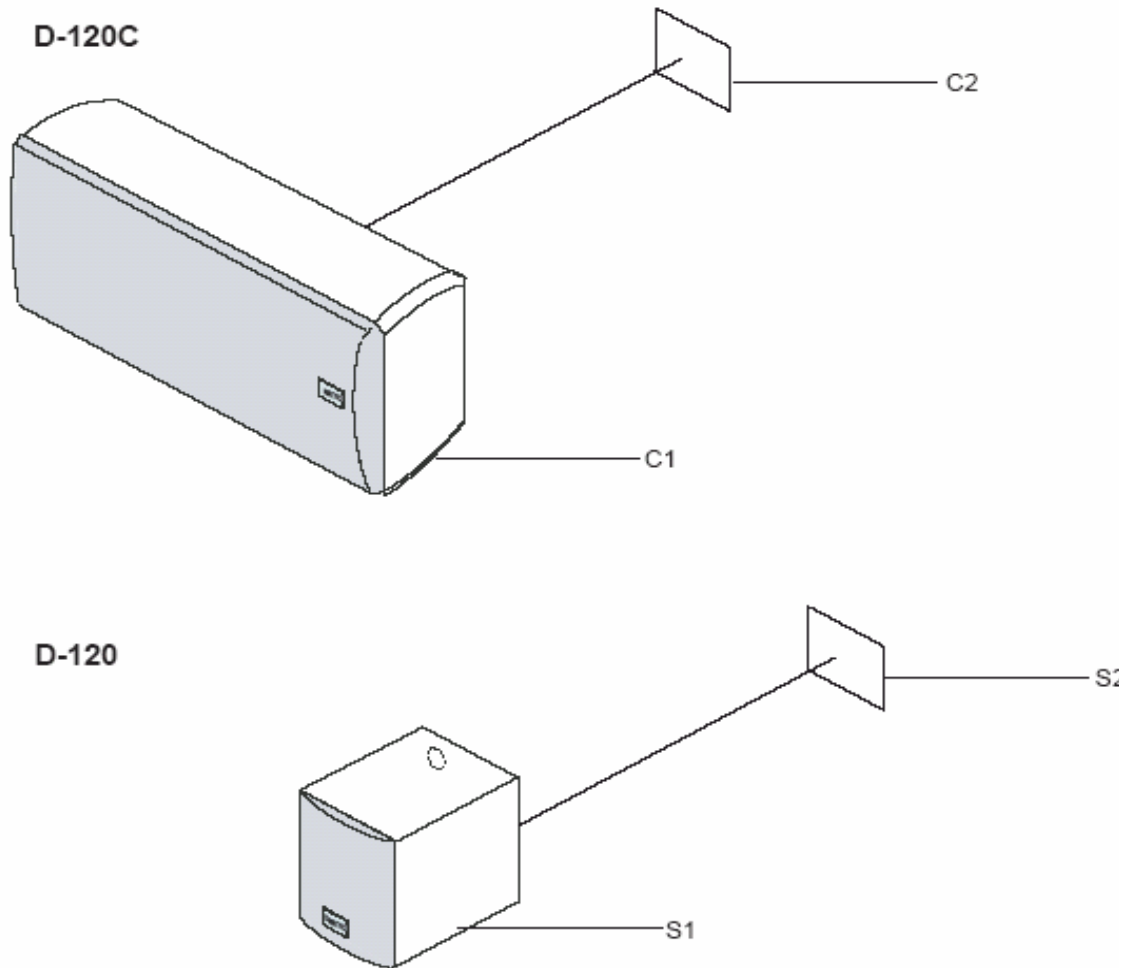
REF. NO.	PART NO.	DESCRIPTION
U1	1W232555-1A	NAAF-7455-1A, Main circuit PC board assy
U2	1W232556-1A	NAAF-7456-1A, Output level control PC board assy
U3	1W232557-1A	NAETC-7457-1A, LED PC board assy
U4	1W232558-1A	NAPS-7458-1A, Power transformer PC board assy
A1	27160467	Heat sink, SKW-205AMP
A2	801433	3SMS8W.SW+14B(BC), Self tapping screw (6)
A3	27130745	Bracket (2)
A4	838130088	3TTB+8B, Self tapping screw (7)
A6	27141661	Retainer
A8	28184777	Cover
A9	28141322A	Cushion
A10	28141475	Cushion t2X5X160 (2)
A11	28141476	Cushion t2X5X80 (2)
A41	27122963	Rear panel (Amp. Section)
A42	838430088	3TTB+8B(BC), Self tapping screw (13)
A43	830440109	4TTC+10C(BC), Self tapping screw (4)
A44	28141473	Cushion, t2X5X415 (2)
A45	28141474	Cushion, t2X5X195 (2)
A46	28141334	Cushion
A47	27 301941	Cord bushing, KF-41
A48	28325405	Knob, OUTPUT LEVEL
E901	260208	Wire tie
Q515	* 2202524	2SC4468-Y or
	* 2202523	2SC4468-O or
	* 2202526	2SC4468-P or
	* 2203062	2SC5198-R or
	* 2203063	2SC5198-O, Transistor
Q516	* 2202514	2SA1695-Y or
	* 2202513	2SA1695-O or
	* 2202516	2SA1695-P or
	* 2203052	2SA1941-R or
	* 2203053	2SA1941-O, Transistor
Q515A, Q516A	223021	TBM-51W 9043, Isolation sheet
Q541	2202104	2SC3423-Y or
	2202103	2SC3423-O
Q951	2202754	2SD1266-P
Q952	2202764	2SB941-P, Transistor
R602	4000144	PTH9M04-2.2K, Thermistor
T901	2 301487	NPT-1396D, Power transformer
F901	Δ 252159	2A-UL/T-237 or
	Δ 252253	2A-T/UL-ST2, Fuse
P901	Δ 253272HIT	Power cord, AS-UC-6#18
A50	28141503	Cushion

CAUTION: Replacement of the transistor of mark *, if necessary, must be made from the same beta group (HFE) as the original type.

