

Pioneer

Service Manual



GM-D8604/XEUC

ORDER NO.
CRT5260

BRIDGEABLE FOUR-CHANNEL POWER AMPLIFIER

GM-D8604_{/XEUC}

GM-D8604_{/XEEW5}

GM-D8604_{/XEES}

GM-D8604_{/XENC}

GM-D8604_{/XECN5}



SAFETY INFORMATION

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product may contain a chemical known to the State of California to cause cancer, or birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

Where in a manufacturer's service documentation, for example in circuit diagrams or lists of components, a symbol is used to indicate that a specific component shall be replaced only by the component specified in that documentation for safety reasons, the following symbol shall be used:



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1. SERVICE PRECAUTIONS

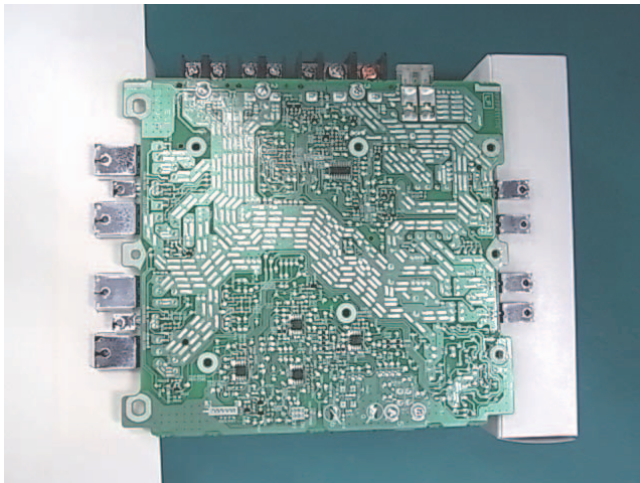
1.1 SERVICE PRECAUTIONS



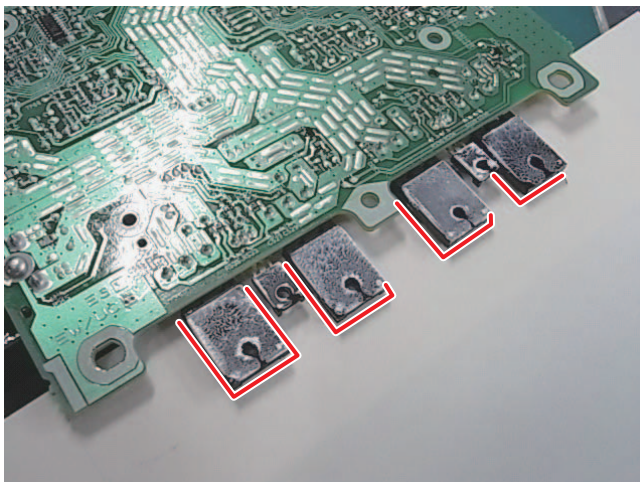
1. You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.
2. Be careful in handling ICs. Some ICs such as MOS type are so fragile that they can be damaged by electrostatic induction.
3. Please install Sheet between Power Transistor and Heat Sink when you install Power Transistor in Heat Sink. If Sheet is not installed between Power Transistor and Heat Sink, Power Transistor might be damaged.
4. When you replace sheets (#8 (16170200975-HM) & #9 (16170200970-HM) on the page 12), re-apply silicon grease (GEM1057) after wiping off silicon grease.
5. The part listed below is difficult to replace as a discrete component part.
When the part listed in the table is defective, replace whole Assy.

Unit Name	Ref No.	Part No.	Remarks
PCB Kit	IC113	14080207110-HM	Heat pad
PCB Kit	Q105/106/205/206/ 305/306/405/406	14070600100-HM	Heat pad

6. When you replace a part fixed to the heatsink (D720, D722, Q716, Q717, Q720, Q721, Q725, Q726 and Q731), adjust the position of the part according to the following.

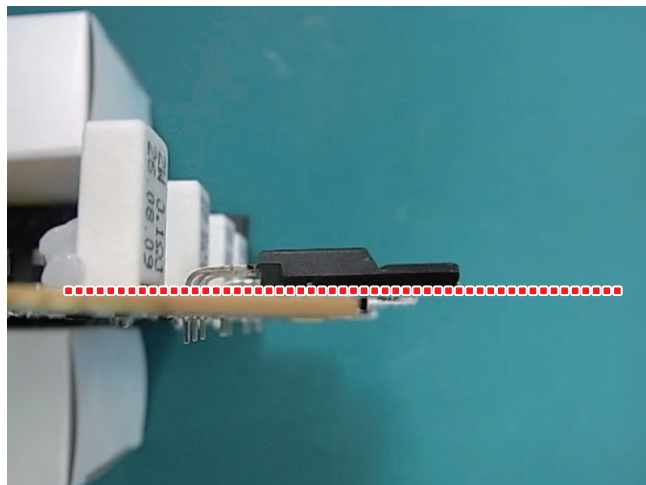


Put the Amp Unit on blocks.



Put a paper between the block and the Amp Unit, and outline transistors and diodes.
Put a part to replace in the outline.

A



Align the bottom of a transistor or a diode with the top of the PC board, and solder it.
Apply grease, GEM1057 to the back of the part.

B

Note : Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

7. Apply the glue (TB1401B or TB1401M) onto screws fixing the PCB and holders. Screws may loosen if the glue is not applied.

8. When you replace parts that are applied silicon glue, re-apply silicon glue to the same place after replacing.

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1.2 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.
- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C.
Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:
GYP1006 1.0 in dia.
GYP1007 0.6 in dia.
GYP1008 0.3 in dia.

2. SPECIFICATIONS

2.1 SPECIFICATIONS

A	Power source	14.4 V DC (10.8 V to 15.1 V allowable)
	Grounding system	Negative type
	Current consumption	33.5 A (at continuous power, 4 Ω)
	Average current drawn	3.1 A (4 Ω for four channels)
		4.4 A (4 Ω for two channels, BRIDGE)
		4.4 A (2 Ω for four channels)
	Backup current	0.5 ma or less
	Fuse	30 A $\times$ 2
	Dimensions (W $\times$ H $\times$ D) (UC model).....	265mm $\times$ 60mm $\times$ 200mm (10-3/8 in. $\times$ 2-3/8 in. $\times$ 7-7/8 in.)
	Dimensions (W $\times$ H $\times$ D) (Other than UC model)...	265mm $\times$ 60mm $\times$ 200mm
B	Weight (UC model).....	2.6 kg (5.7 lbs)
		(Leads for wiring not included)
	Weight (Other than UC model)....	2.6 kg
		(Leads for wiring not included)
	Maximum power output	200W $\times$ 4 (4 Ω) / 600W $\times$ 2 (4 Ω) BRIDGE / TOTAL 1 200W (300W $\times$ 4)
	Continuous power output ...	100W $\times$ 4 (at 14.4 V, 4 Ω , 20 Hz to 20 kHz, $\leq$ 1% THD) 150W $\times$ 4 (at 14.4 V, 2 Ω , 1 kHz, $\leq$ 1% THD) 125W $\times$ 4 (at 14.4 V, 1 Ω , 1 kHz, $\leq$ 1% THD) 300W $\times$ 2 (at 14.4 V, 4 Ω BRIDGE, 1 kHz, $\leq$ 1% THD) 250W $\times$ 2 (at 14.4 V, 2 Ω BRIDGE, 1 kHz, $\leq$ 1% THD)
	Load impedance	4 Ω (1 Ω to 8 Ω allowable)
	Frequency response	10 Hz to 50 kHz (+0 dB, -3 dB)
	Signal-to-noise ratio	95 dB (IHF-A network)
	Distortion	0.05 % (10 W, 1 kHz)
C	Low pass filter:	
	Cut off frequency	40 Hz to 500 Hz
	Cut off slope	-12 dB/oct
	High pass filter:	
	Cut off frequency	40 Hz to 500 Hz
	Cut off slope	-12 dB/oct
	Gain control:	
	RCA	200 mV to 6.5 V
	Speaker	0.8 V to 16 V
	Maximum input level / impedance:	
D	RCA	6.5 V / 25 k Ω
	Speaker	16 V / 12 k Ω

UC model

CEA2006 Specifications



Power output	100W RMS $\times$ 4 Channels (at 14.4 V, 4 Ω and $\leq$ 1% THD+N) 300W RMS $\times$ 2 Channels (at 14.4 V, 4 Ω BRIDGE 100 Hz and $\leq$ 1% THD+N) 150W RMS $\times$ 4 Channels (at 14.4 V, 2 Ω 100 Hz and $\leq$ 1% THD+N)
S/N ratio	75 dBA (reference: 1W into 4 Ω)

Notes

Specifications and the design are subject to modifications without notice.

The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

To keep the product quality after servicing, please confirm following check points.

No.		Procedures	Item to be confirmed
1		Confirm whether the customer complain has been solved.	The customer complain must not be reappeared. Audio and operations must be normal.
2		Check the output sound.	Audio and operations must be normal.
3		Appearance check	No scratches or dirt on its appearance after receiving it for service.

See the table below for the items to be checked regarding audio:

Item to be checked regarding audio
Distortion
Noise
Volume too low
Volume too high
Volume fluctuating
Sound interrupted

3.2 JIGS LIST

● Jigs List

Name	Jig No.	Remarks
Bond	GYL1006	Applying to choke coil, resistor and capacitor
Bond	TB1401B or TB1401M	For fixing screws

● Grease List

Name	Grease No.	Remarks
Grease	GEM1057	Applying to Heatsink

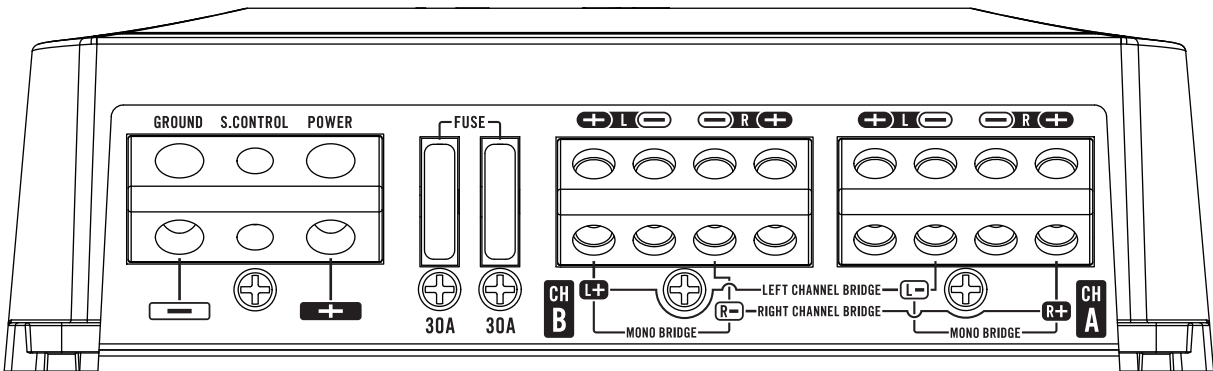
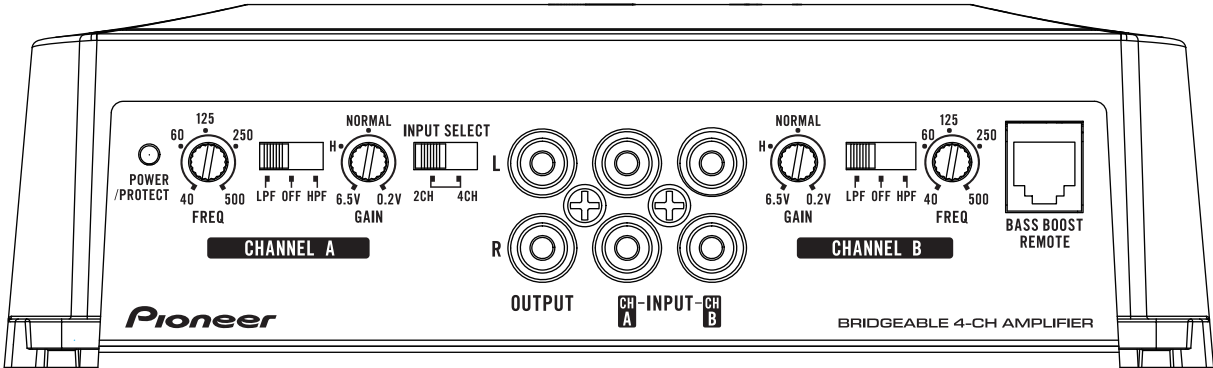
4. BLOCK DIAGRAM

There is not information to be shown in this chapter.

1234

5. DIAGNOSIS

5.1 CONNECTOR FUNCTION DESCRIPTION



6. SERVICE MODE

There is not information to be shown in this chapter.

7. DISASSEMBLY

● Removing the Case (Fig.1)

- ➡ **1** Remove the six screws and then remove the Case.

