GT5-A604

4 CHANNEL POWER AMPLIFIER

SERVICE MANUAL

JBL Consumer Products
250 Crossways Park Dr.
Woodbury, New York 11797

Rev0 3/2008

Released 2007
Discontinued XXXX

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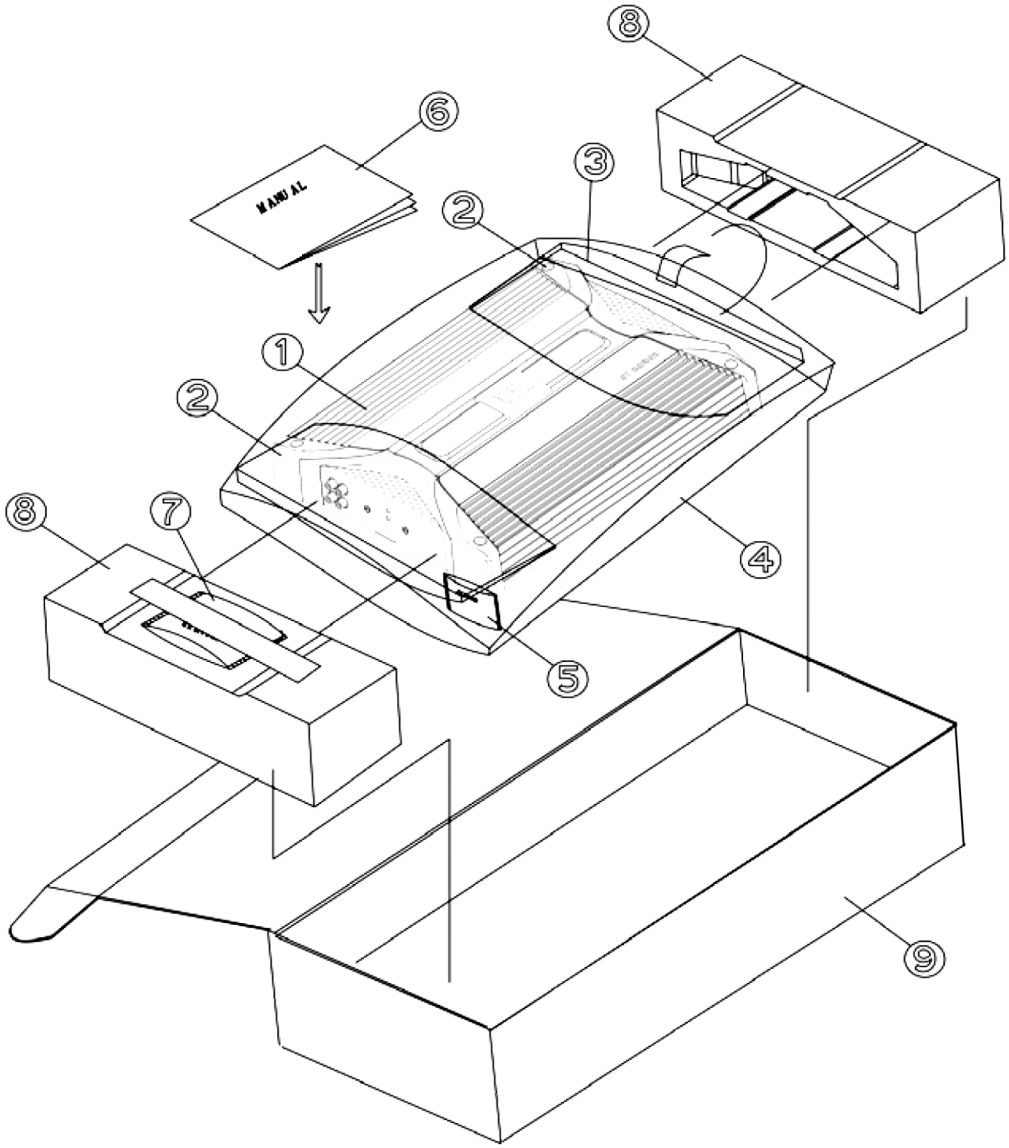
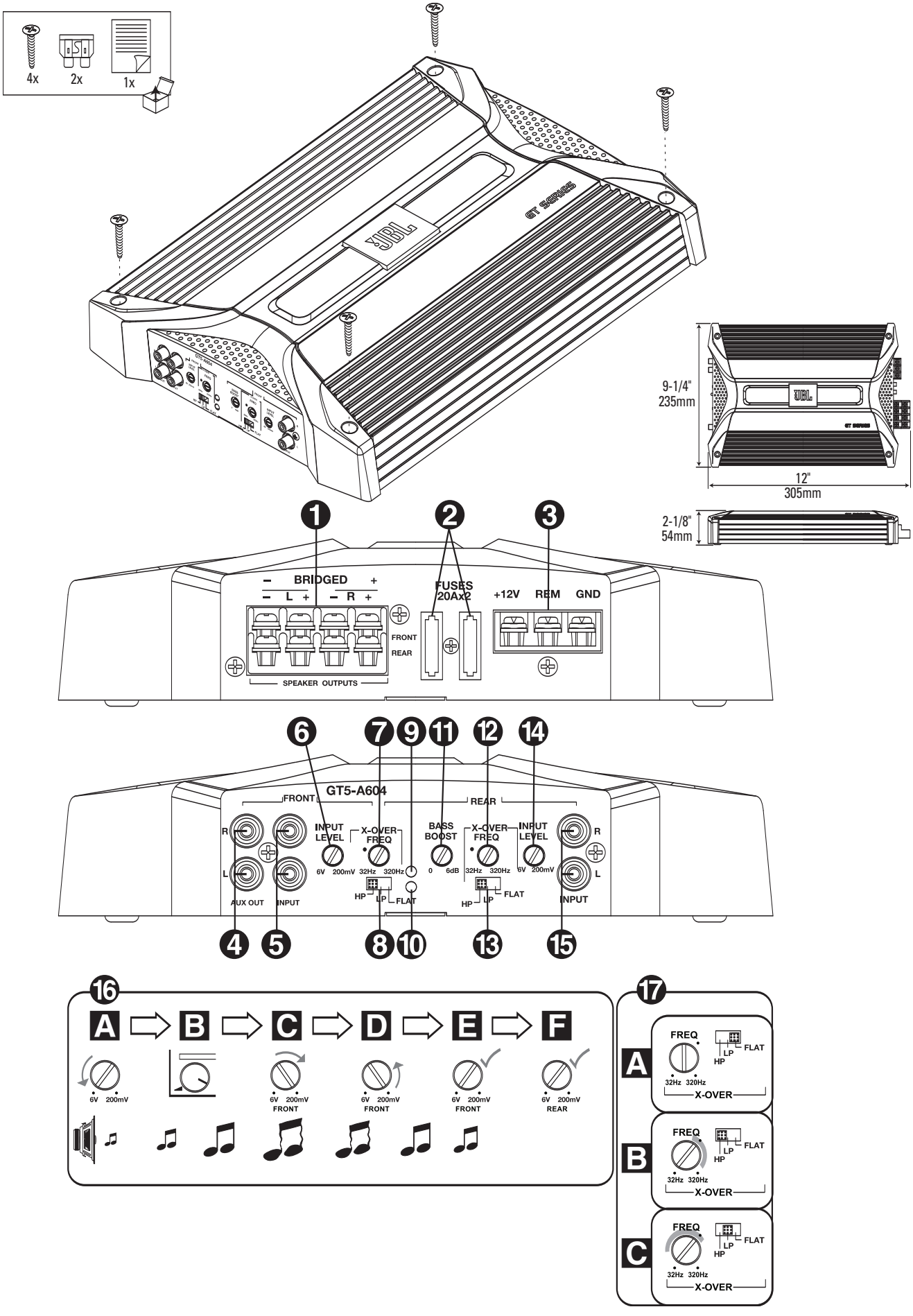
GT5-A604 Specifications

Output Power:	60W RMS x 4 channels @ 4 ohms; ≤1% THD + N
(14.4V supply)	80W RMS x 4 channels @ 2 ohms; ≤1% THD + N
	160W RMS x 2 channel (bridged) @ 4 ohms; ≤1% THD + N
Signal-to-noise ratio:	85dBA (reference 1W into 4 ohms)
	102dBA (reference rated power into 4 ohms)
Total Peak power:	640W
Frequency response:	10Hz – 100kHz (–3dB)
THD+N 1KHz LPF=22KHz	≤0.05% (rated power @ 4 ohms)
Channel Separation	≥50db
Input Impedance	15kΩ
Maximum input signal:	6.0V
Maximum sensitivity:	200mV
Hi-Pass, Low Pass X-over Limits	32Hz – 320Hz ±20% 12dB/oct
Bass Boost @ 50Hz	0-6dB
DC Offset	<30mV
Output regulation:	40dB
Idle Current @ 4 ohms	1.1A
Max Current Draw	≤35A
Remote Operating Voltage	5V
Turn-on delay time	3 sec
Circuit Protection	Temperature (85±5C), Short circuit, Operating voltage range (8-16V)
Dimensions:	2 1/8 x 9 1/4 x 12" (54 x 235 x 305mm)
Fuse:	2 x 20A

JBL continually strives to update and improve existing products, as well as create new ones. The specifications and details in this and related JBL publications are therefore subject to change without notice.