EXPLODED VIEW PARTS LIST**Cabinet section**

	PART NO.	DESCRIPTION	QTY
B02	KK200001-01	W20170A, SP assy	1
B03	<input type="text"/>	Cabinet assy (Box+paper duct+ plastic duct+sound absorbent)	1
B05	58-000-302-01	Foot	4
B06	76-200-030-01	Bottom board	1
B07	838440204	4STB+20A(BC), Amp, SP Unit	16
B08	70-015-450-01	4 x 50, Bottom board	4
B10	61-000-652-01	Socket assy	
	AM200008-01	SP Syatem	1

EXPLODED VIEW



PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
C 1	AZ077003-01	Center speaker assy
C 2	60-001-906-01	Rating label
S 1	AZ077002-01	Satellite speaker assy
S 2	60-001-907-01	Rating label

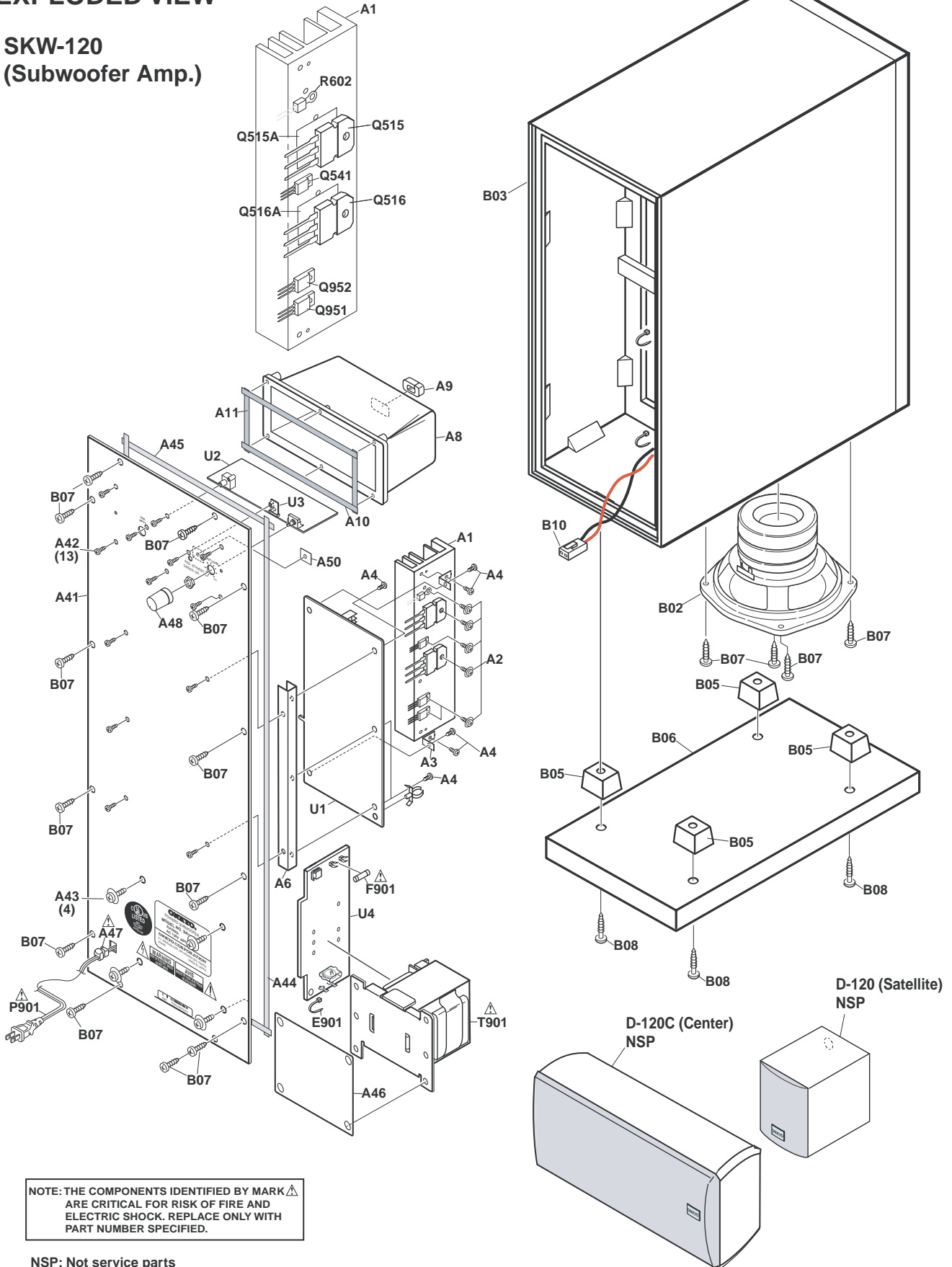
HTP-120

— S2

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EXPLODED VIEW

SKW-120 (Subwoofer Amp.)