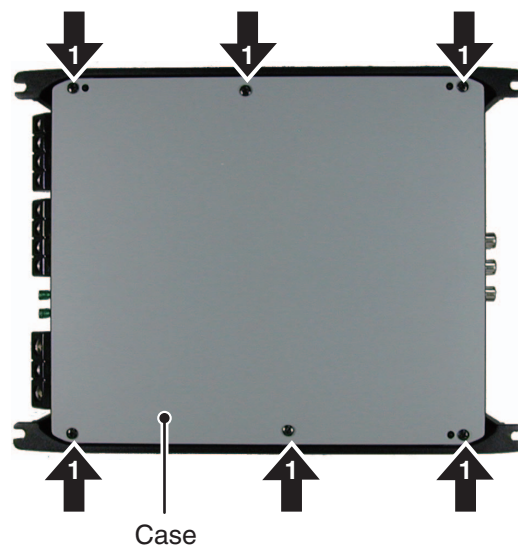


Fig.1

● Removing the PCB Kit (Fig.2)

- ➡ **1** Remove the five screws and then remove the two Holders.
- ➡ **2** Remove the screw.
- ➡ **3** Remove the thirteen screws and then remove the PCB Kit.

Apply the glue (TB1401B or TB1401M) to all screws when you assemble the product.

When you replace parts that are applied silicon glue, re-apply silicon glue to the same place after replacing.

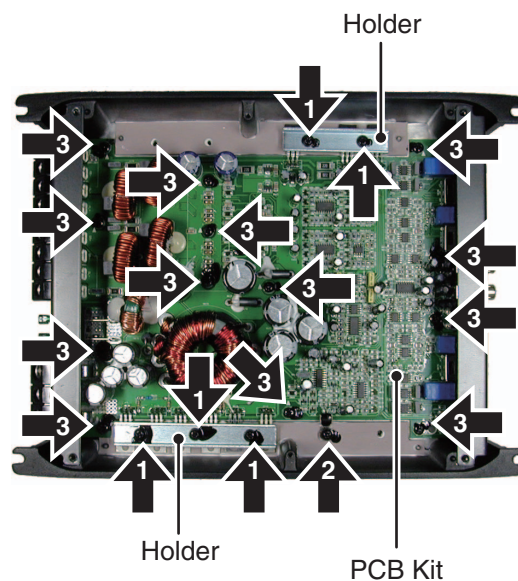


Fig.2

8. EACH SETTING AND ADJUSTMENT

There is not information to be shown in this chapter.

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	5		6		7		8	
(1) PACKING SECTION PARTS LIST								
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.	
*	1	Contain Box	See Contrast table(2)	11	Cord Assy	See Contrast table(2)		
*	2	Unit Box	See Contrast table(2)	12	Screw	See Contrast table(2)		A
	3	Owner's Manual	See Contrast table(2)	13	Screw	16090112010-HM		
*	4	Polyethylene Bag	15120100200-HM	14	Wrench	16100200250-HM		
*	5	Polyethylene Bag	15120100800-HM	15	Remote Control Assy	See Contrast table(2)		
*	6	Polyethylene Bag	15120206610-HM					
*	7	Polyethylene Bag	See Contrast table(2)					
*	8	Polyethylene Bag	15120401000-HM					
*	9	Protector	15130108200-HM					
	10	Cord Assy	16080103600-HM					

(2) CONTRAST TABLE
 GM-D8604/XEUC, GM-D8604/XEEW5, GM-D8604/XEES, GM-D8604/XECN5 and GM-D8604/XENC are constructed the same except for the following:

Mark	No.	Description	GM-D8604 /XEUC	GM-D8604 /XEEW5	GM-D8604 /XEES	GM-D8604 /XECN5	GM-D8604 /XENC	
*	1	Contain Box	15010507111-HM	15010507101-HM	15010507121-HM	15010507151-HM	15010507131-HM	
*	2	Unit Box	15050305911-HM	15050305901-HM	15050305921-HM	15050305951-HM	15050305931-HM	
	3	Owner's Manual	15090308201-HM	15090308101-HM	15090308301-HM	15090308501-HM	15090308301-HM	
*	7	Polyethylene Bag	15120212815-HM	15120212810-HM	15120212810-HM	15120212810-HM	15120212810-HM	
	11	Cord Assy	Not used	Not used	16080307710-HM	Not used	16080307710-HM	
	12	Screw	Not used	Not used	16090104020-HM	Not used	16090104020-HM	C
	15	Remote Control Assy	Not used	Not used	42300315-HM	Not used	42300315-HM	

Owner's Manual,Installation Manual

Part No.	Language
15090308201-HM	English, French, Spanish(Espanol)
15090308101-HM	English, French, Italian, Spanish(Espanol), German, Dutch, Russian
15090308301-HM	English, Spanish(Espanol), Portuguese(B), Arabic
15090308501-HM	Simplified Chinese

1 2 3 4

9.2 EXTERIOR

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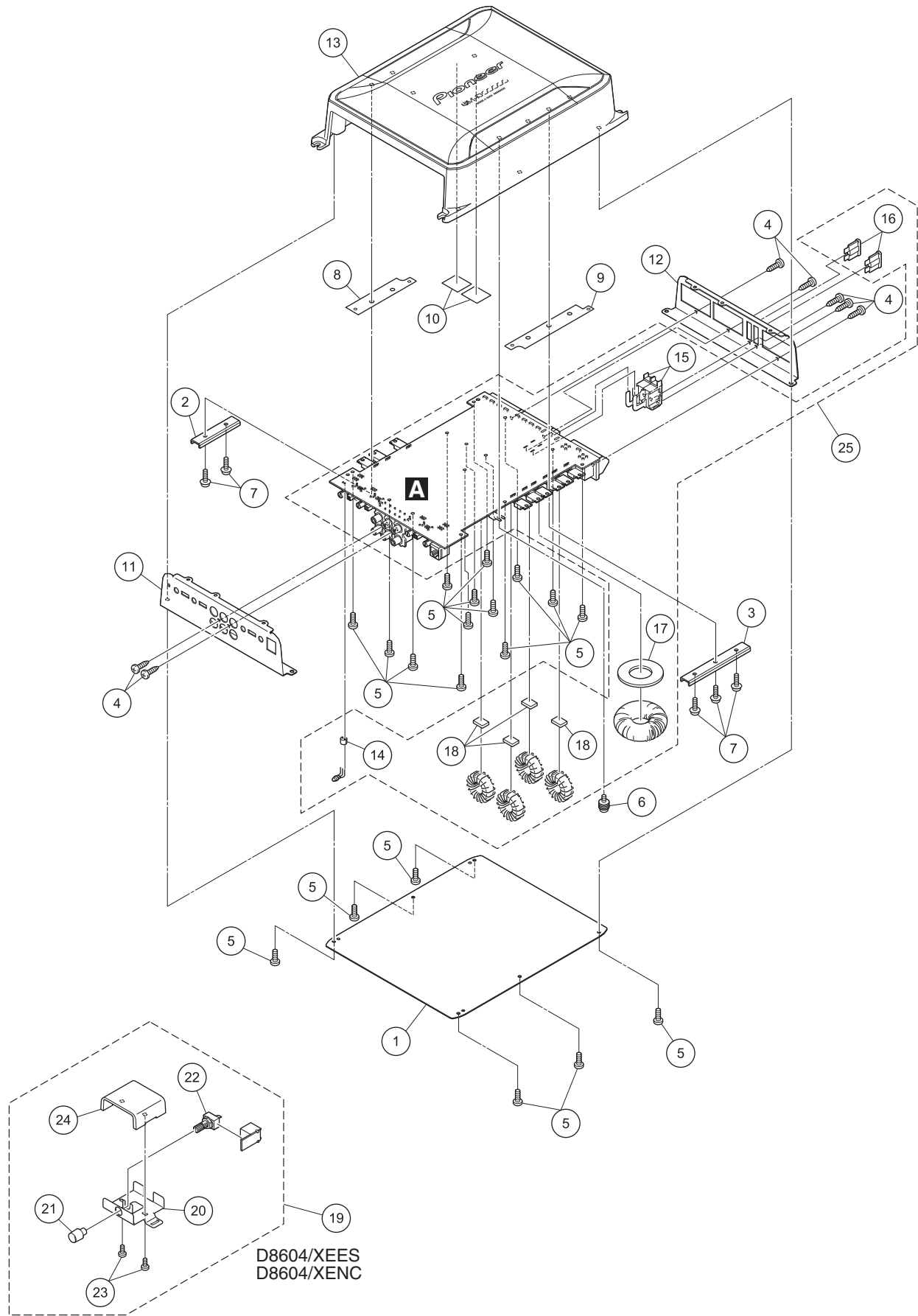
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<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Case	11100401300-HM	 16	Fuse (30 A)	14120300600-HM
2	Holder	11120300100-HM	17	Cushion	16170108760-HM
3	Holder	11120300200-HM	18	Cushion	16170108910-HM
4	Screw	16090103210-HM	19	Remote Control Assy	See Contrast table(2)
5	Screw	16090203110-HM	20	Holder	See Contrast table(2)
6	Screw	16090205320-HM	21	Knob	See Contrast table(2)
7	Screw	16090205355-HM	22	Rotary Volume	See Contrast table(2)
8	Sheet	16170200975-HM *NOTE	23	Screw	See Contrast table(2)
9	Sheet	16170200970-HM *NOTE	24	Cover	See Contrast table(2)
10	Sheet	16170201200-HM	25	PCB Kit	See Contrast table(2)
11	Panel	See Contrast table(2)			
12	Panel	22300318-HM			
13	Heat Sink	22300319-HM			
14	Spacer	13030100420-HM			
15	Fuse Holder	14120102700-HM			

***NOTE**

When you replace sheets #8 & #9, re-apply silicon grease (GEM1057) after wiping off silicon grease.

(2) CONTRAST TABLE

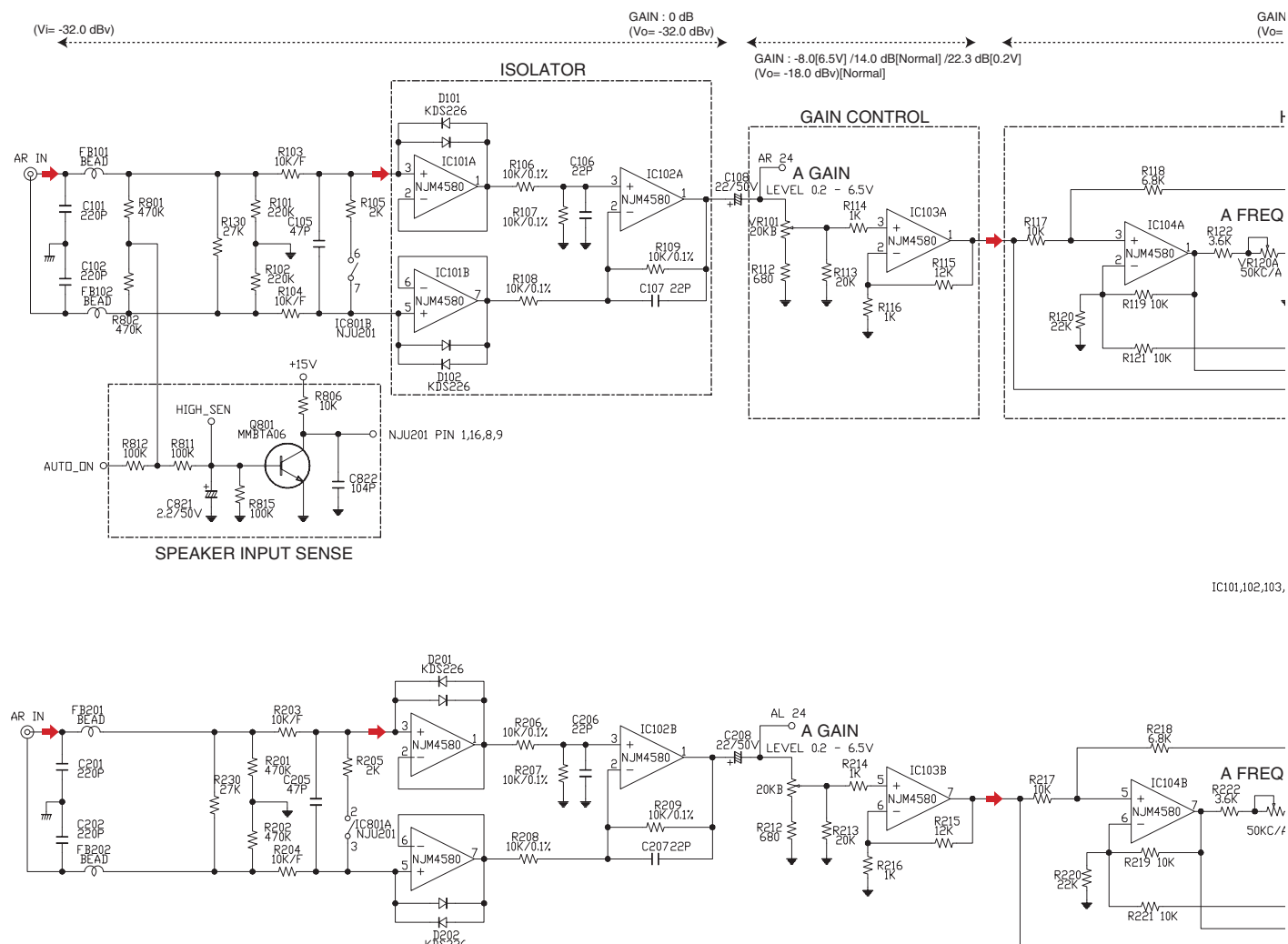
GM-D8604/XEUC, GM-D8604/XEEW5, GM-D8604/XEES, GM-D8604/XECN5 and GM-D8604/XENC are constructed the same except for the following:

Mark	No.	Description	GM-D8604 /XEUC	GM-D8604 /XEEW5	GM-D8604 /XEES	GM-D8604 /XECN5	GM-D8604 /XENC
	11	Panel	22300316-HM	22300316-HM	22300317-HM	22300316-HM	22300317-HM
	19	Remote Control Assy	Not used	Not used	42300315-HM	Not used	42300315-HM
	20	Holder	Not used	Not used	11100401010-HM	Not used	11100401010-HM
	21	Knob	Not used	Not used	13200203600-HM	Not used	13200203600-HM
	22	Rotary Volume	Not used	Not used	14030302200-HM	Not used	14030302200-HM
	23	Screw	Not used	Not used	16090101710-HM	Not used	16090101710-HM
	24	Cover	Not used	Not used	22300113-HM	Not used	22300113-HM
	25	PCB Kit	32300310-HM	32300310-HM	32300312-HM	32300310-HM	32300312-HM

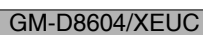
10. SCHEMATIC DIAGRAM

10.1 PCB KIT (1/2CH PART) (for UC, EW5, CN5)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".



A 2/4

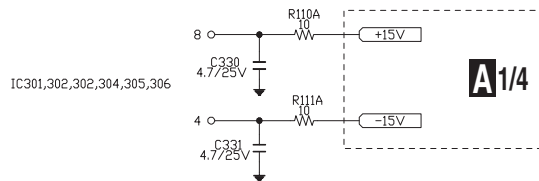
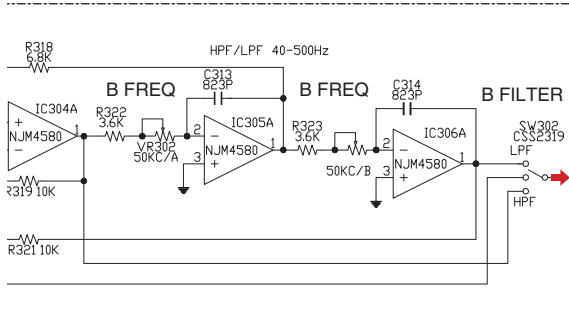


A2/4 PCB KIT(3/4CH PART) (for UC, EW5, CN5)

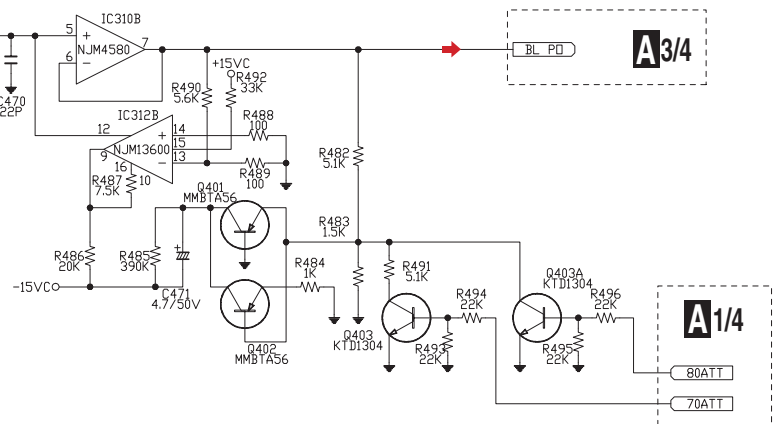
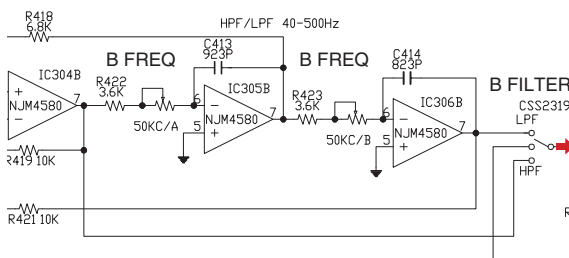
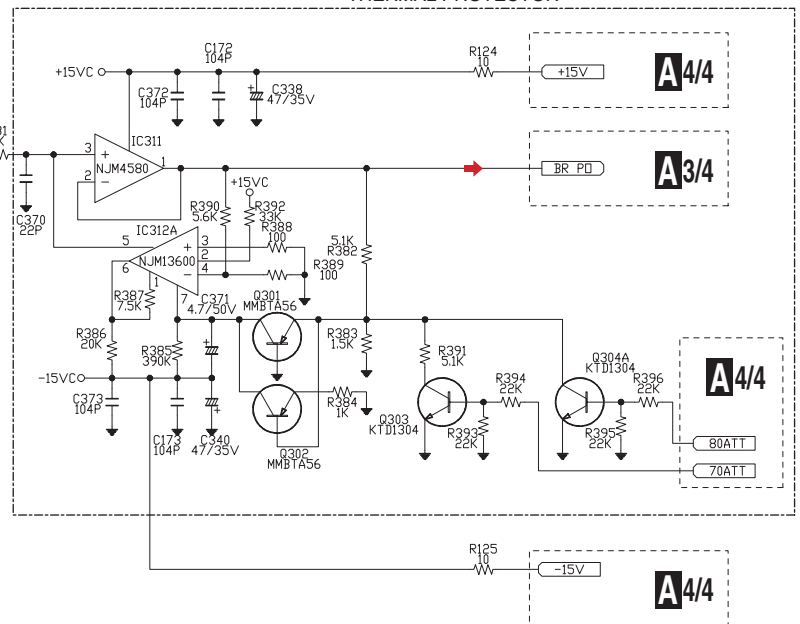
GAIN : 0.0 dB
(Vo = -24.0 dBV)

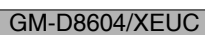
GAIN : 0.0 dB
(Vo = -18.0 dBV)