ITEM	PART NUMBER	DESCRIPTION	QTY
1	GT5-A604	GT5-A604	1
2		Microfoam Ends	2
3		Packing	1
4		Plastic bag	1
5		Silica Gel	1
6	Visit www.jbl.com	Owner's Manual	1
7		Accessory package consisting of:	1
	FUSE-20A	20A Fuse	2
	SCR-BH4-50NI	Mounting screws	4
8	SNOW-B	Packing foam ends	2
9	GIFT-BOX-604	GT5-A604 Outer Carton	1


4x
2x
1x
GT SERIES
9-1/4"
235mm
12"
305mm
2-1/8"
54mm
1
2
3
BRIDGED
– L + – R +
FUSES
20Ax2
+12V
REM
GND
FRONT
REAR
SPEAKER OUTPUTS
6
7
9
11
12
14
GT5-A604
FRONT
REAR
INPUT LEVEL
X-OVER FREQ
BASS BOOST
X-OVER FREQ
INPUT LEVEL
6V 200mV
32Hz 320Hz
0 6dB
HP LP FLAT
AUX OUT
INPUT
4
5
8
10
13
15
16
A
B
C
D
E
F
6V 200mV
FRONT
REAR
17
FREQ
FLAT
LP
HP
32Hz 320Hz
X-OVER

GT5-A604 CAR AUDIO POWER AMPLIFIER

Installation Warnings and Tips

- Disconnect the negative (–) lead from your vehicle's battery.
- At the installation sites, locate and make a note of all fuel lines, hydraulic brake lines, vacuum lines and electrical wiring. Use extreme caution when cutting or drilling in and around these areas.
- Choose a safe mounting location away from moisture.
- Make sure there is sufficient air circulation at the mounting location for the amplifier to cool itself.
- Mount the amplifier, using the supplied hardware.

Specifications

- 60W RMS x 4 channels @ 4 ohms and ≤1% THD + N*
- 80W RMS x 4 channels @ 2 ohms, 14.4V supply and ≤1% THD + N*
- 160W RMS x 2 channels @ 4 ohms, 14.4V supply and ≤1% THD + N*
- THD + N: 0.05% (rated power @ 4 ohms)*
- Signal-to-noise ratio: 85dBA (reference 1W into 4 ohms)*
- Signal-to-noise ratio: 102dBA (reference rated power into 4 ohms)
- Frequency response: 10Hz – 100kHz (–3dB)*
- Total peak power: 640 watts

* CEA-2006A-compliant

❶ Speaker Output Connectors

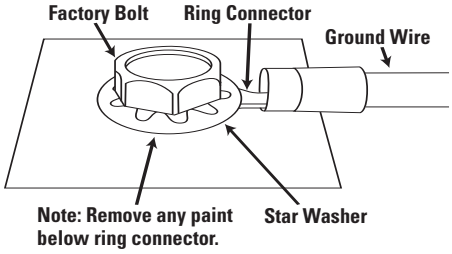
- Connect the speakers to these terminals, observing proper polarity:
  - Four-channel operation: Connect the front left speaker to the Front L+ and L– terminals, and the front right speaker to the Front R+ and R– terminals. Repeat for rear speakers, using the Rear L+ and L– terminals, and the Rear R+ and R– terminals.
  - Three-channel operation: Connect the stereo speakers to the Front terminals, as above. Connect the single speaker into which the amplifier's rear channels will be bridged to the Rear R+ and Rear L– terminals.
  - Two-channel (bridged) operation: Connect one speaker to the Front R+ and Front L– terminals. Connect the other speaker to the Rear R+ and Rear L– terminals.
- Minimum speaker impedance for stereo operation is 2 ohms. Minimum speaker impedance for bridged operation is 4 ohms.

❷ Fuses

- Replace only with the same type and rating.

❸ Power Input Connectors

- +12V: Connect to the positive terminal of the vehicle's battery. 8 AWG wire is recommended. Install an appropriate fuse holder and fuse (40A minimum) within 18 inches of the battery. Make sure the wire is not damaged or pinched during installation. Install protective grommets when routing wires through the firewall or other sheet metal.
- GND: Connect to the vehicle's chassis. Refer to the picture below.



- REM: Connect to the "Remote Out" lead from the source unit or to a source of switched 12V+ (ACC).

❹ Aux Output Connectors (RCA)

- Summed, nonfiltered pass-through output. Front right and rear right inputs are combined and sent to the right AUX output. Front left and rear left inputs are combined and sent to the left AUX output. Connect to the input of an additional subwoofer amplifier.

❺ Front Input Connectors (RCA)

- Connect to the front RCA outputs from the source unit or signal processor.

❻ Front Input-Level Control

- Used to match the front input level of the amplifier to the output level of the source unit.
- See ⓰ for the adjustment procedure.

❼ Front Crossover-Frequency Control

- 12dB/octave crossover, variable from 32Hz to 320Hz.
- See ⓱ for the adjustment procedure.

❽ Front Crossover-Filter Selector

- LP: Select for subwoofer(s).
- FLAT: Select for full-range speakers when no subwoofer will be used in the system.
- HP: Select for midrange speakers or full-range speakers when a subwoofer is used in the system.

❾ Power On LED

- Illuminated when the amplifier is on.

❿ Protect LED

- Illuminated under any of the following fault conditions: battery over/under voltage, short circuit in speaker wires, amplifier is too hot, amplifier's output circuit has failed (DC voltage present in the amplifier's output).

⓫ Rear Bass-Boost Control

- Provides up to 6dB of boost at 50Hz. Set the Bass-Boost control according to your preference, being careful not to apply enough boost to damage the speaker(s).

⓬ Rear Crossover-Frequency Control

- 12dB/octave crossover, variable from 32Hz to 320Hz.
- See adjustment procedure in ⓱.

⓭ Rear Crossover-Filter Selector

- LP: Select for subwoofer(s).
- FLAT: Select for full-range speakers when no subwoofer will be used in the system.
- HP: Select for midrange speakers or full-range speakers when a subwoofer is used in the system.

⓮ Rear Input-Level Control

- Used to match the rear input level of the amplifier to the output level of the source unit.
- See ⓰ for the adjustment procedure.

⓯ Rear Input Connectors (RCA)

- Connect to rear RCA outputs from the source unit or signal processor.

⓰ Setting Input Level

A Turn all Input-Level controls counterclockwise to 6V (minimum).
B With a dynamic music track playing, turn head unit's volume control to the 3/4 position.
C Turn Front Input-Level control clockwise until the music is so loud that it no longer sounds clear (distortion is present in the output).
D Turn Front-Input-Level control counterclockwise gradually, just until the music sounds clear, once again.
E Front-level input is now adjusted correctly.
F Adjust Rear Input-Level control so that the level of the rear speakers is proportionate to the level of the front speakers, according to your preference.

⓱ Setting the Crossover

A Crossover setting for 5" or larger full-range speakers when no subwoofer is included in the system.
B Crossover setting for midrange and/or full-range speakers when a subwoofer is included in the system.
C Crossover setting for subwoofers.
Note: Acceptable frequency ranges indicated in gray.

This product is designed for mobile applications and is not intended for connection to the mains.

A valid serial number is required for warranty coverage.

Features, specifications and appearance are subject to change without notice.

Amplifier Troubleshooting Guide

1. Status LED on Amplifier not Lit - Head Unit (Source) Turned ON
Verify:
   A. Remote turn-on wire from source to amplifier has proper voltage
   B. Power (B+) connections at amplifier, terminal blocks, and battery are secure
   C. Ground (GND) connections at amplifier and vehicle chassis are secure
   D. Battery B+ fuse (if used) is OK
   E. Amplifier fuse is OK
   F. B+ at battery and B+ at amplifier has proper voltage

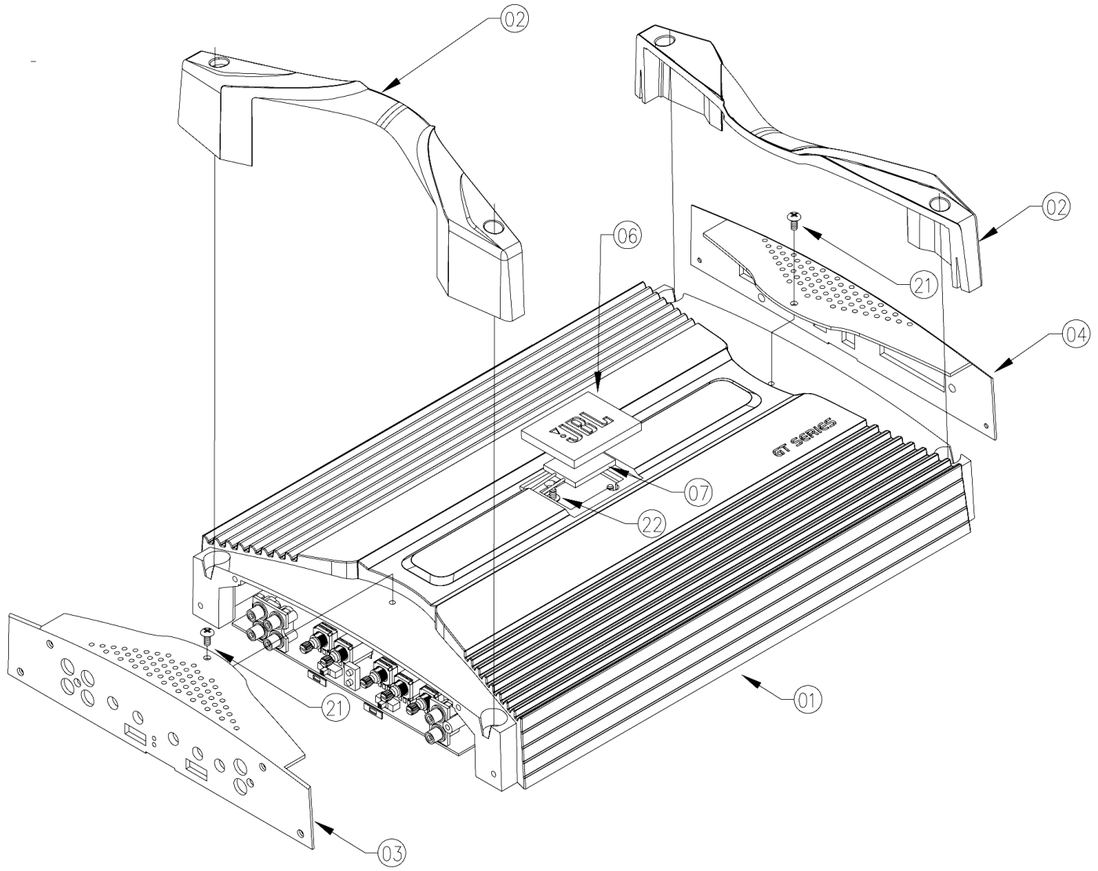
2. Status LED's Lit, No Output from Speakers in Normal Operating Condition
Verify:
   A. RCA cables from amplifier to source are securely connected
   B. Volume adjustment on amplifier is correctly adjusted
   C. Source is ON and playing