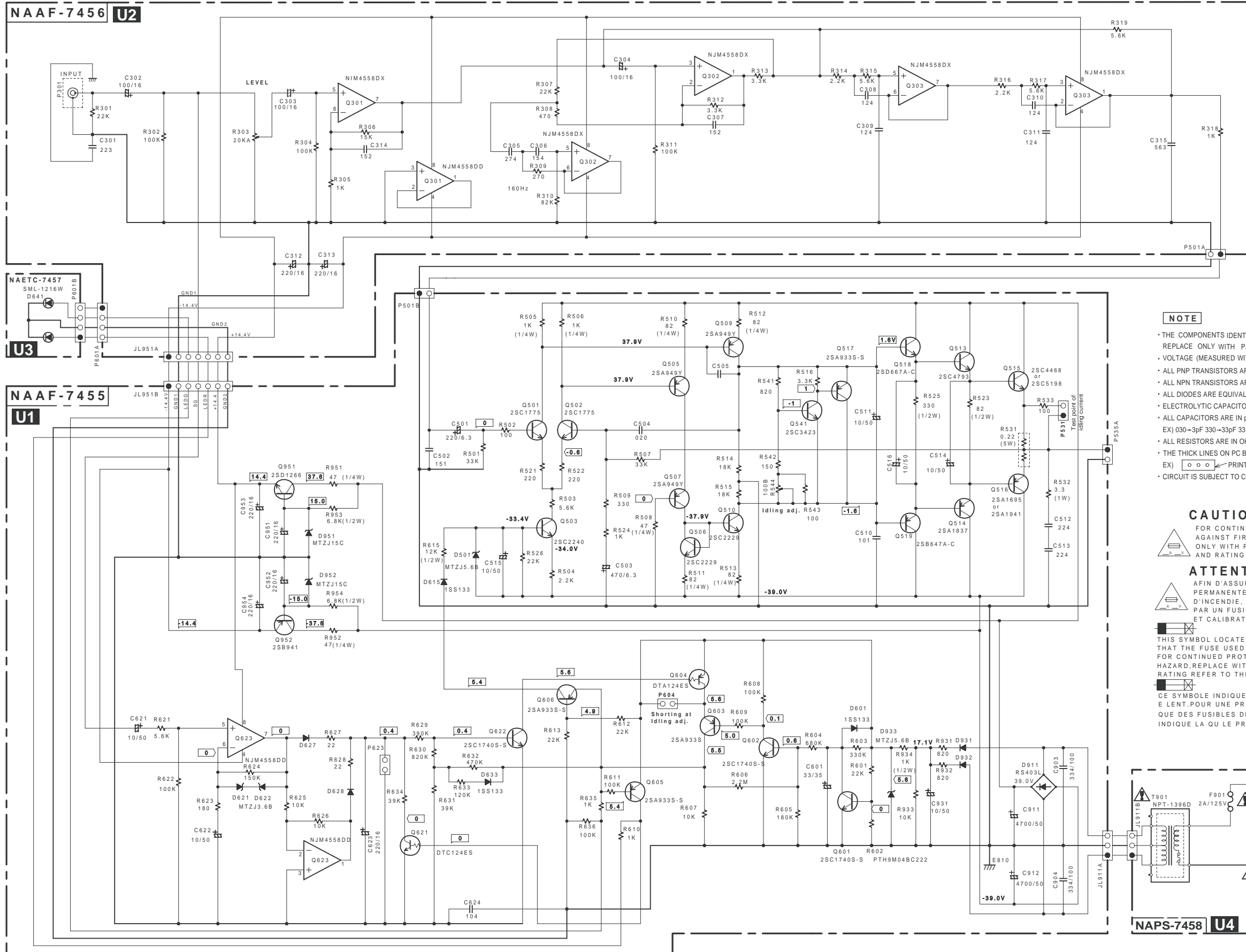


NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.





NSP: Not service parts

SCHEMATIC DIAGRAM

AMP. SECTION



NOTE

- 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)
- ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-GR UNLESS OTHERWISE NOTED.
- ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-GR UNLESS OTHERWISE NOTED.
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS () ARE IN uF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
- EX) 030-3pF 330-33pF 331-330pF 333-0.03uF
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
- EX)  PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

CAUTION

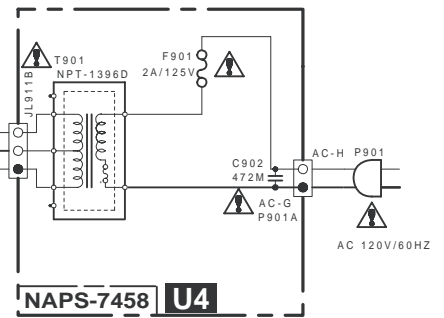
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.

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 MARKING ADJACENT TO THE SYMBOL.

CE SYMBOLE INDIQUE QUE LE FUSIBLE UTILISE EST E LENT. POUR UNE PROTECTION PERMANENTE, N'UTILISER QUE DES FUSIBLES DE MEME TYPE. CE DERNIER EST INDIQUE LA QU LE PRESENT SYMBOLE EST APOSE.