HPF/OFF/LPF

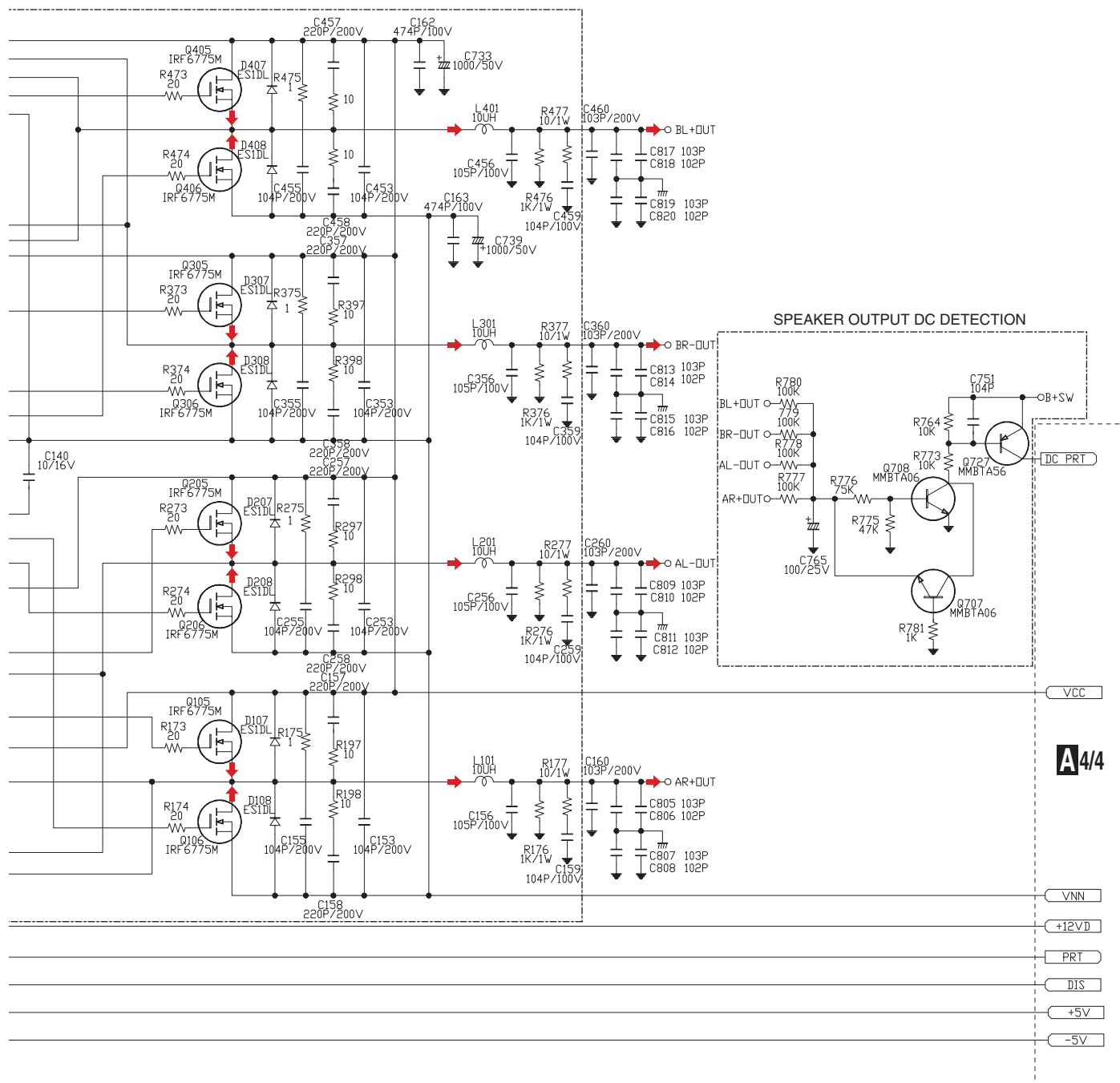


THERMAL PROTECTOR

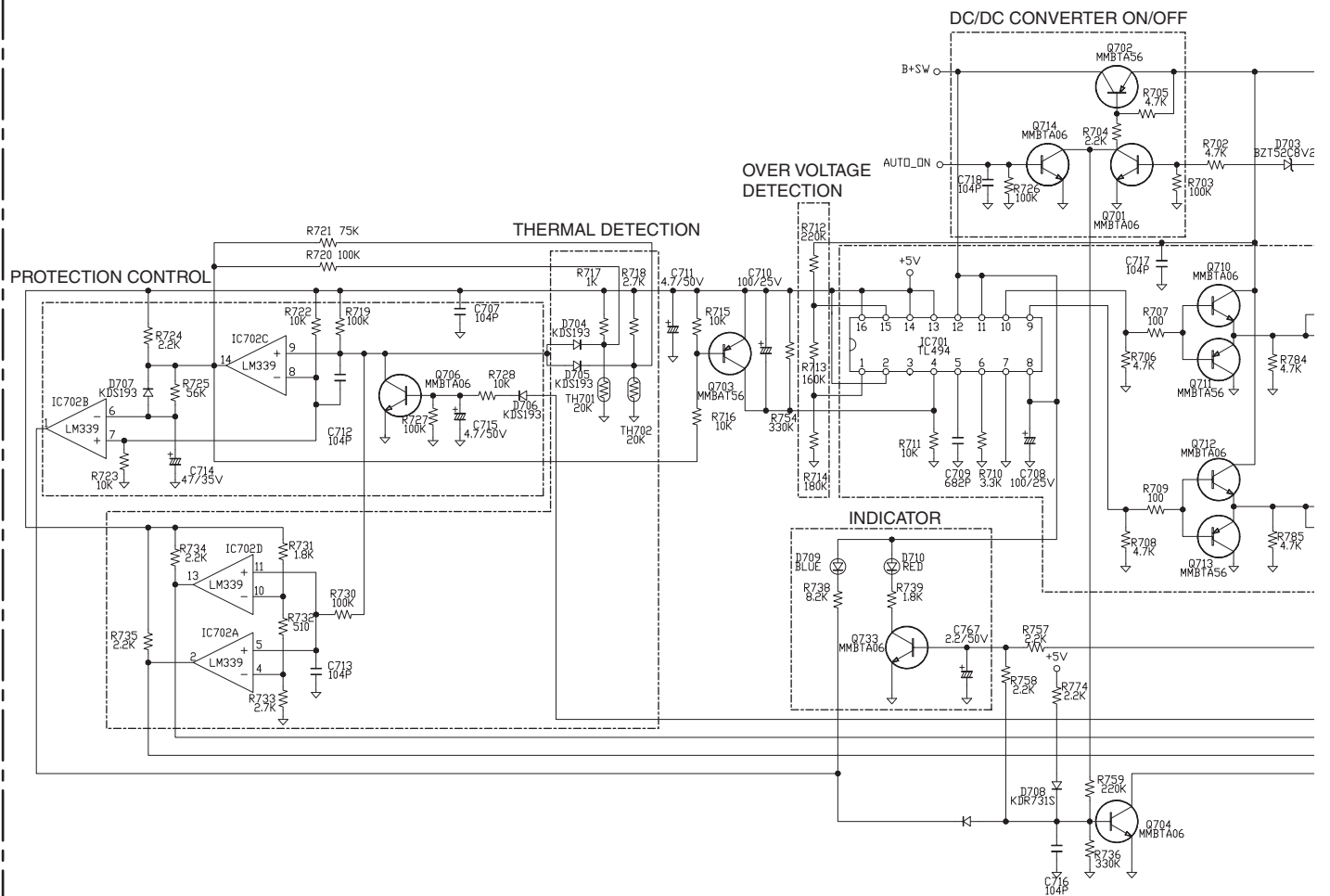


A^{3/4}

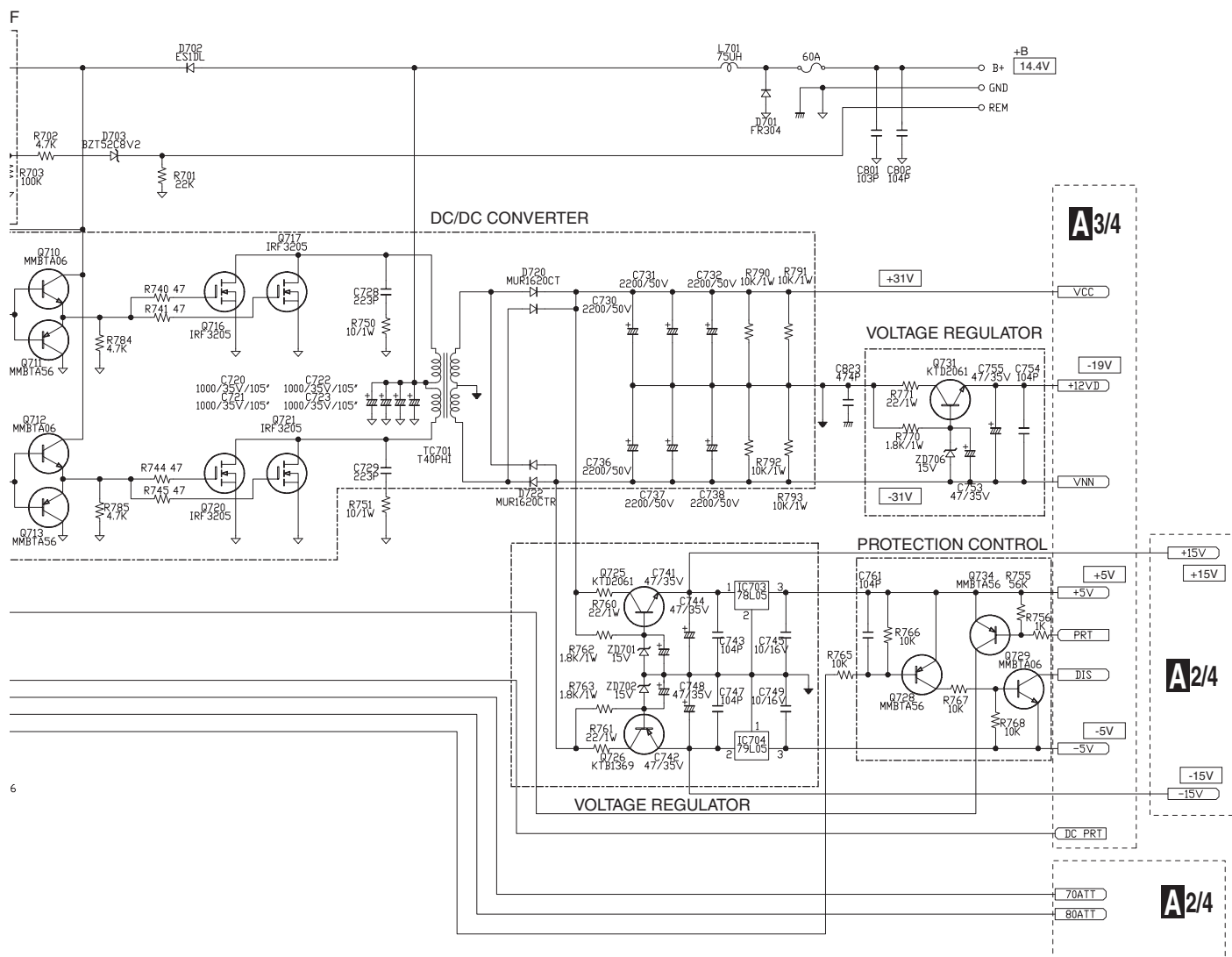
A3/4 PCB KIT(OUTPUT PART) (for UC, EW5, CN5)


A4/4

10.4 PCB KIT(POWER PART) (for UC, EW5, CN5)



A4/4 PCB KIT(POWER PART) (for UC, EW5, CN5)



10.5 PCB KIT (1/2CH PART) (for ES, NC)

A

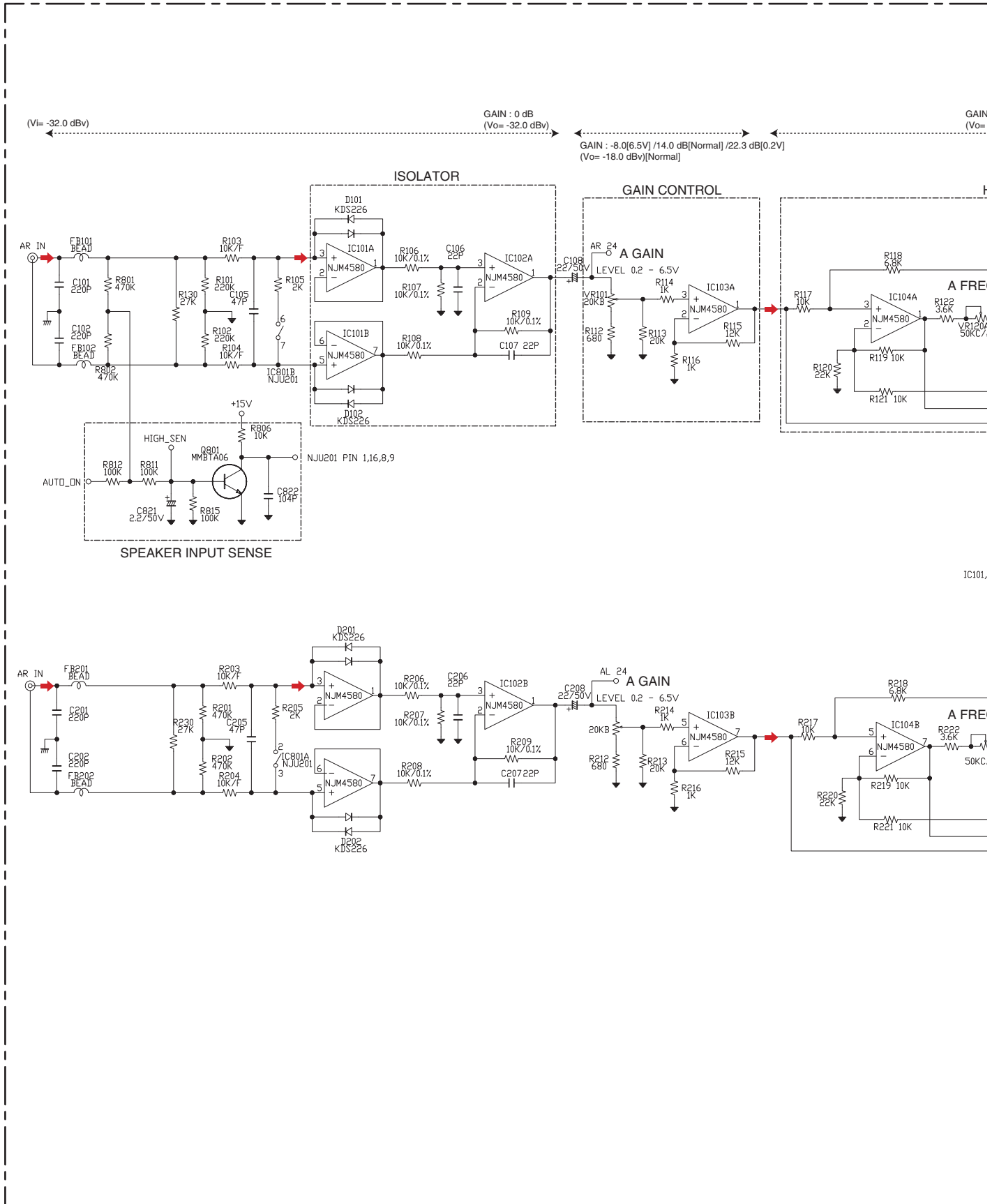
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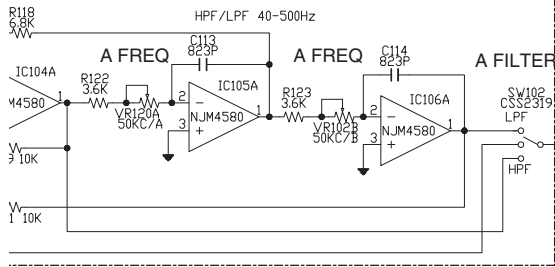


A1/4 PCB KIT(1/2CH PART) (for ES, NC)

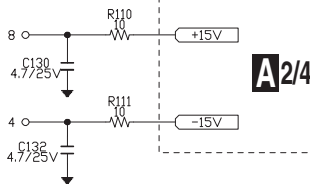
GAIN : 0.0 dB
($V_{O-} = -18.0$ dBV)

GAIN : 0.0 dB
($V_{O-} = -18.0$ dBV)

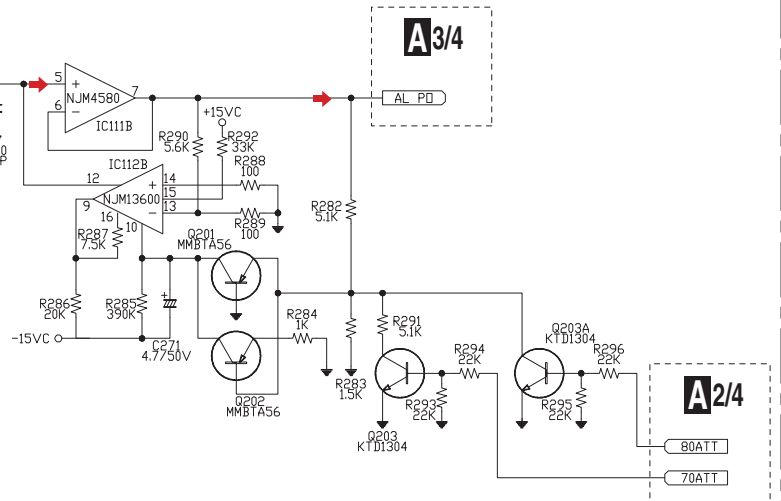
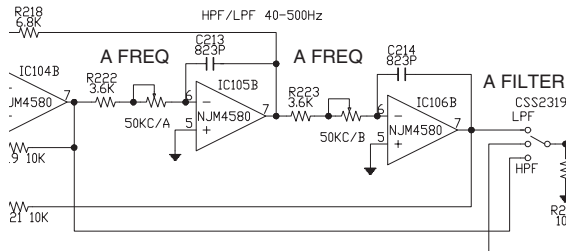
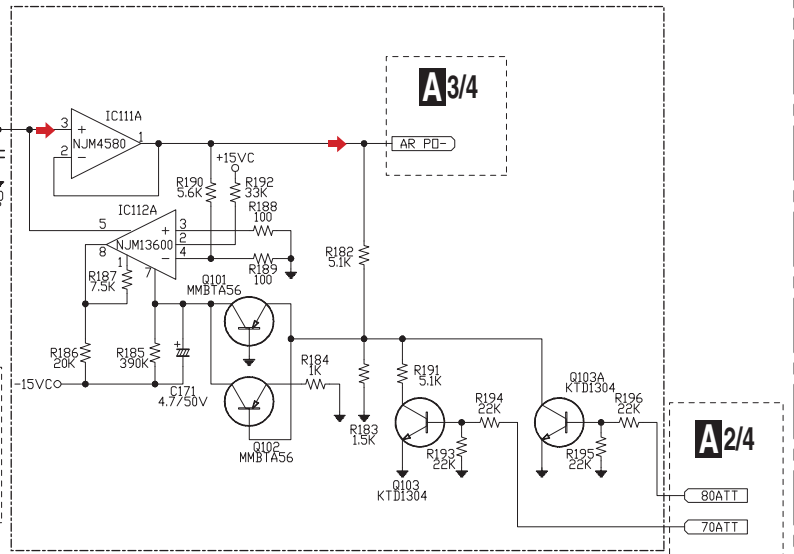
HPF/OFF/LPF