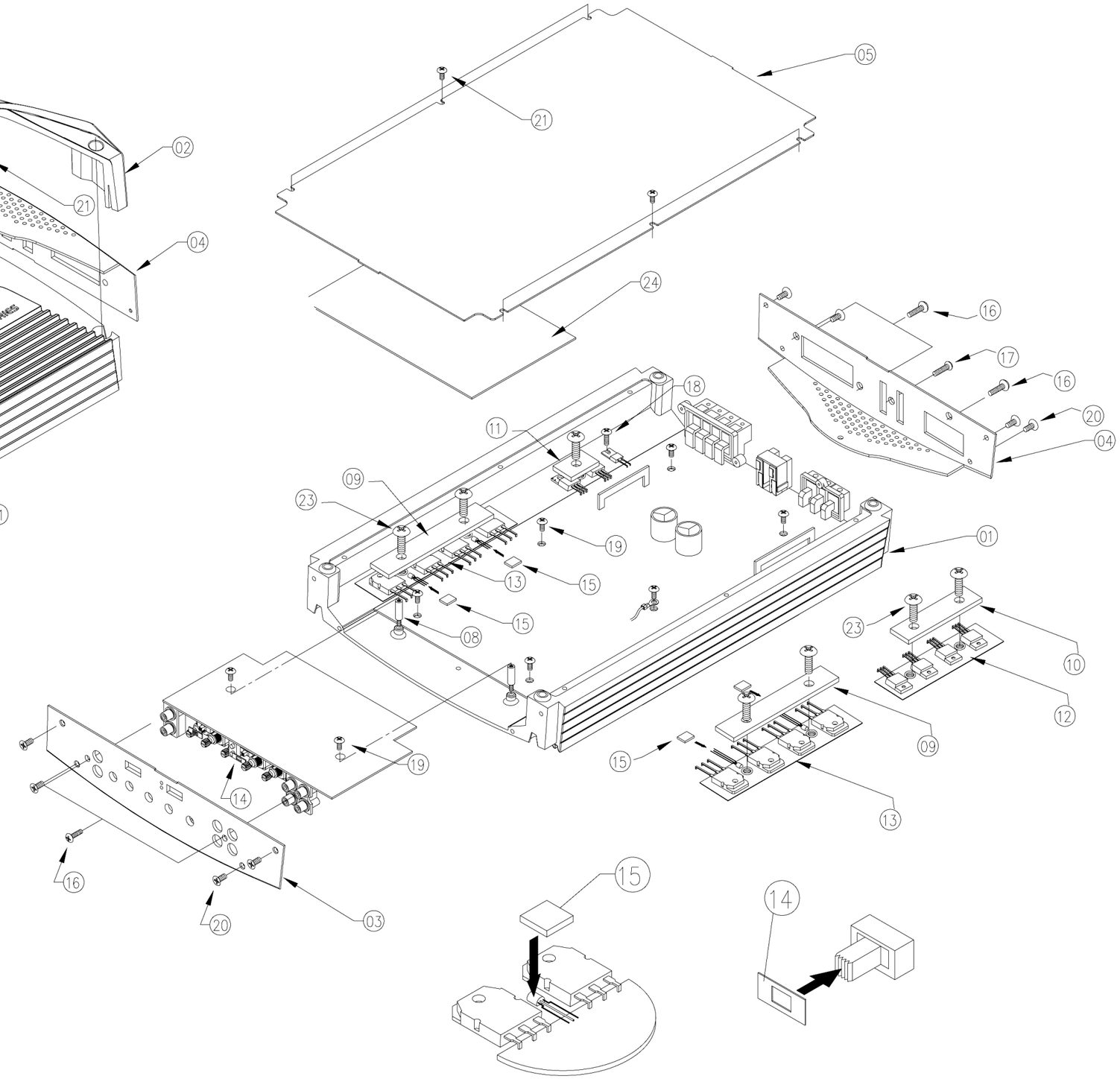
3. Engine Noise From Speaker(s)
Turn source OFF, Disconnect RCA cables at amplifier. If noise stops, check equipment & cables leading to amplifier.
Verify:
   A. RCA cables are of good quality with no breakage to internal shields
   B. RCA cables from source to amplifier are not run alongside any power cables

4. Amplifier Output Distorted Music
Verify:
   A. Source output music to amplifier is not distorted
   B. Source output sensitivity is correctly adjusted

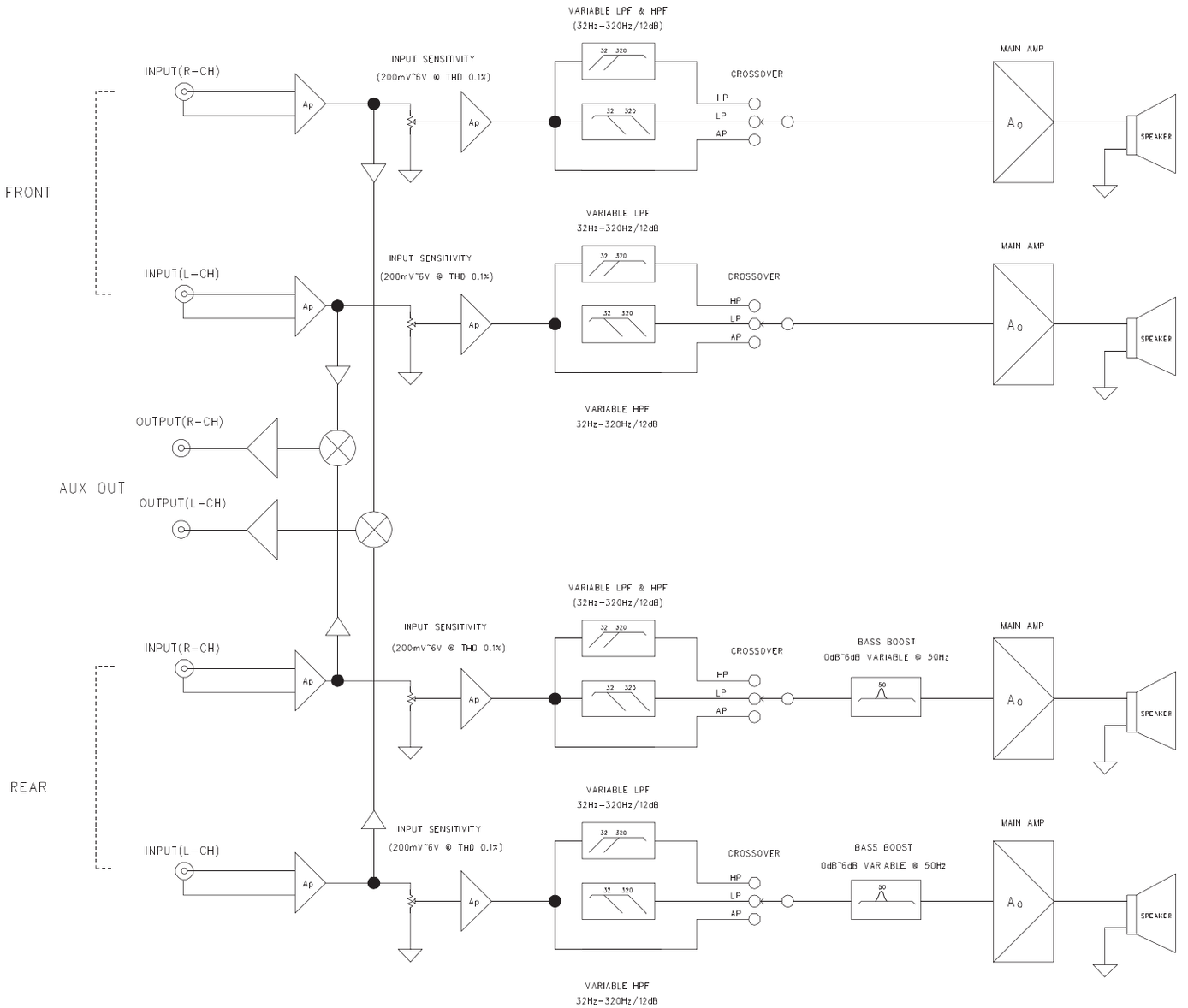
5. Amplifier Shuts Down, Green LED's are Lit - Amplifier is in Thermal Protection Mode
Verify:
   A. Amplifier is mounted with adequate air circulation around heatsinks or vents
   B. Amplifier is not mounted under carpet or sealed enclosure
   C. Speakers meet correct impedance for application (mono or stereo hookup)