NAPS-7458 U4

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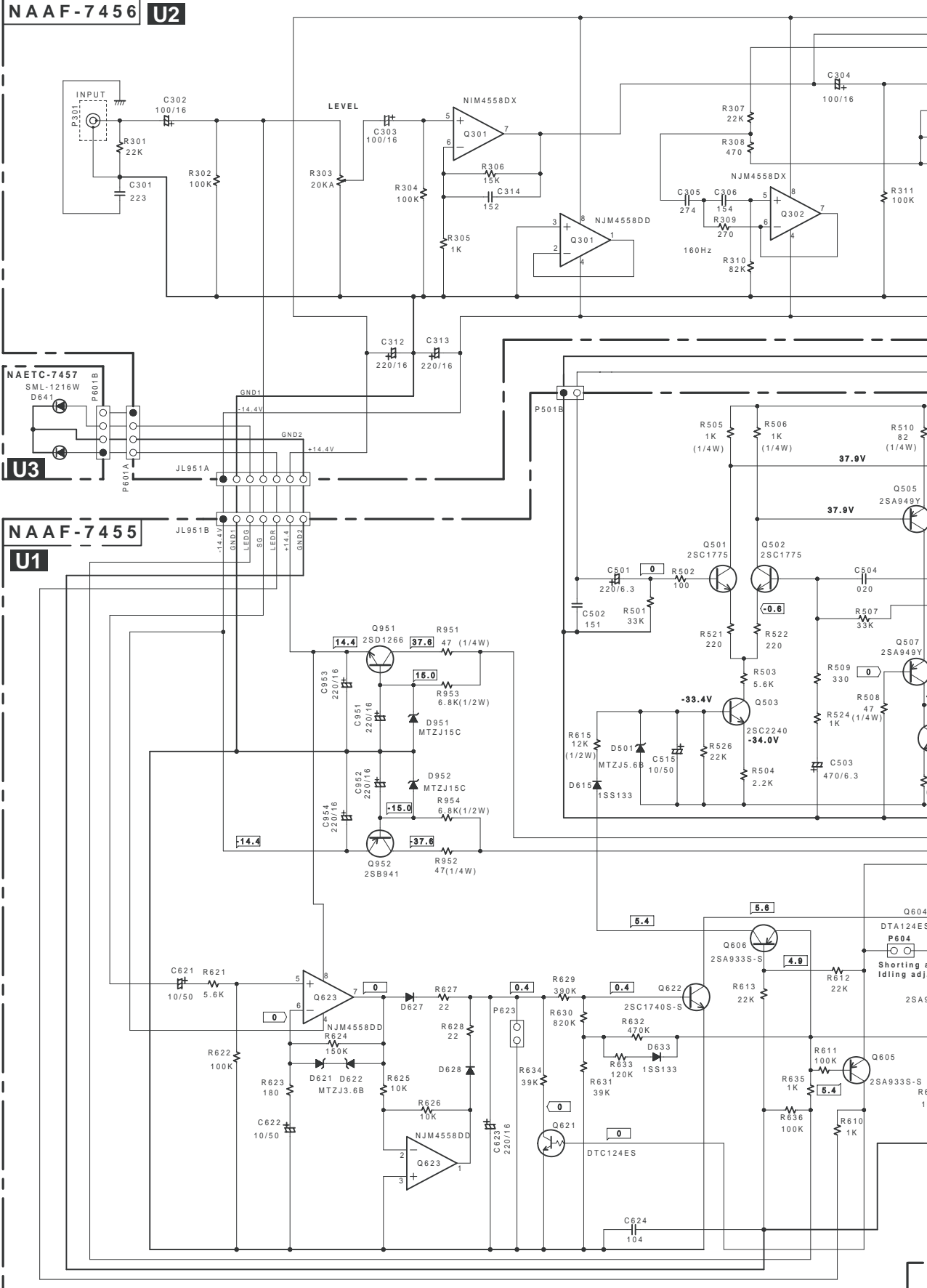
SCHEMATIC DIAGRAM

AMP. SECTION

NAAF-7456 **U2**

NAETC-7457 **U3**

NAAF-7455 **U1**



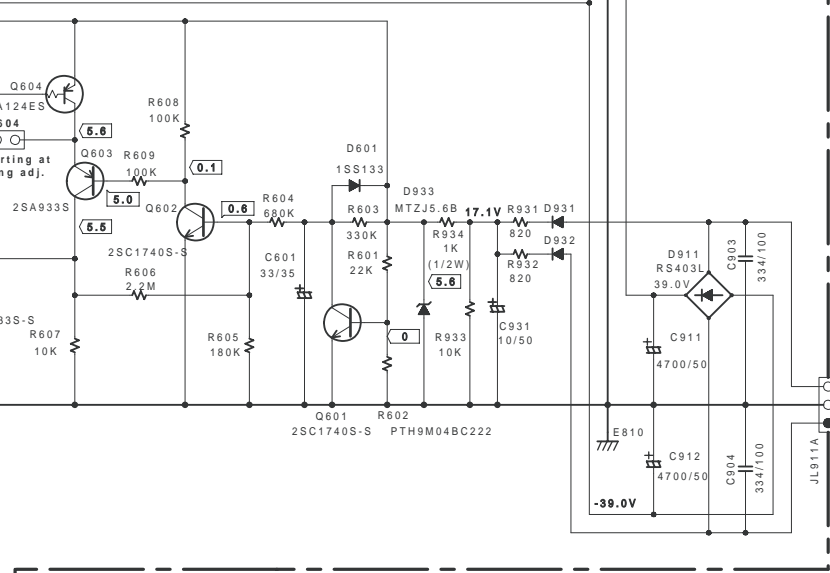
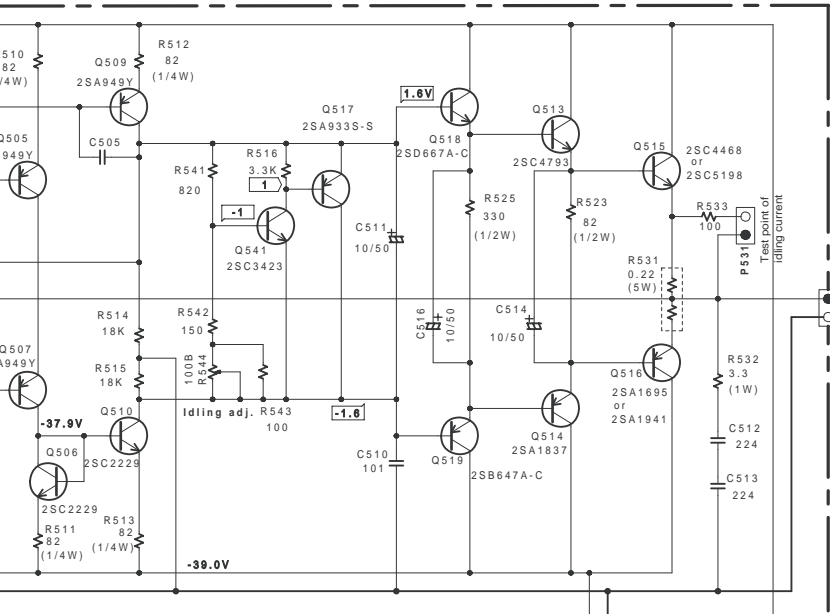
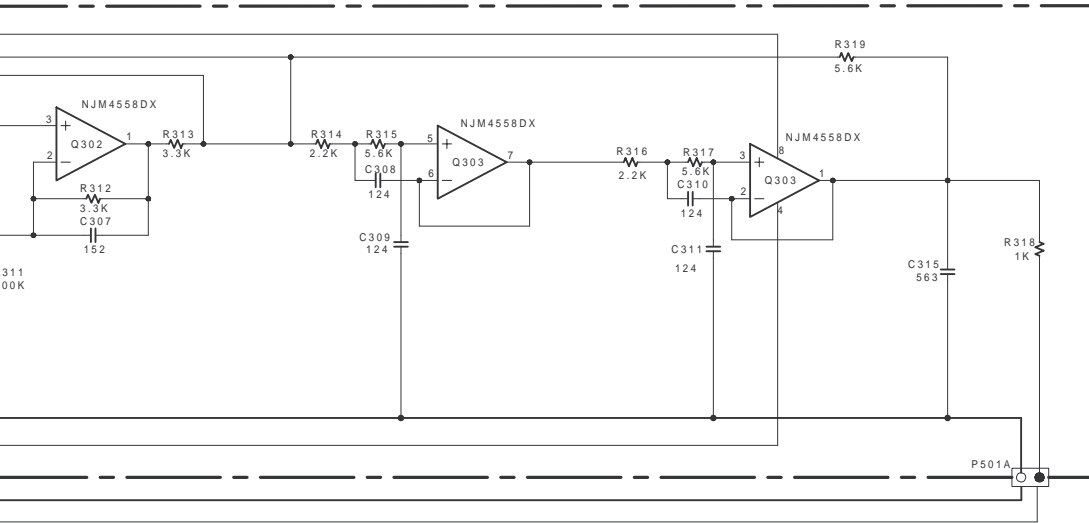
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NOTE