IC101,102,103,104,105,106



THERMAL PROTECTOR



10.6 PCB KIT (3/4CH PART) (for ES, NC)

A

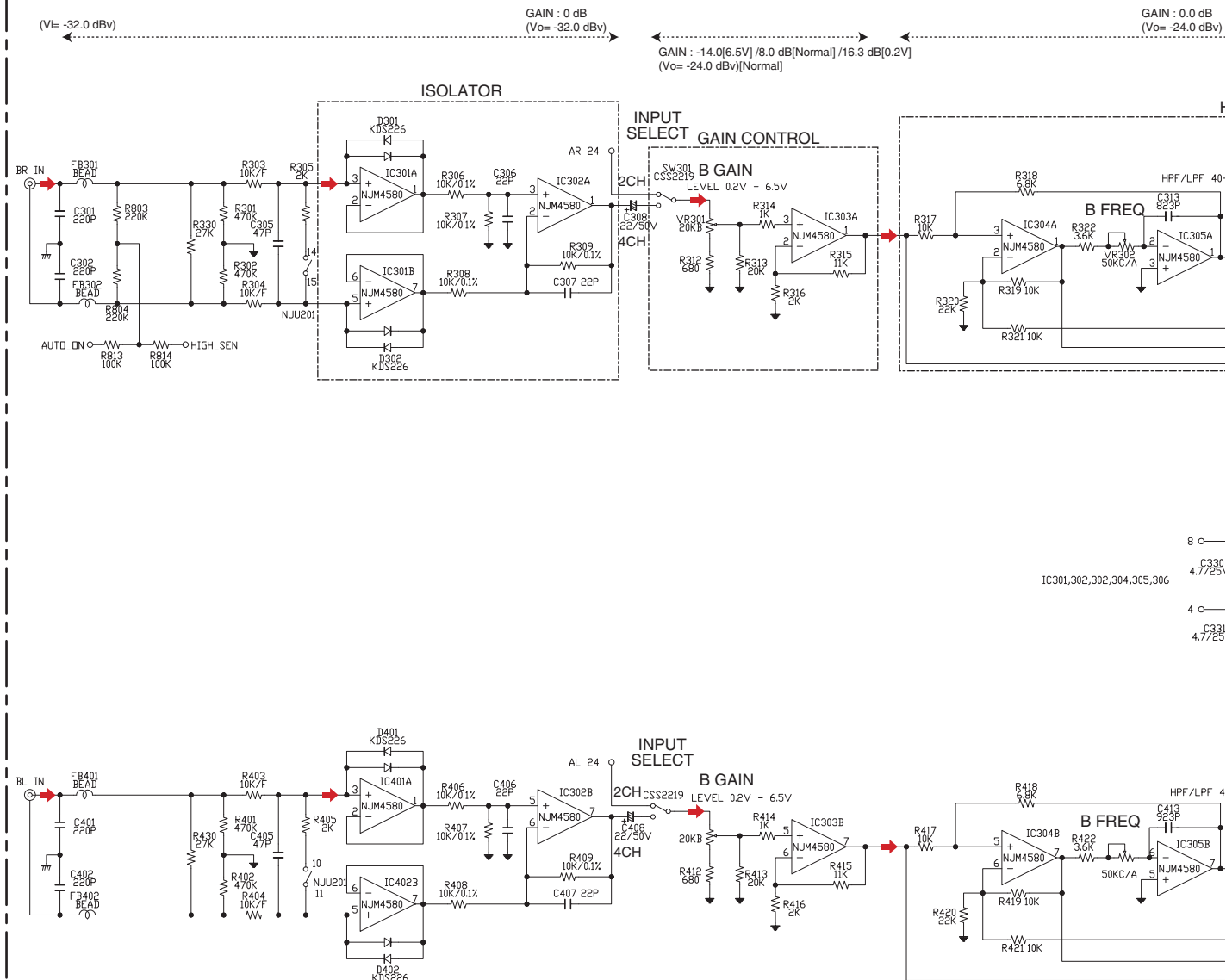
B

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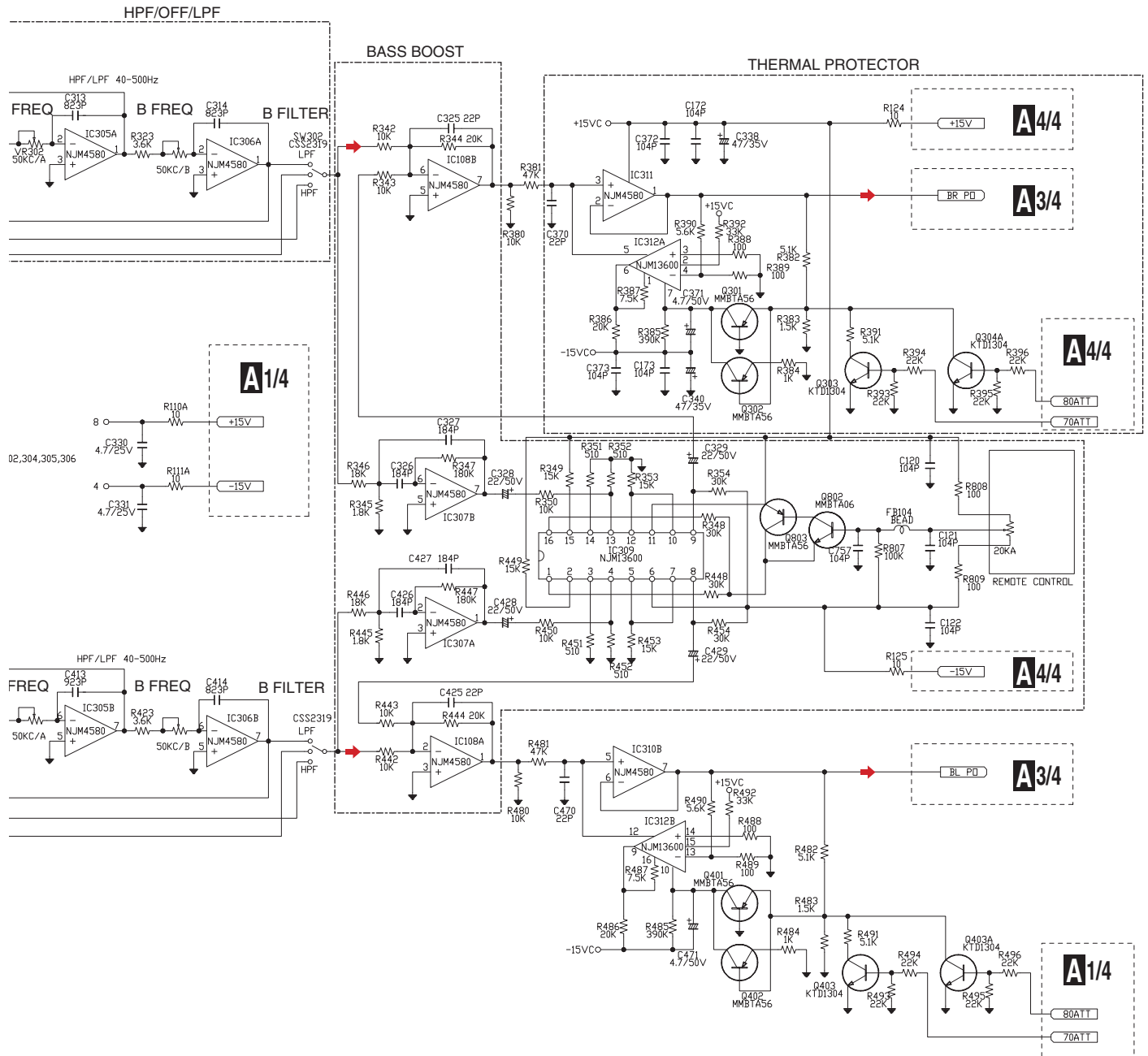
A2/4 PCB KIT(3/4CH PART)

(for ES, NC)

GAIN : 0.0 dB
(Vo = -24.0 dBv)

GAIN : 6.0 dB
(Vo = -18.0 dBv)

GAIN : 0.0 dB
(Vo = -18.0 dBv)



10.7 PCB KIT (OUTPUT PART) (for ES, NC)

A

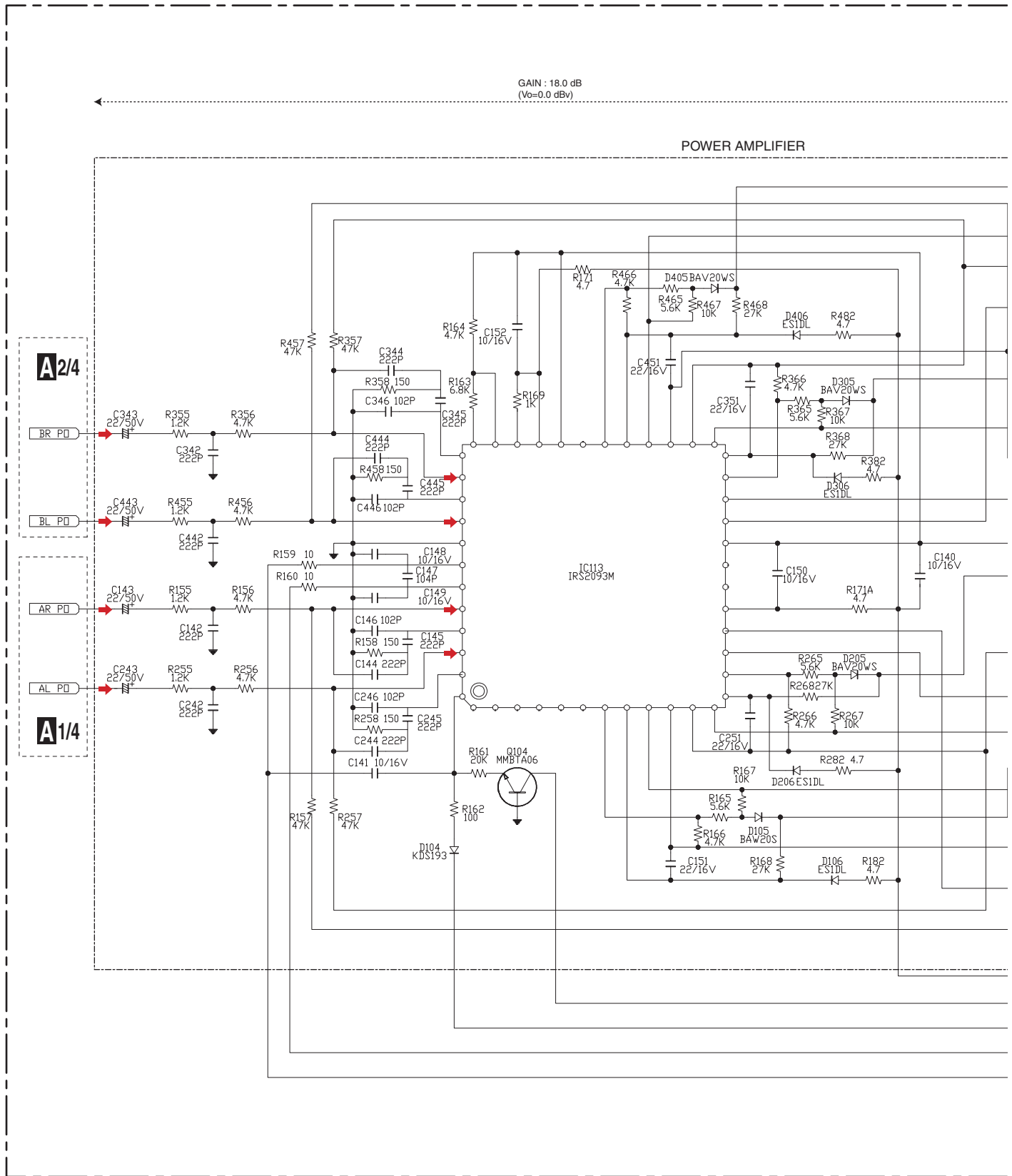
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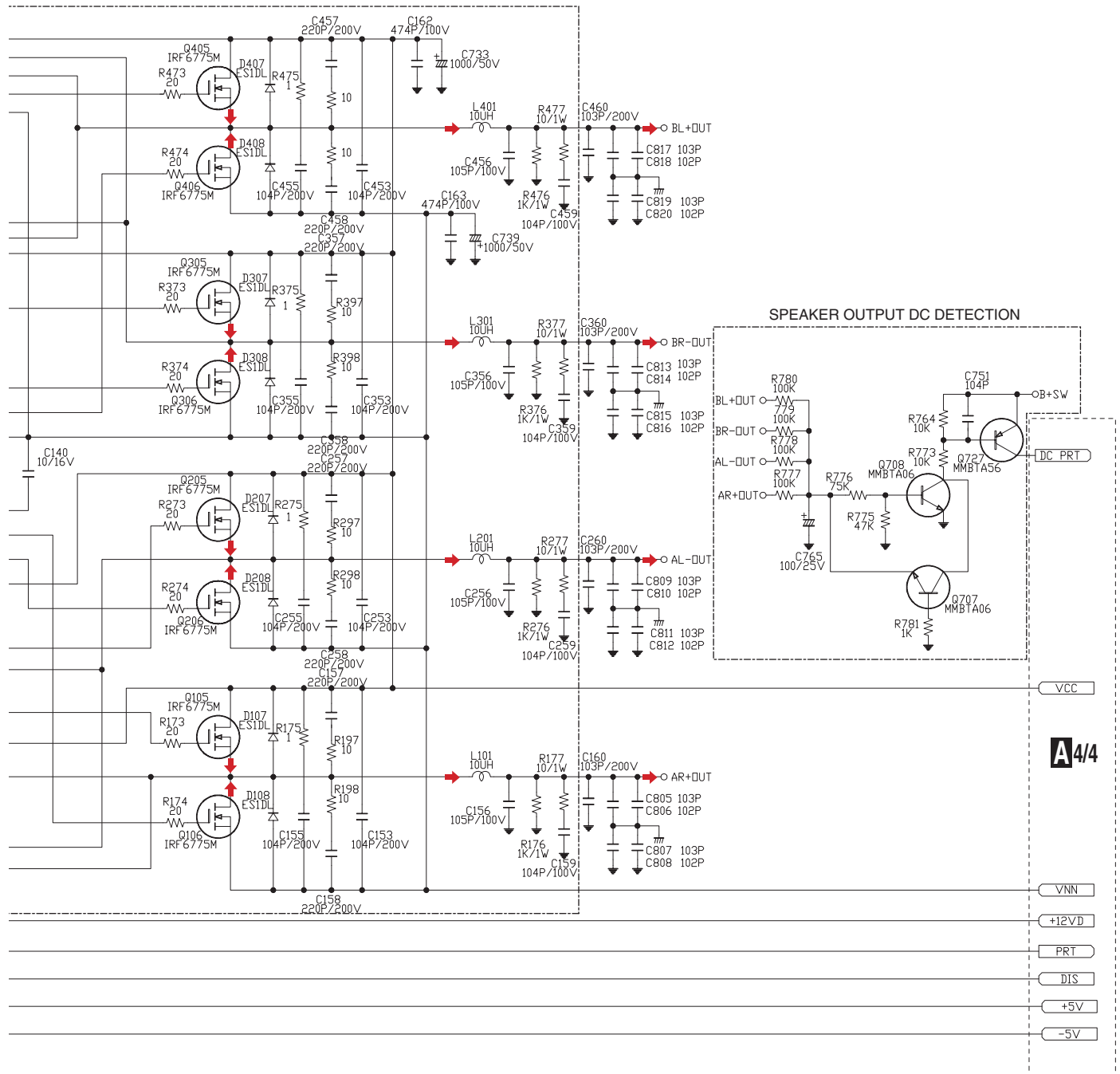
D