6. Amplifier Does Not Turn ON, and Red LED is Lit Amplifier (and not Connected to a Shorted Speaker)
Verify:
   A. Speaker crossover (if used) is not defective





ITEM	PART NUMBER	DESCRIPTION	QTY
1	HEA-GT604	Heatsink	1
2	END CAP	Plastic End Cap	2
3	BOTC-GT604	Front Panel	1
4	PAN-RGT3001	Rear panel	1
5	BOTC-GT604	Bottom Cover plate	1
6	LOGO-B-PC	JBL Logo	1
7	LED1	LED backlight	1
8	BSBM-32	Standoff	2
9	JIG-96-15	Trans Clamp “C” long	2
10	JIG-61-15	Trans Clamp “B” medium	1
11	JIG-30-15	Trans Clamp “A” short	1
12	PAD-70-23	Silicon Pad “A” short	1
13	PAD-105-23	Silicon Pad “B” long	2
14	FELT-12-7	Switch Pad, Felt	2
15	RUB10-10-2	TO-92 Pad	4
16	SCR-BH3-8BK	Screw, Terminals, RCA jack	5
17	SCR-PH3-8BK	Screw, Fuse Holder	1
18	SCR-BH3-6NI	Screw, Thermistor	1
19	SCR-MB3-6NI	Screw, PCB	8
20	SCR- FH3-8BK	Screw, side panels	8
21	SCR- MB3-6BK	Screw, cover & side panels	8
22	SCR- BH3-5NI	Screw, Logo	2
23	SCR-MB4-14NI	Screw, Clamp	7
24	FIBER70-148	Insulator paper, Bottom Cover	1


FRONT
INPUT(R-CH)
INPUT(L-CH)
INPUT SENSITIVITY
(200mV~6V @ THD 0.1%)
VARIABLE LPF & HPF
(32Hz~320Hz/12dB)
VARIABLE LPF
32Hz~320Hz/12dB
VARIABLE HPF
32Hz~320Hz/12dB
CROSSOVER
HP
LP
AP
MAIN AMP
SPEAKER
AUX OUT
OUTPUT(R-CH)
OUTPUT(L-CH)
REAR
BASS BOOST
0dB~6dB VARIABLE @ 50Hz

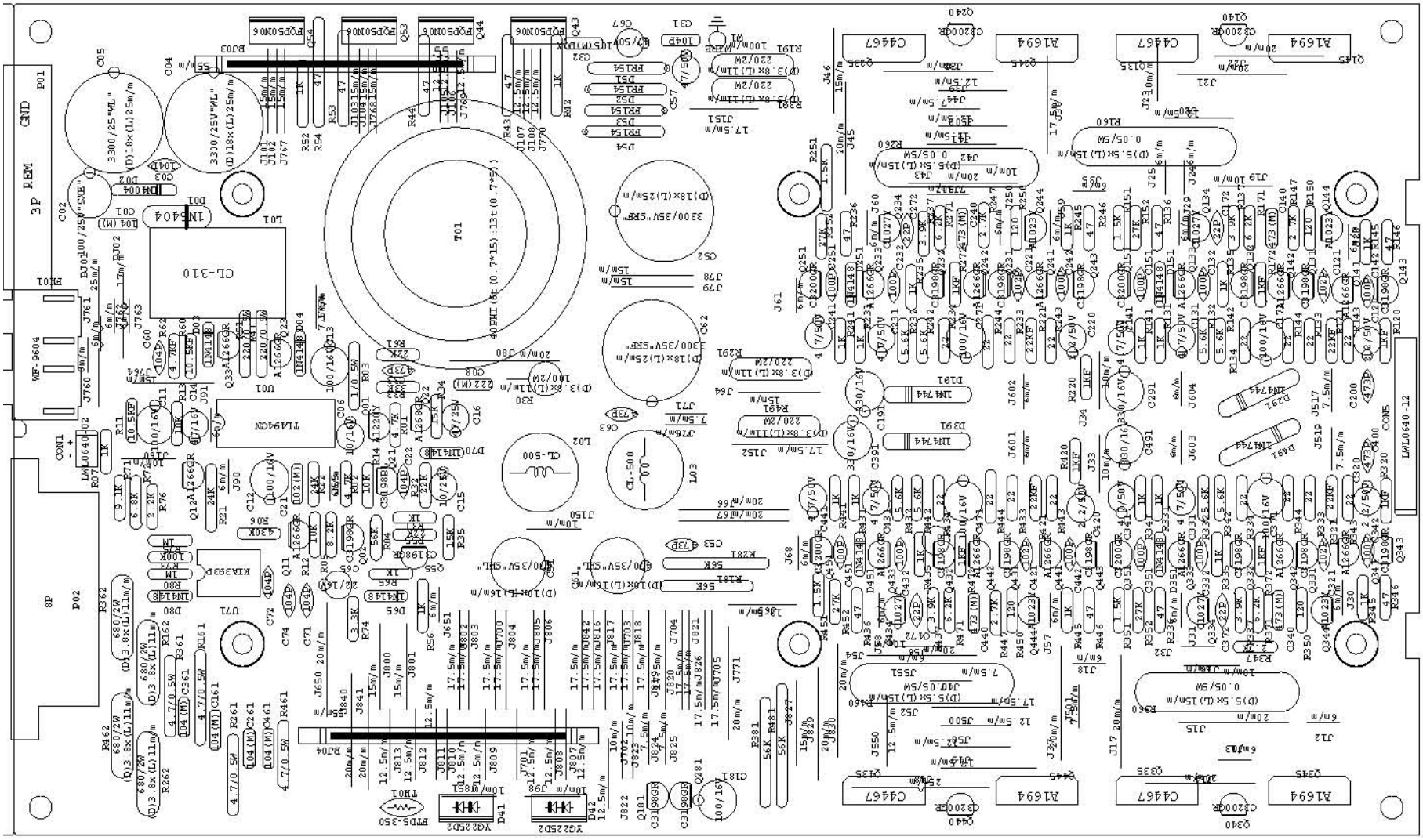
GT5-A604 Electrical Parts List				
Part Number	Description		Qty	Reference Designator
Semiconductors				
TR-KTC1027Y	TRANS	SMALL SIGNAL NPN "TO-92"KTC1027Y	4	Q134,234,334,434
TR-KTA1023Y	TRANS	SMALL SIGNAL PNP "TO-92"KTA1023Y	4	Q144,244,344,444
TR-KTA1266GR	TRANS	SMALL SIGNAL PNP "TO-92"KTA1266GR	16	Q11,12,23,33,133,141,142,233,241,242,Q333,341, 342,433,441,442
TR-KTA1268GR	TRANS	SMALL SIGNAL PNP "TO-92"KTA1268GR	1	Q22
TR-KTC3198BL	TRANS	SMALL SIGNAL NPN "TO-92"KTC3198BL	1	Q21
TR-KTC3198GR	TRANS	SMALL SIGNAL NPN "TO-92"KTC3198GR	16	Q02,55,131,132,143,181,231,232,243,Q281,331,332, 343,431,432,443
TR-KTC3200GR	TRANS	SMALL SIGNAL NPN "TO-92"KTC3200GR	4	Q151,251,351,451
DIODE-1N4148	DIODE	SWITCHING SIGNAL 1N4148	9	D03,04,65,70,151,251,351,451,D80
DIODE-1N4004	DIODE	RECTIFIER 1N4004	1	D02
DIODE-FR154	DIODE	FAST RECOVERYFR154	4	D51,52,53,54
DIODE-1N4744	DIODE	ZENNER 15V 1W1N4744	2	D191,391
IC-TL494CN	IC	PWM IC,DIP-16TL494CN	1	U01
IC-KIA393P	IC	COMPARATOR, DIP-8KIA393P	1	U71
FET-50N60P	FET	N-CH POWER MOS FET,TO-220KEC50N60P	4	Q43,44,53,54
TR-A1220A	TRANS	SMALL SIGNAL PNP "TO-126"A1220A-Y	1	Q01
TR-KTB688	TRANS	AUDIO POWER PNP,TO-3PKTB688	4	Q145,245,345,445
TR-KTB718	TRANS	AUDIO POWER NPN,TO-3PKTD718	4	Q135,235,335,435
TR-KTC3200GR1	TRANS	SMALL SIGNAL NPN "TO-92"KTC3200GR	4	Q140,240,340,440
DIODE-1N4744	DIODE	ZENNER 15V 1W1N4744	2	D291,491
DIODE-1N5404	DIODE	RECTIFIER 1N5404	1	D1
DIODE-YG225D2	DIODE	FAST RECOVERYYG225D2	2	D41,42
IC-NJM2068M	IC	DUAL OP AMP NJM2068M	3	U102,105,302
IC-NJM2058M	IC	OP AMP NJM2058M	7	U101,103,104,301,303,304,305
LED3	LED	3PHI,GREEN & RED(TOP:GREEN, BOTTOM:RED)L-H322005GB	1	LED01
LED1	LED	ACYLE 3.0 AWG#24,RED/BLACK200m/m	1	LOGO BACKLIGHT
Resistors				
RES1R01/2-J	RESISTOR	METAL FILM 1/2WJ1 OHM	1	R03
RES10011/8-F	RESISTOR	METAL FILM 1/8WF1K OHM	8	R120,172,220,272,320,372,420,472
RES47011/8-F	RESISTOR	METAL FILM 1/8WF4.7K OHM	1	R62
RES10521/8-F	RESISTOR	METAL FILM 1/8WF10.5K OHM	2	R11,60
RES22021/8-F	RESISTOR	METAL FILM 1/8WF22K OHM	4	R121,221,321,421
RES4R71/2-J	RESISTOR	METAL FILM 1/2WJ4.7 OHM	4	R161,261,361,461
RES2211/2-J	RESISTOR	METAL FILM 1/2WJ220 OHM	2	R41,51
RES2201/8-J	RESISTOR	CARBON FILM 1/8WJ22 OHM	16	R133,134,143,144,233,234,243,244,333,334, R343,344,433,434,443,444
RES4701/8-J	RESISTOR	CARBON FILM 1/8WJ47 OHM	12	R43,44,53,54,136,146,236,246,336,346,R436,446
RES1211/8-J	RESISTOR	CARBON FILM 1/8WJ120 OHM	4	R150,250,350,450
RES1021/8-J	RESISTOR	CARBON FILM 1/8WJ1K OHM	22	R07,31,42,52,56,65,131,135,141,145,R231,235,241, 245,331,335,341,345,431,435,R441,445
RES1521/8-J	RESISTOR	CARBON FILM 1/8WJ1.5K OHM	4	R151,251,351,451
RES2221/8-J	RESISTOR	CARBON FILM 1/8WJ2.2K OHM	1	R76
RES2721/8-J	RESISTOR	CARBON FILM 1/8WJ2.7K OHM	4	R147,247,347,447
RES3321/8-J	RESISTOR	CARBON FILM 1/8WJ3.3K OHM	1	R74
RES3921/8-J	RESISTOR	CARBON FILM 1/8WJ3.9K OHM	4	R137,237,337,437
RES4721/8-J	RESISTOR	CARBON FILM 1/8WJ4.7K OHM	2	R01,02
RES6221/8-J	RESISTOR	CARBON FILM 1/8WJ6.2K OHM	4	R171,271,371,471
RES5621/8-J	RESISTOR	CARBON FILM 1/8WJ5.6K OHM	8	R132,142,232,242,332,342,432,442
RES6821/8-J	RESISTOR	CARBON FILM 1/8WJ6.8K OHM	1	R72
RES8221/8-J	RESISTOR	CARBON FILM 1/8WJ8.2K OHM	1	R05
RES9121/8-J	RESISTOR	CARBON FILM 1/8WJ9.1K OHM	1	R71
RES1031/8-J	RESISTOR	CARBON FILM 1/8WJ10K OHM	3	R12,13,14
RES1531/8-J	RESISTOR	CARBON FILM 1/8WJ15K OHM	2	R34,35
RES2231/8-J	RESISTOR	CARBON FILM 1/8WJ22K OHM	3	R32,55,61
RES2431/8-J	RESISTOR	CARBON FILM 1/8WJ24K OHM	2	R21,22
RES2731/8-J	RESISTOR	CARBON FILM 1/8WJ27K OHM	4	R152,252,352,452
RES3331/8-J	RESISTOR	CARBON FILM 1/8WJ33K OHM	1	R33
RES5631/8-J	RESISTOR	CARBON FILM 1/8WJ56K OHM	5	R04,181,281,381,481
RES1041/8-J	RESISTOR	CARBON FILM 1/8WJ100K OHM	1	R73
RES4341/8-J	RESISTOR	CARBON FILM 1/8WJ430K OHM	1	R06