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- ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-GR UNLESS OTHERWISE NOTED.
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS () ARE IN uF/5V.
- ALL CAPACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED.
EX) 030=3pF 330=33pF 331=330pF 333=0.033uF
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
EX) PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

CAUTION

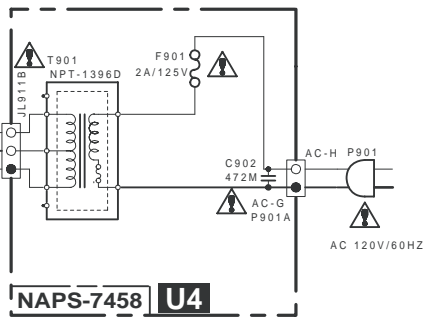
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.

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CE SYMBOLE INDIQUE QUE LE FUSIBLE UTILISE EST LENT. POUR UNE PROTECTION PERMANENTE, N'UTILISER QUE DES FUSIBLES DE MEME TYPE. CE DERNIER EST INDIQUE LA OU LE PRESENT SYMBOLE EST APPOSE.



NAPS-7458 U4

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PACKING VIEW

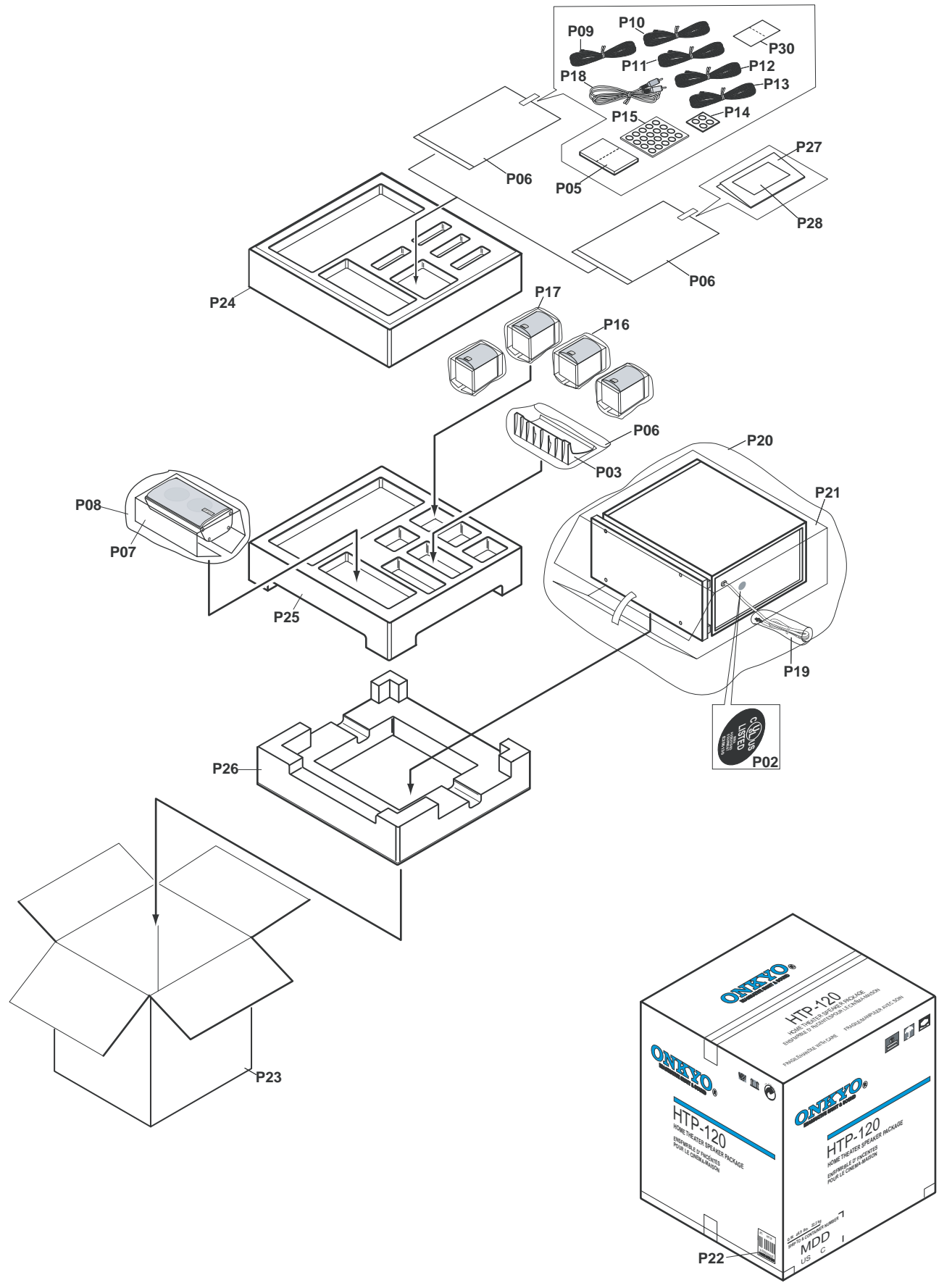
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PACKING PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
P02	60-001-848-01	UL label
P03	57-000-564-01	Stand base
P05	65-000-203-01	Spacer (5t x 20 x 2)
P06	85-000-198-01	Poly bag (Accessories, Stand, 0.03t x 250 x 350)
P07	85-000-354-61	Protect sheet (Center, 0.5t x 420 x 300)
P08	85-000-376-21	Poly bag (Center, 0.015t x 350 x 400)
P09	62-000-425-01	Cord assy (Green 3.5m)
P10	62-000-425-11	Cord assy (White 3.5m)
P11	62-000-425-21	Cord assy (Red 3.5m)
P12	62-000-426-01	Cord assy (Blue 8m)
P13	62-000-426-11	Cord assy (Gray 8m)
P14	65-000-204-01	Foot (Sub woofer, t1 x ϕ 15 x 4)
P15	65-000-216-01	Foot (Satellite, t1 x ϕ 7.8 x 20)
P16	85-000-376-71	Poly bag (Satellite, 0.015t x 250 x 280)
P17	85-000-400-21	Protect sheet (Satellite, 0.5t x 460 x 150)
P18	62-000-394-01	Connection cord (MONO BLACK, 3m)
P19	85-000-354-21	Protect sheet (Power cord, 0.5t x 200 x 200)
P20	85-000-462-01	Poly bag (Sub woofer, 0.015t x 750 x 880)
P21	85-000-400-11	Protect sheet (Sub woofer, 0.5t x 1550 x 500)
P22	89-000-545-01	Bar code label
P23	84-001-983-01	Carton box
P24	80-000-491-01	Cushion A (TOP)
P25	80-000-491-11	Cushion B (MID)
P26	80-000-491-21	Cushion C (BOTTOM)
P27	87-001-050-01	Instruction manual
P28	29365090	Warranty card
P30	65-000-202-01	Seal

PRINTED CIRCUIT BOARD PARTS LIST

U1: MAIN CIRCUIT PC BOARD (NAAF-7455)