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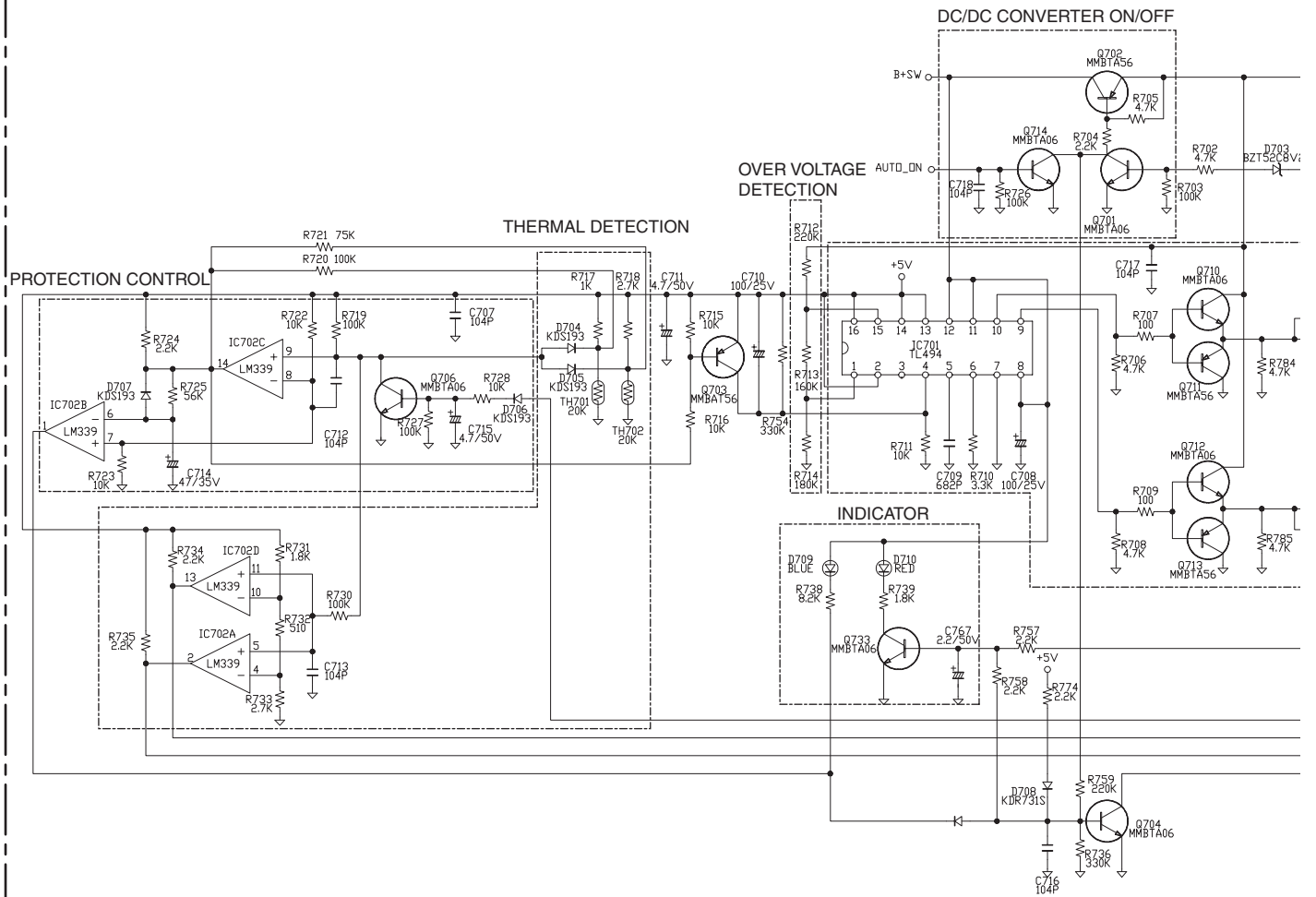
F



A3/4 PCB KIT(OUTPUT PART) (for ES, NC)



10.8 PCB KIT(POWER PART) (for ES, NC)



(for ES, NC)



11. PCB CONNECTION DIAGRAM

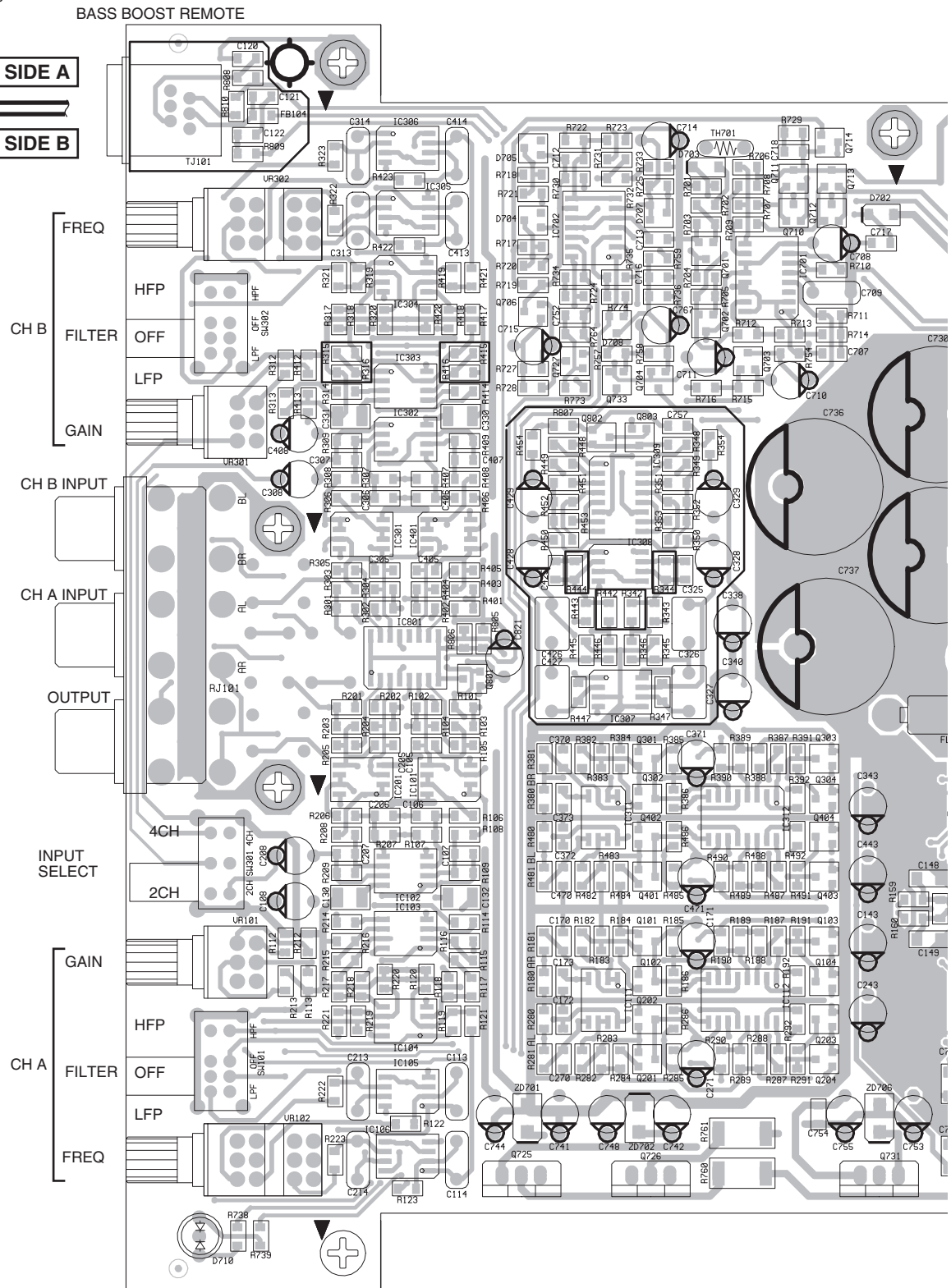
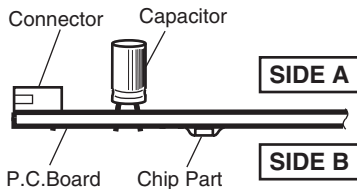
11.1 PCB KIT

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
For further information for respective destinations, be sure to check with the schematic diagram.

2. Viewpoint of PCB diagrams

A PCB KIT



SIDE A

A

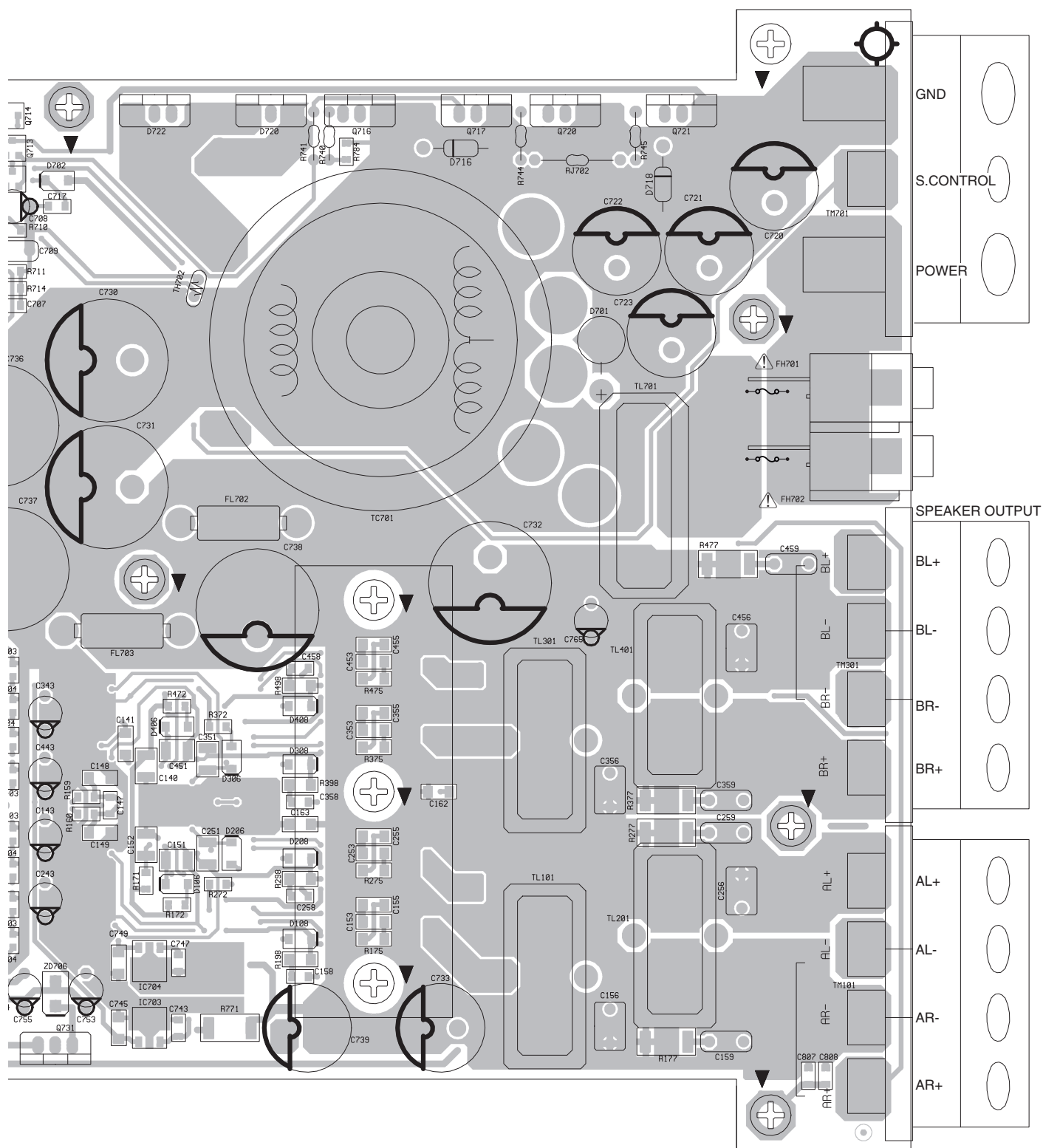
B

C

D

E

F



A PCB KIT



12. ELECTRICAL PARTS LIST

Circuit Symbol and No.