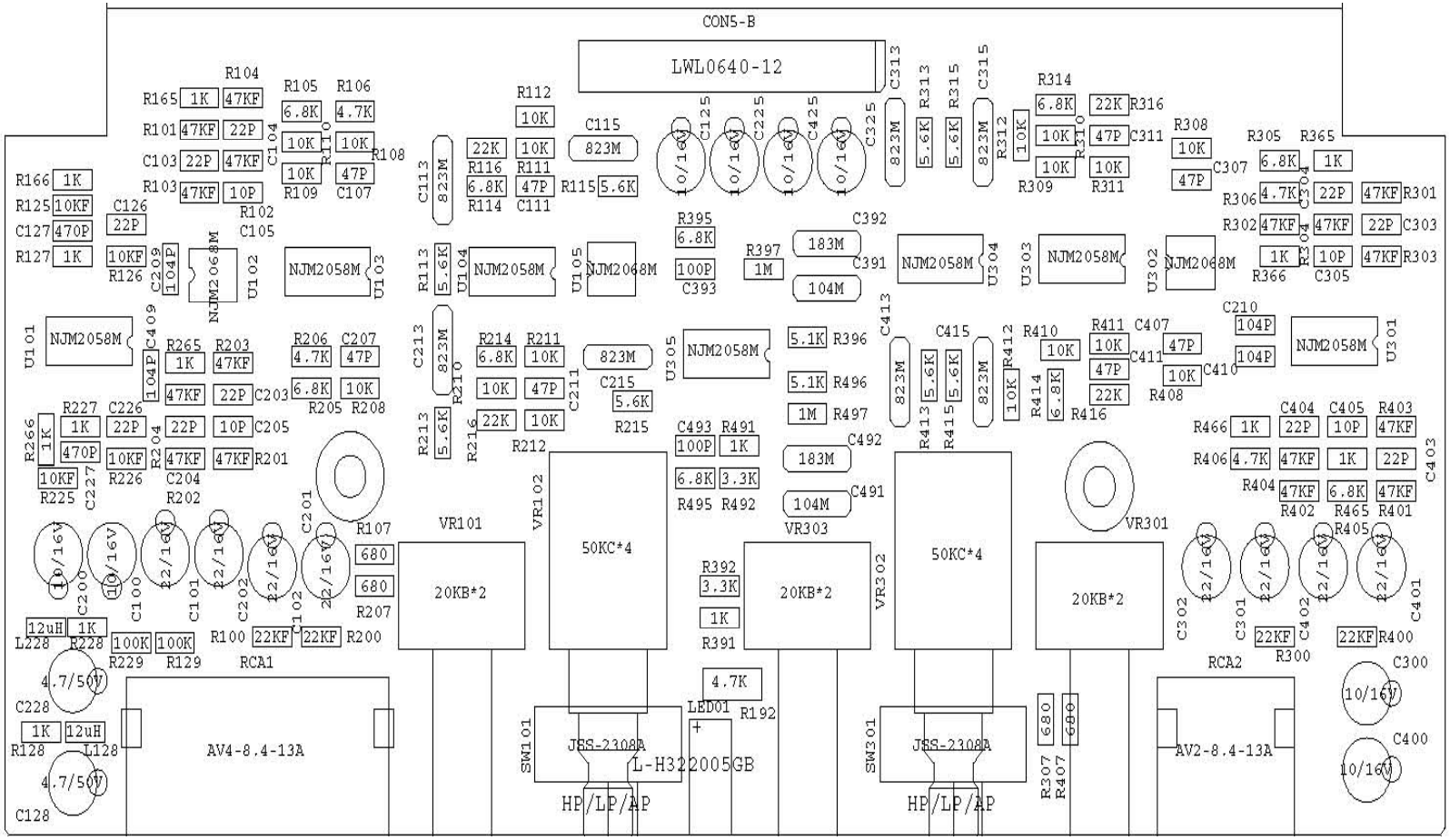
Part Number	Description		Qty	Reference Designator
RES1051/8-J	RESISTOR	CARBON FILM 1/8WJ1M OHM	2	R75 R80
RES1012-J	RESISTOR	METAL FILM 2WJ100 OHM	1	R30
RES2212-J	RESISTOR	METAL FILM 2WJ,Forming=15m/m220 OHM	4	R191,291,391,491
RES6812-J	RESISTOR	METAL FILM 2WJ,Forming=15m/m680 OHM	4	R162,262,362,462
RESR055-J	RESISTOR	WIRE WOUND 5WJ,Forming=30m/m0.05 OHM	4	R160,260,360,460
RES-2202-0805-F	RESISTOR	CHIP"0805"1/8WF22K OHM	4	R100,200,300,400
RES-1002-0805-F	RESISTOR	CHIP"0805"1/8WF10K OHM	4	R125,126,225,226
RES-4702-0805-F	RESISTOR	CHIP"0805"1/8WF47K OHM	16	R101,102,103,104,201,202,203,204,301,302,R303,304,401,402,403,404
RES-102-0805-J	RESISTOR	CHIP"0805"1/8WJ1K OHM	14	R127,128,165,166,227,228,265,266,R365,366,391,465,466,491
RES-475-1206-J	RESISTOR	4.7K OHM 1/4W ±5% 1206 7"	1	R192
RES-332-0805-J	RESISTOR	CHIP"0805"1/8WJ3.3K OHM	2	R392,492
RES-562-0805-J	RESISTOR	CHIP"0805"1/8WJ5.6K OHM	8	R113,115,213,215,313,315,413,415
RES-682-0805-J	RESISTOR	CHIP"0805"1/8WJ6.8K OHM	10	R105,114,205,214,305,314,405,414 R395,495
RES-103-0805-J	RESISTOR	CHIP"0805"1/8WJ10K OHM	18	R108,109,110,111,112,208,210,211,212,308,R309,310,311,312,408,410,411,412
RES-223-0805-J	RESISTOR	CHIP"0805"1/8WJ22K OHM	4	R116,216,316,416
RES-104-0805-J	RESISTOR	CHIP"0805"1/8WJ100K OHM	2	R129,229
RES-681-0805-J	RESISTOR	CHIP"0805"1/8WJ680 OHM	4	R107,207,307,407
RES-472-0805-J	RESISTOR	CHIP"0805"1/8WJ4.7K OHM	4	R106,206,306,406
RES-512-0805-J	RESISTOR	CHIP"0805"1/8WJ5.1K OHM	2	R396,496
RES-105-0805-J	RESISTOR	CHIP"0805"1/8WJ1M OHM	2	R397,497
3B20Kx2	LEVEL,BASS POT	RM1221G1PA2-5-B20K±10%-G	3	VR101,301,303
15C50Kx4	FREQ POT	RM1241G1PA2-5-C50K-G	2	VR102,302
RET94011/8-F	THERMISTOR	NTC, 50KOHMFTD5-350	1	TH01
Capacitors - see legend last page				
CAP050220-C	CAPACITOR	CERAMIC DISK 50V "NPO"22pF	4	C172,272,372,472
CAP050101-C	CAPACITOR	CERAMIC DISK 50V "NPO"100pF	12	C132,142,151,232,242,251,332,342,351,432,C442,451
CAP050473-C	CAPACITOR	CERAMIC DISK 50V 473pF	5	C33,53,63,200,400
CAP050104-C	CAPACITOR	CERAMIC DISK 50V 104pF	7	C03,22,60,71,72,74 C31
CAP050102-C	CAPACITOR	CERAMIC DISK 50V 102pF	4	C121,221,321,421
CAP0502R2-E-1	CAPACITOR	ELECTROLYTIC"SHL"2.2μF/50V	4	C120,220,320,420
CAP025100-E	CAPACITOR	ELECTROLYTIC"SHL"10μF/25V	1	C15
CAP016220-E	CAPACITOR	ELECTROLYTIC"SHL"22μF/16V	1	C65,
CAP0504R7-E	CAPACITOR	ELECTROLYTIC"SHL"4.7μF/50V	8	C131,141,231,241,331,341,431,441
CAP016470-E	CAPACITOR	ELECTROLYTIC"SHL"47μF/16V	1	C14
CAP025470-E	CAPACITOR	ELECTROLYTIC"SHL"47μF/25V	1	C16
CAP050470-E	CAPACITOR	ELECTROLYTIC"SHL"47μF/50V	2	C57,67
CAP016101-E	CAPACITOR	ELECTROLYTIC"SHL"100μF/16V	8	C11,12,13,171,181,271,371,471
CAP025101-E	CAPACITOR	ELECTROLYTIC"SXE"100μF/25V	1	C02
CAP016331-E	CAPACITOR	ELECTROLYTIC"SHL"330μF/16V	4	C191,291,391,491
CAP016100-E	CAPACITOR	ELECTROLYTIC "SHL"10/16V	1	C06
CAP100102-M	CAPACITOR	MYLAR 5% 100V102J	1	C21
CAP100222-M	CAPACITOR	MYLAR 5% 100V222J	1	C08
CAP100473-M	CAPACITOR	MYLAR 5% 100V473J	4	C140,240,340,440
CAP100104-M	CAPACITOR	MYLAR 5% 100V104J	5	C01,161,261,361,461
CAP063105-M	CAPACITOR	MYLAY 5% 63V "TL"105J	1	C32
CAP0035471-E	CAPACITOR	ELECTROLYTIC"SHL"470μF/35V (D)10x(L)16m/m	2	C51,61
CAP025332-E	CAPACITOR	ELECTROLYTIC 3300μF/25V (D)18x(L)25m/m	2	C04,05
CAP035332-E	CAPACITOR	ELECTROLYTIC 3300μF/35V (D)18x(L)25m/m	2	C52,62
CAP050100-0805	CAPACITOR	CHIP"0805"10pF	4	C105,205,305,405
CAP050220-0805	CAPACITOR	CHIP"0805"22 p F	10	C103,104,126,203,204,226,303,304,403,404
CAP050470-0805	CAPACITOR	CHIP"0805"47pF	8	C107,111,207,211,307,311,407,411
CAP050220-0805	CAPACITOR	CHIP"0805"100 p F	2	C393,493
CAP050104-0805	CAPACITOR	CHIP"0805"104 p F	4	C209,210,409,410
CAP016220-E	CAPACITOR	ELECTROLYTIC "SHL"22/16V	8	C101,102,201,202,301,302,401,402
CAP016100-E	CAPACITOR	ELECTROLYTIC "SHL"10/16V	8	C100,125,200,225,300,325,400,425
CAP0504R7-E-1	CAPACITOR	ELECTROLYTIC "SHL"4.7/50V	2	C128,228
CAP100823-M	CAPACITOR	MYLAR 5% 100V823J	8	C113,115,213,215,313,315,413,415
CAP100183-M	CAPACITOR	MYLAR 5% 100V183 J	2	C392,492
CAP100104-M	CAPACITOR	MYLAR 5% 100V104 J	2	C391,491
CAP050471-0805	CAPACITOR	CHIP"0805"470PF	2	C127,227