CIRCUIT NO.	NC PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
		IC			
Q623	222502	NJM4558D-X	C501	354722219	220uF,6.3V, Elect.
		Transistors	C502	374721515	150pF+/-5%, 50V, Plastic
Q501,Q502	2215116	2SC1775-F or	C503	354724719	470uF,6.3V, Elect.
	2210755	2SC1775A-E or	C511,	354781009	10uF,50V, Elect.
	2210756	2SC1775A-F or	C514-C516		
	2215115	2SC1775-E	C512,C513	374722244	0.22uF +/-5%, 50V, Plastic
Q503,Q507,	2211406	2SC2240-BL	C601	354763309	33uF,35V, Elect.
Q510	C623,			354742219	220F,16V, Elect.
Q505	2211354	2SA949-Y	C951-C952,		
Q506	2211634	2SC2229-Y	C953,C954		
Q510	2211634	2SC2229-Y	C624	374721044	0.1uF +/-5%, 50V, Plastic
Q513	2202800	2SC4793	C903,C904	374733344	0.33uF +/-5%, 100V, Plastic
Q514	2202790	2SA1837	C911,C912	3504349	4700uF, 50V, Elect.
Q517	2213355	2SA933S-S	C621-C622,	354781009	10uF,50V, Elect.
Q517 or	2213354	2SA933S-R	C931		
Q517 or	2215995	KTA1267-GR			Resistors
Q518	2211654	2SC2235-Y	R505,R506	415471024	1k ohm+/-5%, 1/4W, Carbon
Q519	2211644	2SA965-Y	R508,R951,	415474704	47 ohm+/-5%, 1/4W, Carbon
Q603,Q605,	2213355	2SA933S-S or	R952		
Q606	2213354	2SA933S-R or	R510-R513	415478204	82 ohm+/-5%, 1/4W, Carbon
	2215995	KTA1267-GR	R523	443528204	82 ohm+/-5%, 1/2W,
Q604,Q621	2215810	KRC103M or			Metal oxide
	2213160	DTC124ES or	R525	443523314	330 ohm+/-5%, 1/2W,
	2214220	RN1203			Metal oxide
Q601,Q602,	2213285	2SC1740S-S or	R531	4500245	0.22 ohm, 5W, Metal plate
Q622	2213284	2SC1740S-R or		4000201	
	2215864	KTC3199-GR		4500031	
		Diodes	R532	453630334	3.3 ohm+/-5%, 1W, Metal
D501,D933	224470562	MTZJ5.6B, Zener	R544	5210359	N06HR100BC, Trim,
D601,D615,	223163	1SS133 or			Idling adjust
D627,D628,	223205	1SS270A, Silicon	R615,R934	443521234	12k ohm+/-5%, 1/2W,
D633,D931,					Metal oxide
D932			R931,R932	443628214	820 ohm+/-5%, 1W,
D621,D622	224470362	MTZJ3.6B, Zener			Metal oxide
D911	22380021	RS403L, Silicon	R953,R954	443526824	6.8k ohm+/-5%, 1/2W,
D951,D952	224471503	MTZJ15C, Zener			Metal oxide
		Plugs			Retainer
P501B	25055132	NPLG-2P116	E810	27141059	Ground
P531, P604,	25055038	NPLG-2P29			Heat sink
P623	Q513A			27160209	HEAT-SINK(RAD-67)
P535A	25055165	NPLG-2P149			Screws
JL951B	25055628	NPLG-7P590	Q513B,Q514B	82143010	3P+10FN(BC), Tapping
		Socket			
JL911A	25051107	NSCT-3P894			
		Terminals			
E813	25060312	NTM-1P243(M1699)			
P901A	25060092	NTM-1S33			