Part No.

Circuit Symbol and No.

Part No.

A

Unit Number : 32300310-HM(UC,EW5,CN5)

Unit Number : 32300312-HM(ES,NC)

Unit Name : PCB Kit

MISCELLANEOUS

IC 101	IC	14080207400-HM
IC 102	IC	14080207400-HM
IC 103	IC	14080207400-HM
IC 104	IC	14080207400-HM
IC 105	IC	14080207400-HM

IC 106	IC	14080207400-HM
IC 108	IC(ES,NC)	14080207400-HM
IC 111	IC	14080207400-HM
IC 112	IC	14080207500-HM
IC 113	IC	14080207110-HM
IC 201	IC	14080207400-HM

IC 301	IC	14080207400-HM
IC 302	IC	14080207400-HM
IC 303	IC	14080207400-HM
IC 304	IC	14080207400-HM
IC 305	IC	14080207400-HM

IC 306	IC	14080207400-HM
IC 307	IC(ES,NC)	14080207400-HM
IC 309	IC(ES,NC)	14080207500-HM
IC 311	IC	14080207400-HM
IC 312	IC	14080207500-HM
IC 401	IC	14080207400-HM
IC 701	IC	14080207250-HM

IC 702	IC	14080207300-HM
IC 703	IC	14080211300-HM
IC 704	IC	14080211400-HM
IC 801	IC	14080210500-HM
Q 101	Transistor	14070301400-HM

Q 102	Transistor	14070301400-HM
Q 103	Transistor	14070301600-HM
Q 105	FET	14070600100-HM
Q 106	FET	14070600100-HM
Q 201	Transistor	14070301400-HM

Q 202	Transistor	14070301400-HM
Q 203	Transistor	14070301600-HM
Q 204	Transistor	14070301600-HM
Q 205	FET	14070600100-HM
Q 206	FET	14070600100-HM

Q 301	Transistor	14070301400-HM
Q 302	Transistor	14070301400-HM
Q 303	Transistor	14070301600-HM
Q 304	Transistor	14070301600-HM
Q 305	FET	14070600100-HM

Q 306	FET	14070600100-HM
Q 401	Transistor	14070301400-HM
Q 402	Transistor	14070301400-HM
Q 403	Transistor	14070301600-HM
Q 404	Transistor	14070301600-HM

Q 405	FET	14070600100-HM
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Q 406	FET	14070600100-HM
Q 701	Transistor	14070301500-HM
Q 702	Transistor	14070301400-HM
Q 703	Transistor	14070301400-HM

Q 704	Transistor	14070301500-HM
Q 706	Transistor	14070301500-HM
Q 707	Transistor	14070301500-HM
Q 708	Transistor	14070301500-HM
Q 710	Transistor	14070301500-HM

Q 711	Transistor	14070301400-HM
Q 712	Transistor	14070301500-HM
Q 713	Transistor	14070301400-HM
Q 714	Transistor	14070301500-HM
Q 716	FET	14070200500-HM

Q 717	FET	14070200500-HM
Q 720	FET	14070200500-HM
Q 721	FET	14070200500-HM
Q 725	Transistor	14070106700-HM
Q 726	Transistor	14070106800-HM

Q 727	Transistor	14070301400-HM
Q 728	Transistor	14070301400-HM
Q 729	Transistor	14070301500-HM
Q 731	Transistor	14070106700-HM
Q 733	Transistor	14070301500-HM

Q 734	Transistor	14070301400-HM
Q 801	Transistor	14070301500-HM
Q 802	Transistor(ES,NC)	14070301500-HM
Q 803	Transistor(ES,NC)	14070301400-HM
Q 1104	Transistor	14070301500-HM
Q 2104	Transistor	14070301600-HM
D 101	Diode	14060903400-HM

D 102	Diode	14060903400-HM
D 104	Diode	14060902300-HM
D 105	Diode	14060902500-HM
D 106	Diode	14060902610-HM
D 107	Diode	14060902610-HM

D 108	Diode	14060902610-HM
D 201	Diode	14060903400-HM
D 202	Diode	14060903400-HM
D 205	Diode	14060902500-HM
D 206	Diode	14060902610-HM

D 207	Diode	14060902610-HM
D 208	Diode	14060902610-HM
D 301	Diode	14060903400-HM
D 302	Diode	14060903400-HM
D 305	Diode	14060902500-HM

D 306	Diode	14060902610-HM
D 307	Diode	14060902610-HM
D 308	Diode	14060902610-HM
D 401	Diode	14060903400-HM
D 402	Diode	14060903400-HM

D 405	Diode	14060902500-HM
D 406	Diode	14060902610-HM
D 407	Diode	14060902610-HM
D 408	Diode	14060902610-HM
D 701	Diode	14060103510-HM

D 702	Diode	14060902610-HM
D 703	Diode	14060902400-HM

5		6		7		8	
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>	
D 704	Diode	14060902300-HM		R 119		14021400500-HM	
D 705	Diode	14060902300-HM		R 120		14021411300-HM	
D 706	Diode	14060902700-HM					
				R 121		14021400500-HM	A
D 707	Diode	14060902300-HM		R 122		14021402320-HM	
D 708	Diode	14060902100-HM		R 123		14021402320-HM	
D 710	LED	14060502600-HM		R 124		14021401420-HM	
D 720	Diode	14060101100-HM		R 125		14021401420-HM	
D 722	Diode	14060101200-HM					
				R 130		14021411400-HM	
D 1701	Diode	14060902750-HM		R 155		14021602720-HM	
D 1702	Diode	14060902750-HM		R 156		14021403210-HM	
L 101	Coil	14050106100-HM		R 157		14021402905-HM	
L 201	Coil	14050106100-HM		R 158		14021402790-HM	
L 301	Coil	14050106100-HM					
				R 159		14021400115-HM	
L 401	Coil	14050106100-HM		R 160		14021400115-HM	B
L 701	Toroidal Coil	14050105800-HM		R 161		14021404010-HM	
L 702	Coil	11130300400-HM		R 162		14021402770-HM	
L 703	Coil	11130300400-HM		R 163		14021403325-HM	
T 701	Transformer	14090302400-HM					
				R 164		14021403210-HM	
TH701	Thermistor	14021100152-HM		R 165		14021403315-HM	
TH702	Thermistor	14021100160-HM		R 166		14021403210-HM	
SW101	Slide Switch(A FILTER)	14100105890-HM		R 167		14021402510-HM	
SW301	Slide Switch(INPUT SELECT)	14100105790-HM		R 168		14021404025-HM	
SW302	Slide Switch(B FILTER)	14100105890-HM					
				R 169		14021403010-HM	
VR101	Rotary VR 20 kohm(A GAIN)	14030302010-HM		R 171		14021400040-HM	
VR102	Rotary VR 50 kohm(A FREQ)	14030302110-HM		R 172		14021400040-HM	C
VR301	Rotary VR 20 kohm(B GAIN)	14030302010-HM		R 173		14021400120-HM	
VR302	Rotary VR 50 kohm(B FREQ)	14030302110-HM		R 174		14021400120-HM	
FB101	SMD Ferrite Beads	14021500100-HM					
				R 175		14021401407-HM	
FB102	SMD Ferrite Beads	14021500100-HM		R 176		14021440700-HM	
FB104	SMD Ferrite Beads	14021500100-HM		R 177		14041420180-HM	
FB201	SMD Ferrite Beads	14021500100-HM		R 180		14021400500-HM	
FB202	SMD Ferrite Beads	14021500100-HM		R 181		14021411600-HM	
FB301	SMD Ferrite Beads	14021500100-HM					
				R 182		14021400420-HM	
FB302	SMD Ferrite Beads	14021500100-HM		R 183		14021400310-HM	
FB401	SMD Ferrite Beads	14021500100-HM		R 184		14021400305-HM	
FB402	SMD Ferrite Beads	14021500100-HM		R 185		14021401281-HM	D
CN101	Terminal	14111106800-HM		R 186		14021411200-HM	
CN301	Terminal	14111106800-HM					
				R 187		14021402025-HM	
CN701	Terminal	14111106700-HM		R 188		14021400150-HM	
				R 189		14021400150-HM	
				R 190		14021402000-HM	
				R 191		14021400420-HM	
RESISTORS							
R 101		14021401292-HM					
R 102		14021401292-HM		R 192		14021411420-HM	
R 103		14021406100-HM		R 193		14021404013-HM	
R 104		14021406100-HM		R 194		14021404013-HM	
R 105		14021408300-HM		R 195		14021404013-HM	
				R 196		14021404013-HM	E
R 106		14021400495-HM					
R 107		14021400495-HM		R 197		14021401420-HM	
R 108		14021400495-HM		R 198		14021401420-HM	
R 109		14021400495-HM		R 201		14021401292-HM	
R 110		14021401420-HM		R 202		14021401292-HM	
				R 203		14021406100-HM	
R 111		14021401420-HM					
R 112		14021702105-HM		R 204		14021406100-HM	
R 113		14021411200-HM		R 205		14021408300-HM	
R 114		14021400305-HM		R 206		14021400495-HM	
R 115		14021400510-HM		R 207		14021400495-HM	
				R 208		14021400495-HM	F
R 116		14021400305-HM					
R 117		14021400500-HM		R 209		14021400495-HM	
R 118		14021402020-HM		R 212		14021702105-HM	
				R 213		14021411200-HM	

1		2	3		4
<u>Circuit Symbol and No.</u>		<u>Part No.</u>	<u>Circuit Symbol and No.</u>		<u>Part No.</u>
A	R 214	14021400305-HM	R 317		14021400500-HM
	R 215	14021400510-HM	R 318		14021402020-HM
	R 216	14021400305-HM	R 319		14021400500-HM
	R 217	14021400500-HM	R 320		14021411300-HM
	R 218	14021402020-HM	R 321		14021400500-HM
	R 219	14021400500-HM	R 322		14021402320-HM
	R 220	14021411300-HM	R 323		14021402320-HM
	R 221	14021400500-HM	R 330		14021411400-HM
	R 222	14021402320-HM	R 342	(UC,EW5,CN5) (ES,NC)	14021700100-HM
	R 223	14021402320-HM			14021400500-HM
	R 230	14021411400-HM	R 343		14021400500-HM
	R 255	14021602720-HM	R 344	(UC,EW5,CN5) (ES,NC)	14021700100-HM
	R 256	14021403210-HM			14021411200-HM
	R 257	14021402905-HM	R 345		14021400320-HM
	R 258	14021402790-HM	R 346		14021400560-HM
B	R 265	14021403315-HM	R 347		14021411910-HM
	R 266	14021403210-HM	R 348		14021411410-HM
	R 267	14021402510-HM	R 349		14021411120-HM
	R 268	14021404025-HM	R 350		14021400500-HM
	R 272	14021400040-HM	R 351		14021400260-HM
	R 273	14021400120-HM	R 352		14021400260-HM
	R 274	14021400120-HM	R 353		14021411120-HM
	R 275	14021401407-HM	R 354		14021411410-HM
	R 276	14021440700-HM	R 355		14021602720-HM
	R 277	14041420180-HM	R 356		14021403210-HM
C	R 280	14021400500-HM	R 357		14021402905-HM
	R 281	14021411600-HM	R 358		14021402790-HM
	R 282	14021400420-HM	R 365		14021403315-HM
	R 283	14021400310-HM	R 366		14021403210-HM
	R 284	14021400305-HM	R 367		14021402510-HM
	R 285	14021401281-HM	R 368		14021404025-HM
	R 286	14021411200-HM	R 372		14021400040-HM
	R 287	14021402025-HM	R 373		14021400120-HM
	R 288	14021400150-HM	R 374		14021400120-HM
	R 289	14021400150-HM	R 375		14021401407-HM
D	R 290	14021402000-HM	R 376		14021440700-HM
	R 291	14021400420-HM	R 377		14041420180-HM
	R 292	14021411420-HM	R 380		14021400500-HM
	R 293	14021404013-HM	R 381		14021411600-HM
	R 294	14021404013-HM	R 382		14021400420-HM
	R 295	14021404013-HM	R 383		14021400310-HM
	R 296	14021404013-HM	R 384		14021400305-HM
	R 297	14021401420-HM	R 385		14021401281-HM
	R 298	14021401420-HM	R 386		14021411200-HM
	R 301	14021401292-HM	R 387		14021402025-HM
E	R 302	14021401292-HM	R 388		14021400150-HM
	R 303	14021406100-HM	R 389		14021400150-HM
	R 304	14021406100-HM	R 390		14021402000-HM
	R 305	14021408300-HM	R 391		14021400420-HM
	R 306	14021400495-HM	R 392		14021411420-HM
	R 307	14021400495-HM	R 393		14021404013-HM
	R 308	14021400495-HM	R 394		14021404013-HM
	R 309	14021400495-HM	R 395		14021404013-HM
	R 312	14021702105-HM	R 396		14021404013-HM
	R 313	14021411200-HM	R 397		14021401420-HM
F	R 314	14021400305-HM	R 398		14021401420-HM
	R 315	(UC,EW5,CN5) (ES,NC)	R 401		14021401292-HM
		14021400510-HM	R 402		14021401292-HM
		14021704680-HM	R 403		14021406100-HM
	R 316	(UC,EW5,CN5) (ES,NC)	R 404		14021406100-HM
		14021400305-HM	R 405		14021408300-HM
		14021408300-HM			