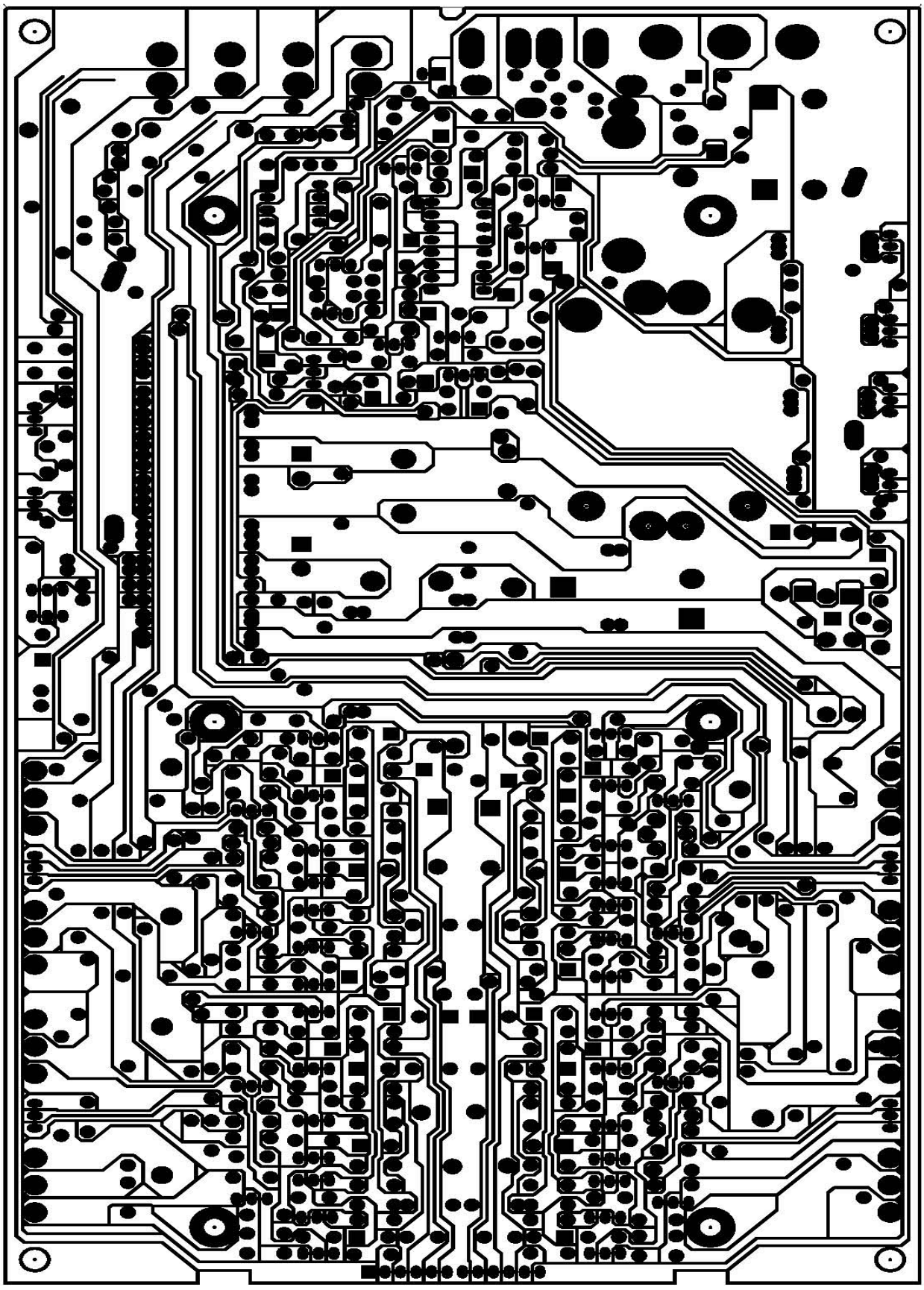
Part Number	Description		Qty	Reference Designator
Miscellaneous				
CORECL-310	INDUCTOR	DRUM COIL CL-310	1	L01
CORECL-500	INDUCTOR	DRUM COILCL-500	2	L03,02
CORE-GT604	TRANSFORMER	40PHI ISU6T(0.7X15) : 13T(0.7X5)	1	T01
20PWF-9404	FUSE HOLDER	PCB TYPE,2PWF-9604	1	for FH01
FUSE-20A	FUSE	FUSE 20A	1	FH01
JUMPER-17MM	JUMPER	CU BAR JUMPER,Ni-PLATED17m/m	1	BJ02
JUMPER-25MM	JUMPER	BAR JUMPER,Ni-PLATED25m/m	1	BJ01
JUMPER-55MM	JUMPER	BAR JUMPER,Ni-PLATED55m/m	2	BJ03,04
TER-3P	3P TERMINAL	PLATED,3P,POWER JSZ3-02	1	TER01
TER-8P	8P TERMINAL	NICKEL PLATED,8P JSZ8-04 SPEAKERS	1	TER02
PLAL0640-02P	2P NEILSBED	WAFERLWL0640-02	1	CON1
W-100MM	GROUND	AWG #22 BLACK 3.2PHI RING RUG100m/m	1	W1
LWL0640-12	12PNEILSBED	12P LWL0640-12	1	CON5-B
FIBER6-200	SLIP	200.0×6.0×0.5t	0.7	FOR TR
FIBER8-200	SLIP	200.0×8.0×0.5t	0.4	FOR FET
CORE-SMT-12	INDUCTOR	CHIP"0805"2MHZ,12UH(+/-10%)	2	L128,228
AV2-8.4-13A	DUAL RCA JACK	PLATED(TOP:RED, BOTTOM:WHITE)AV2-8.4-13A	1	RCA2
AV4-8.4-13A-1	QUAD RCA JACK	PLATED(TOP:RED, BOTTOM:WHITE)AV4-8.4-13A	1	RCA1
W-12-80MM	12P CONN WIRE	AWG #24, CHL0640-12 to CHL0640-12 80m/m	1	CON5
3PJSS-2308A	SWITCH	SLIDE SWITCH,2C-3PJSS-2308A HP/LP/FLAT	2	SW101,301
HEA-GT604	HEATSINK	AL/Die-casting L=290.0mm	1	BLACK SPRAY
END CAP	END CAP	ABS(XR401)	2	SILVER(8400C) SPRAY END CAP
PAN-FGT604	FRONT PANEL	EGI,1.2t	1	BLACK SPRAY / SILVER SILK 1°
PAN-RGT3001	REAR PANEL	EGI,1.2t	1	BLACK SPRAY / SILVER SILK 1°
BOTC-GT604	BOTTOM COVER	SECC,1.0t	1	BLACK SPRAY
LOGO-B-PC	LOGO BADGE	PC(ORANGE CLEAR)	1	HOT STAMPING
BSBM-32	STANDOFF	BSBM H5, L=32.1mm	2	MAIN PCB+SUB PCB+HEATSINK
JIG-96-15	TRANS CLAMP	SPCC 96x15x3(mm)	2	WITH SLIP 48.152.0950140011
JIG-61-15	TRANS CLAMP	SPCC 61x15x3(mm)	1	WITH SLIP 48.152.0600140011
JIG-30-15	TRANS CLAMP	SPCC 30x15x3(mm)	1	WITH SLIP 48.152.0280130011
PAD-70-23	SILICON PAD	(SP1000)70.0X23.0x0.2t	1	
PAD-105-23	SILICON PAD	(SP1000)105.0X23.0x0.2t	2	
FELT-12-7	WEAVE	FELT, 12.0x7.0x0.3t	2	
RUB10-10-2	RUBBER	RUBBER,10.0x10.0x2.0t	4	
FIBER70-148	SLIP	FIBER 148x70x0.5t	1	SUB PCB
SCR-BH3-8BK	SCREW	STT2 BH 3x8 BK	5	RCA(2),TERMINAL(3)
SCR-PH3-8BK	SCREW	STT2 PH 3x8 BK	1	FUSE(1)
SCR-BH3-6NI	SCREW	STT2 BH 3x6 NI-P	1	FET
SCR-MB3-6NI	SCREW	SMB 3x6 NI-P	8	PCB+HEATSINK(6), PCB SUPPORT(2)
SCR-FH3-8BK	SCREW	STT3 FH 3x8 BK	8	PANEL+HEATSINK(8) SIDE
SCR-MB3-6BK	SCREW	SMB 3x6 BK	8	PANEL+HEATSINK(2) TOP HEAT SINK +BOTTOM COVER(6)
SCR-BH3-5NI	SCREW	STT2 BH 3X5 NI WASHER	2	BADGE
SCR-MB4-14NI	SCREW	SMB 4X14NI LOCK HEAD	7	TR BRACKET