PRINTED CIRCUIT BOARD PARTS LIST

U2: OUTPUT CONTROL PC BOARD (NAAF-7456)

CIRCUIT NO PART NO. DESCRIPTION

IC		
Q301	222502	NJM4558D-X
Socket		
JL951A	25051091	NSCT-7P878
Socket AS		
P501A	2009990602	UNASAS-4P0815
Pin jack		
P301	25045567	NPJ-1PDBL382
Plug		
P601A	25055804	NPLG-4P760
Resistor		
R303	5125490	N11RL20KA25Z, Volume
Capacitors		
C302,C303	354741019	100uF, 16V, Elect.
C312,C303	354742219	220uF, 16V, Elect.
C314	374721524	1500pF +/-5%, 50V, Plastic
C315	374725634	0.056uF +/-5%, 50V, Plastic

U3: LED PC BOARD (NAETC-7457)

CIRCUIT NO PART NO. DESCRIPTION

P601B	25051526	NSCT-4P1313
D641	225295	SML1216W

U4: POWER TRANSFORMER PC BOARD (NAPS-7458)

CIRCUIT NO PART NO. DESCRIPTION

Capacitor		
C902	3300054	DE1310E472M-KH
Fuse holders		
F901A	25052133	NSCT-1P2031
F901B	25052133	NSCT-1P2031
Socket		
JL911B	25050280	NSCT-3P108
Other		
C902A	27301216	SB1925A, Capacitor cover

A

B

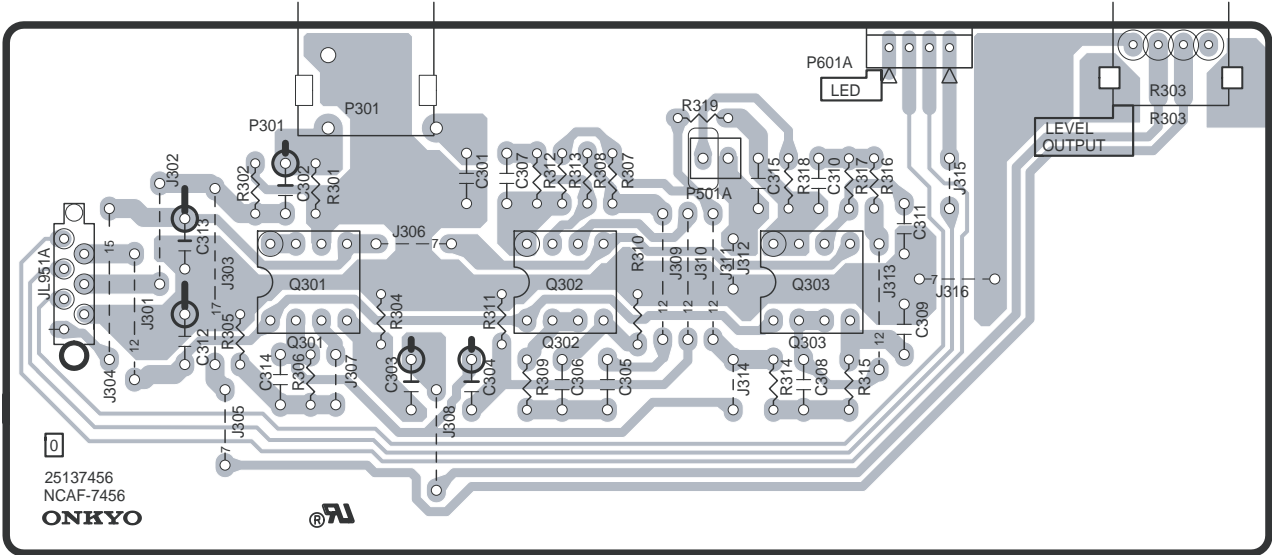
C

D

PRINTED CIRCUIT BOARD VIEW 2

U2 OUTPUT CONTROL PC BOARD (NAAF-7456)