5	6	7	8	
<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>	
R 406	14021400495-HM	R 492	14021411420-HM	
R 407	14021400495-HM	R 493	14021404013-HM	
R 408	14021400495-HM	R 494	14021404013-HM	
R 409	14021400495-HM	R 495	14021404013-HM	A
R 412	14021702105-HM			
		R 496	14021404013-HM	
R 413	14021411200-HM	R 497	14021401420-HM	
R 414	14021400305-HM	R 498	14021401420-HM	
R 415	(UC,EW5,CN5) (ES,NC)	R 701	14021411300-HM	
		R 702	14021400395-HM	
R 416	(UC,EW5,CN5) (ES,NC)			
		R 703	14021411800-HM	
R 417	14021408300-HM	R 704	14021400330-HM	
	14021400500-HM	R 705	14021400405-HM	
		R 706	14021400330-HM	
R 418	14021402020-HM	R 707	14021400150-HM	
R 419	14021400500-HM			B
R 420	14021411300-HM	R 708	14021400330-HM	
R 421	14021400500-HM	R 709	14021400150-HM	
R 422	14021402320-HM	R 710	14021402315-HM	
		R 711	14021400500-HM	
R 423	14021402320-HM	R 712	14021411915-HM	
R 430	14021411400-HM			
R 442	(UC,EW5,CN5) (ES,NC)	R 713	14021411855-HM	
		R 714	14021411910-HM	
R 443	14021400500-HM	R 715	14021400500-HM	
R 444	(UC,EW5,CN5) (ES,NC)	R 716	14021400500-HM	
	14021411200-HM	R 717	14021400305-HM	
R 445	14021400320-HM	R 718	14021400355-HM	C
R 446	14021400560-HM	R 719	14021411800-HM	
R 447	14021411910-HM	R 720	14021411800-HM	
R 448	14021411410-HM	R 721	14021411750-HM	
R 449	14021411120-HM	R 722	14021400500-HM	
R 450	14021400500-HM	R 723	14021400500-HM	
R 451	14021400260-HM	R 724	14021400330-HM	
R 452	14021400260-HM	R 725	14021411800-HM	
R 453	14021411120-HM	R 727	14021411800-HM	
R 454	14021411410-HM	R 728	14021400500-HM	
R 455	14021602720-HM	R 730	14021411800-HM	
R 456	14021403210-HM	R 731	14021400320-HM	D
R 457	14021402905-HM	R 732	14021400260-HM	
R 458	14021402790-HM	R 733	14021400355-HM	
R 465	14021403315-HM	R 734	14021400330-HM	
R 466	14021403210-HM	R 735	14021400330-HM	
R 467	14021402510-HM	R 736	14021411960-HM	
R 468	14021404025-HM	R 738	14021400490-HM	
R 472	14021400040-HM	R 739	14021400320-HM	
R 473	14021400120-HM	R 740	14020100500-HM	
R 474	14021400120-HM	R 741	14020100500-HM	
R 475	14021401407-HM	R 744	14020100500-HM	
R 476	14021440700-HM	R 746	14020100500-HM	E
R 477	14041420180-HM	R 750	14041420180-HM	
R 480	14021400500-HM	R 751	14041420180-HM	
R 481	14021411600-HM	R 754	14021411960-HM	
R 482	14021400420-HM	R 755	14021404030-HM	
R 483	14021400310-HM	R 756	14021403010-HM	
R 484	14021400305-HM	R 757	14021400330-HM	
R 485	14021401281-HM	R 758	14021400330-HM	
R 486	14021411200-HM	R 759	14021411915-HM	
R 487	14021402025-HM	R 760	14021440500-HM	
R 488	14021400150-HM	R 761	14021440500-HM	F
R 489	14021400150-HM	R 762	14021440800-HM	
R 490	14021402000-HM	R 763	14021440800-HM	
R 491	14021400420-HM	R 764	14021400500-HM	

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Circuit Symbol and No.**Part No.****Circuit Symbol and No.****Part No.**

A	R 765	14021402510-HM	C 145	14042300860-HM
	R 766	14021402510-HM	C 146	14042300840-HM
	R 767	14021402510-HM		
	R 768	14021402510-HM	C 147	14041400810-HM
			C 148	14042206100-HM
	R 770	14021440800-HM	C 149	14042206100-HM
	R 771	14021440500-HM	C 150	14022100300-HM
	R 773	14021400500-HM	C 151	14022100600-HM
	R 774	14021400330-HM		
	R 775	14021411600-HM	C 152	14022100300-HM
			C 153	14041403830-HM
	R 776	14021411750-HM	C 155	14041403830-HM
	R 777	14021411800-HM	C 156	14040700900-HM
	R 778	14021411800-HM	C 157	14042000740-HM
	R 779	14021411800-HM		
B	R 780	14021411800-HM	C 158	14042000740-HM
			C 159	14041510050-HM
	R 781	14021400305-HM	C 160	14042201040-HM
	R 784	14021400405-HM	C 162	14042202000-HM
	R 785	14021400405-HM	C 163	14042202000-HM
	R 790	14021441000-HM		
	R 791	14021441000-HM	C 170	14041401101-HM
			C 171	14041601700-HM
	R 792	14021441000-HM	C 172	14041400810-HM
	R 793	14021441000-HM	C 173	14041400810-HM
	R 801	14021706910-HM	C 201	14041400130-HM
	R 802	14021706910-HM		
	R 803	14021706910-HM	C 202	14041400130-HM
			C 205	14041404650-HM
			C 206	14041401101-HM
C	R 804	14021706910-HM	C 207	14041401101-HM
	R 806	14021400500-HM	C 208	14041602900-HM
	R 807	14021411800-HM		
	R 808	14021400150-HM	C 213	14041540740-HM
	R 809	14021400150-HM	C 214	14041540740-HM
	R 810	14021402020-HM	C 242	14042300860-HM
	R 811	14021411800-HM	C 243	14041602900-HM
	R 812	14021411800-HM	C 244	14042300860-HM
	R 813	14021411800-HM		
	R 814	14021411800-HM	C 245	14042300860-HM
			C 246	14042300840-HM
	R 815	14021411800-HM	C 251	14022100600-HM
D	R 1110	14021401420-HM	C 253	14041403830-HM
	R 1111	14021401420-HM	C 255	14041403830-HM
	R 1171	14021400040-HM		
	R 1702	14021200000-HM	C 256	14040700900-HM
			C 257	14042000740-HM

CAPACITORS

	C 101	14041400130-HM	C 270	14041401101-HM
	C 102	14041400130-HM	C 271	14041601700-HM
	C 105	14041404650-HM	C 301	14041400130-HM
	C 106	14041401101-HM	C 302	14041400130-HM
	C 107	14041401101-HM	C 305	14041404650-HM
E	C 108	14041602900-HM		
	C 113	14041540740-HM	C 306	14041401101-HM
	C 114	14041540740-HM	C 307	14041401101-HM
	C 120	14041400810-HM	C 308	14041602900-HM
	C 121	14041400810-HM	C 313	14041540740-HM
			C 314	14041540740-HM
	C 122	14041400810-HM		
	C 130	14022100010-HM	C 325	14041401101-HM
	C 132	14022100010-HM	C 326	14041540990-HM
	C 140	14022100300-HM	C 327	14041540990-HM
F	C 141	14042206100-HM	C 328	14041602900-HM
			C 329	14041602900-HM
	C 142	14042300860-HM		
	C 143	14041602900-HM	C 330	14022100010-HM
	C 144	14042300860-HM	C 331	14022100010-HM
			C 338	14041602710-HM

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5		6		7		8	
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>	
C 340		14041602710-HM		C 722		14040806520-HM	
C 342		14042300860-HM		C 723		14040806520-HM	
C 343		14041602900-HM		C 728		14041403850-HM	
C 344		14042300860-HM		C 729		14041403850-HM	
C 345		14042300860-HM		C 730		14040803720-HM	
C 346		14042300840-HM					
				C 731		14040803720-HM	
C 351		14022100600-HM		C 732		14040803720-HM	
C 353		14041403830-HM		C 733		14040803330-HM	
C 355		14041403830-HM		C 736		14040803720-HM	
C 356		14040700900-HM		C 737		14040803720-HM	
C 357		14042000740-HM					
				C 738		14040803720-HM	
C 358		14042000740-HM		C 739		14040803330-HM	
C 359		14041510050-HM		C 741		14041602710-HM	
C 360		14042201040-HM		C 742		14041602710-HM	
C 370		14041401101-HM		C 744		14041602710-HM	
C 371		14041601700-HM					
				C 745		14042206100-HM	
C 372		14041400810-HM		C 746		14041400810-HM	
C 373		14041400810-HM		C 747		14041400810-HM	
C 401		14041400130-HM		C 748		14041602710-HM	
C 402		14041400130-HM		C 749		14042206100-HM	
C 405		14041404650-HM					
				C 752		14041400810-HM	
C 406		14041401101-HM		C 753		14041602710-HM	
C 407		14041401101-HM		C 754		14041400810-HM	
C 408		14041602900-HM		C 755		14041602710-HM	
C 413		14041540740-HM		C 757		14041400810-HM	
C 414		14041540740-HM					
				C 761		14041401600-HM	
C 425		14041401101-HM		C 765		14041601005-HM	
C 426	(ES,NC)	14041540990-HM		C 767		14041600410-HM	
C 427	(ES,NC)	14041540990-HM		C 801		14041400609-HM	
C 428	(ES,NC)	14041602900-HM		C 802		14041400810-HM	
C 429	(ES,NC)	14041602900-HM					
				C 803		14021700100-HM	
C 442		14042300860-HM		C 804		14021700100-HM	
C 443		14041602900-HM		C 805		14041400609-HM	
C 444		14042300860-HM		C 806		14041400600-HM	
C 445		14042300860-HM		C 807		14041400609-HM	
C 446		14042300840-HM		C 808		14041400600-HM	
C 451		14022100600-HM		C 809		14041400609-HM	
C 453		14041403830-HM		C 810		14041400600-HM	
C 455		14041403830-HM		C 811		14041400609-HM	
C 456		14040700900-HM		C 812		14041400600-HM	
C 457		14042000740-HM		C 813		14041400609-HM	
C 458		14042000740-HM		C 814		14041400600-HM	
C 459		14041510050-HM		C 815		14041400609-HM	
C 460		14042201040-HM		C 816		14041400600-HM	
C 470		14041401101-HM		C 817		14041400609-HM	
C 471		14041601700-HM		C 818		14041400600-HM	
C 707		14041400810-HM		C 819		14041400609-HM	
C 708		14041601005-HM		C 820		14041400600-HM	
C 709		14041511000-HM		C 821		14041600410-HM	
C 710		14041601005-HM		C 822		14041400810-HM	
C 711		14041601700-HM		C 823		14042202000-HM	
C 712		14041400810-HM					
C 713		14041400810-HM					
C 714		14041602900-HM					
C 715		14041601700-HM					
C 716		14041400810-HM					
C 717		14041400810-HM					
C 718		14041400810-HM					
C 720		14040806520-HM					
C 721		14040806520-HM					