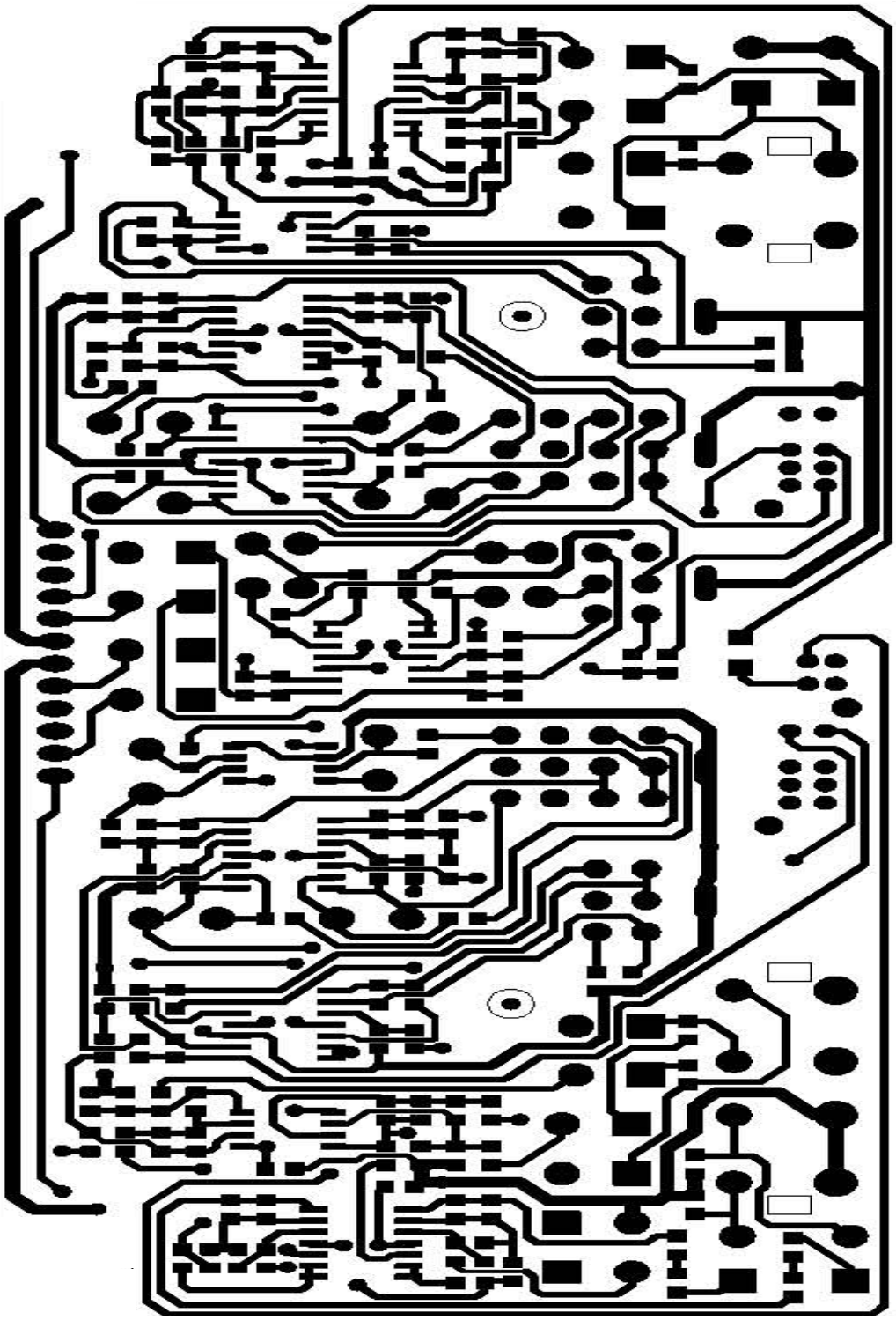
General Capacitance Codebreaker Chart

pico-farad (pF)	nano-farad (nF)	micro-farad (mF,uF or mfd)	capacitance code
1000	1 or 1n	0.001	102
1500	1.5 or 1n5	0.0015	152
2200	2.2 or 2n2	0.0022	222
3300	3.3 or 3n3	0.0033	332
4700	4.7 or 4n7	0.0047	472
6800	6.8 or 6n8	0.0068	682
10000	10 or 10n	0.01	103
15000	15 or 15n	0.015	153
22000	22 or 22n	0.022	223
33000	33 or 33n	0.033	333
47000	47 or 47n	0.047	473
68000	68 or 68n	0.068	683
100000	100 or 100n	0.1	104
150000	150 or 150n	0.15	154
220000	220 or 220n	0.22	224
330000	330 or 330n	0.33	334
470000	470 or 470n	0.47	474



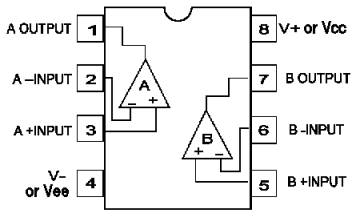

CON5-B
LWL0640-12
NJM2058M
AV4-8.4-13A
AV2-8.4-13A
20KB*2
50KC*4
JSS-2308A
L-H322005GB
HP/LP/AP



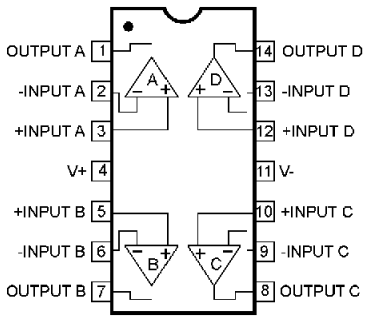


Semiconductors

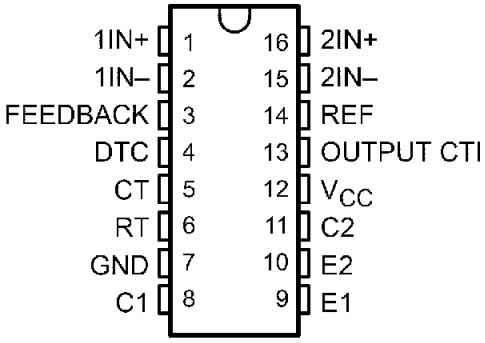
NJM2068L DUAL OP-AMP
KAI393 COMPARATOR
U102,105,302
U71