1

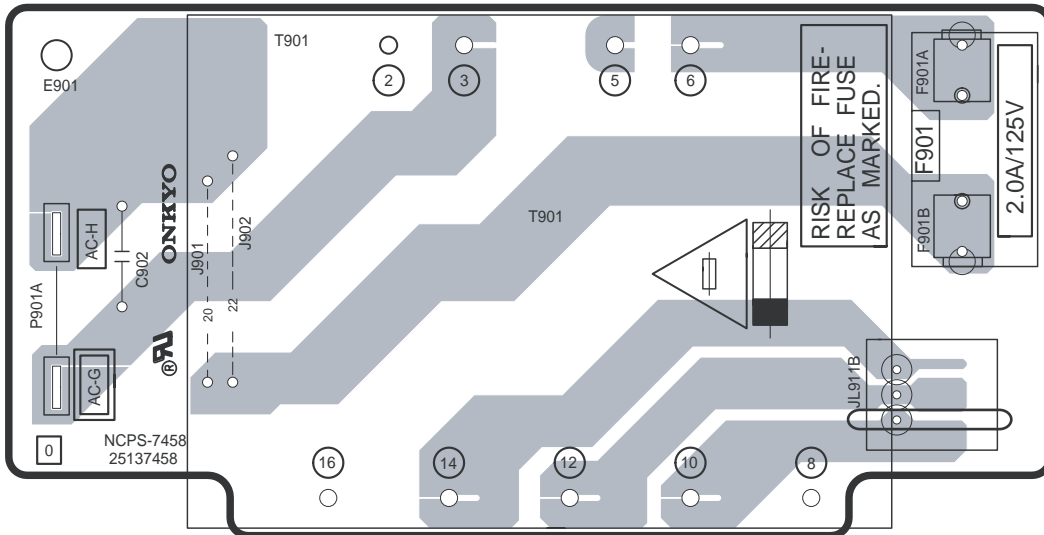


2

Soldering side view

U4 POWER TRANSFORMER PC BOARD (NAPS-7458)

3

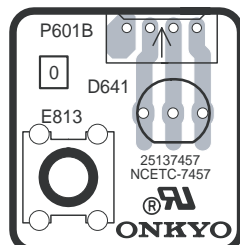


4

Soldering side view

U4 LED PC BOARD (NAETC-7457)

5



Soldering side view

A

B

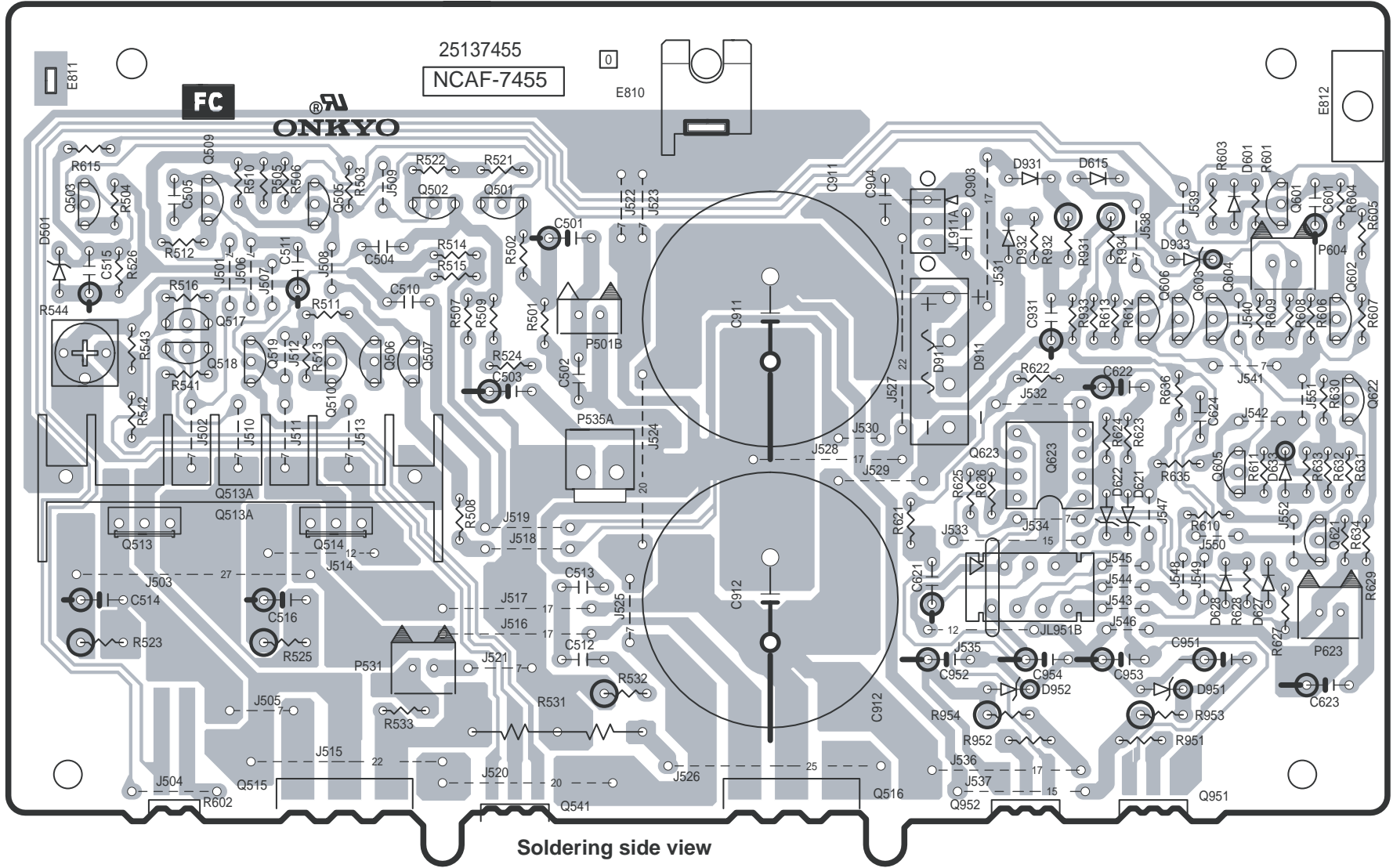
C

D

E

PRINTED CIRCUIT BOARD VIEW 1

U1 MAIN CIRCUIT PC BOARD



Soldering side view

ONKYO CORPORATION

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