NJM2058M QUAD OP-AMP
U101,103,104,301,303,304,305

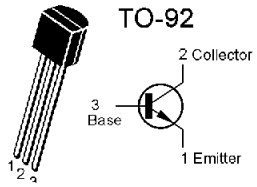


TL494CN PWM
U01



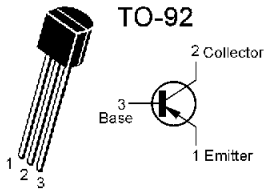
KTC3200 Q151,251,351,451,
140,240,340,440
KTC1027Y Q134,234,334,434
KTC3198 Q02,21,55,131,132,143,181,231,232,
243,Q281,331,332, 343,431,432,443

TO-92



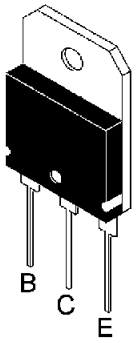
KTA1268 Q22
KTA1023 Q144,244,344,444
KTA1266 Q11,12,23,33,133,141,142,233,
241,242,333,341,342,433,441,442

TO-92



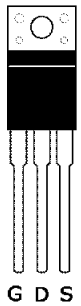
KTD718 Q135,235,335,435
KTB688 Q145,245,345,445

TO-218



KMB050N60P MOSFET
Q43,44,53,54

TO-220



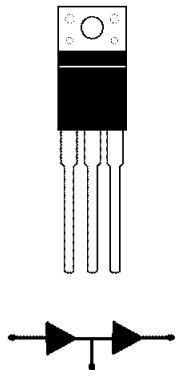
KSA1220A
Q01

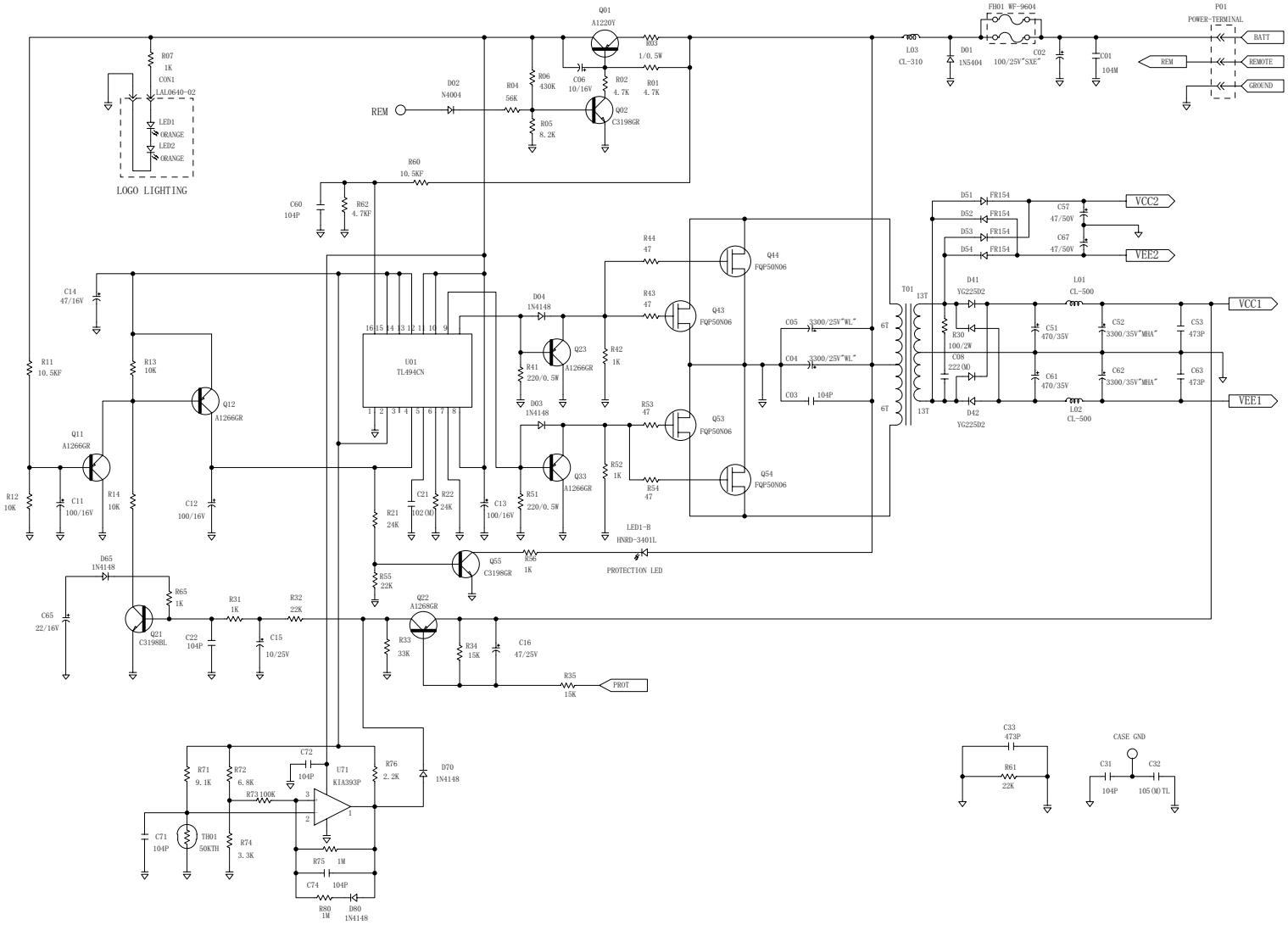
TO-126

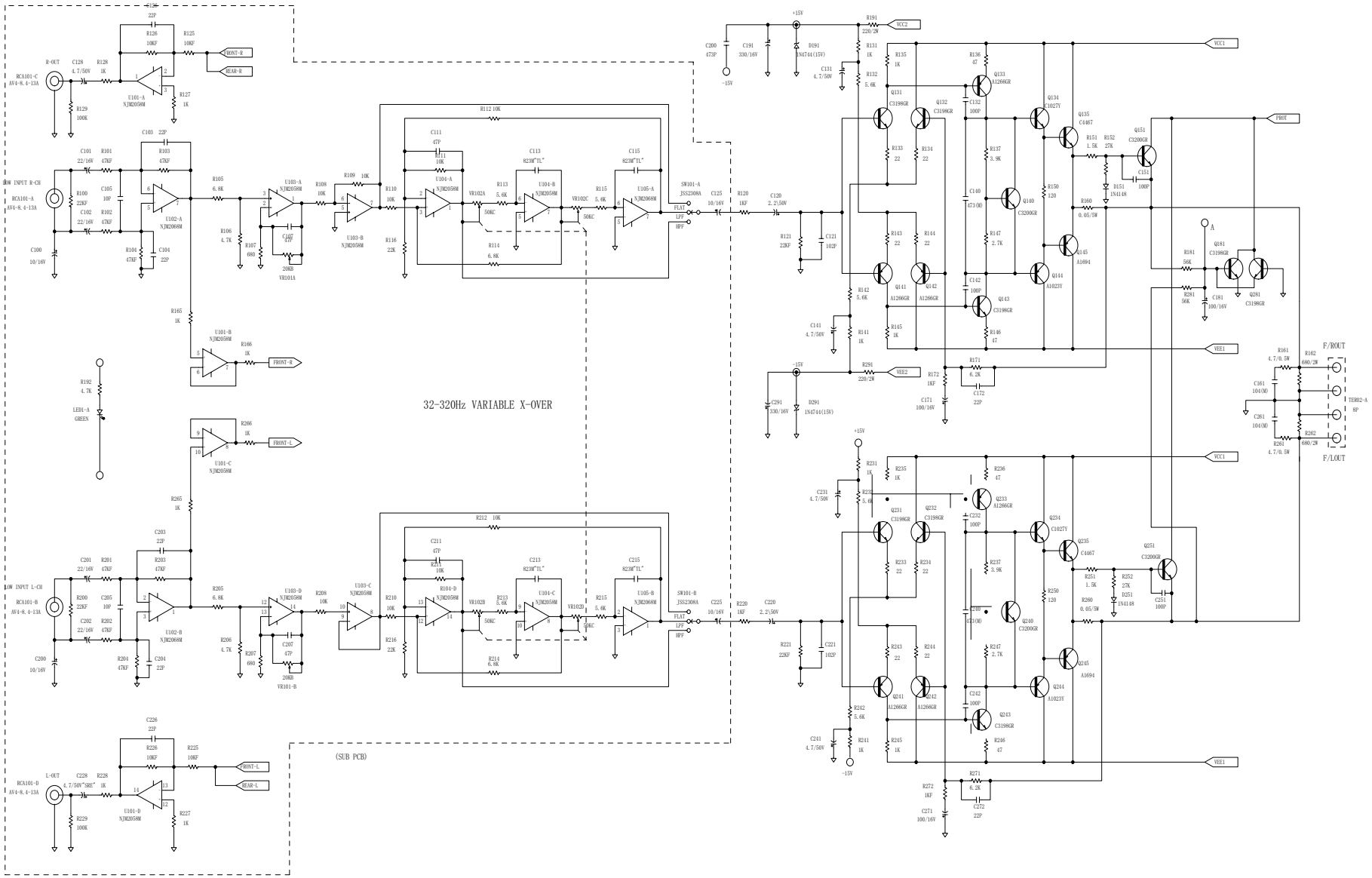
1. Emitter
2. Collector
3. Base

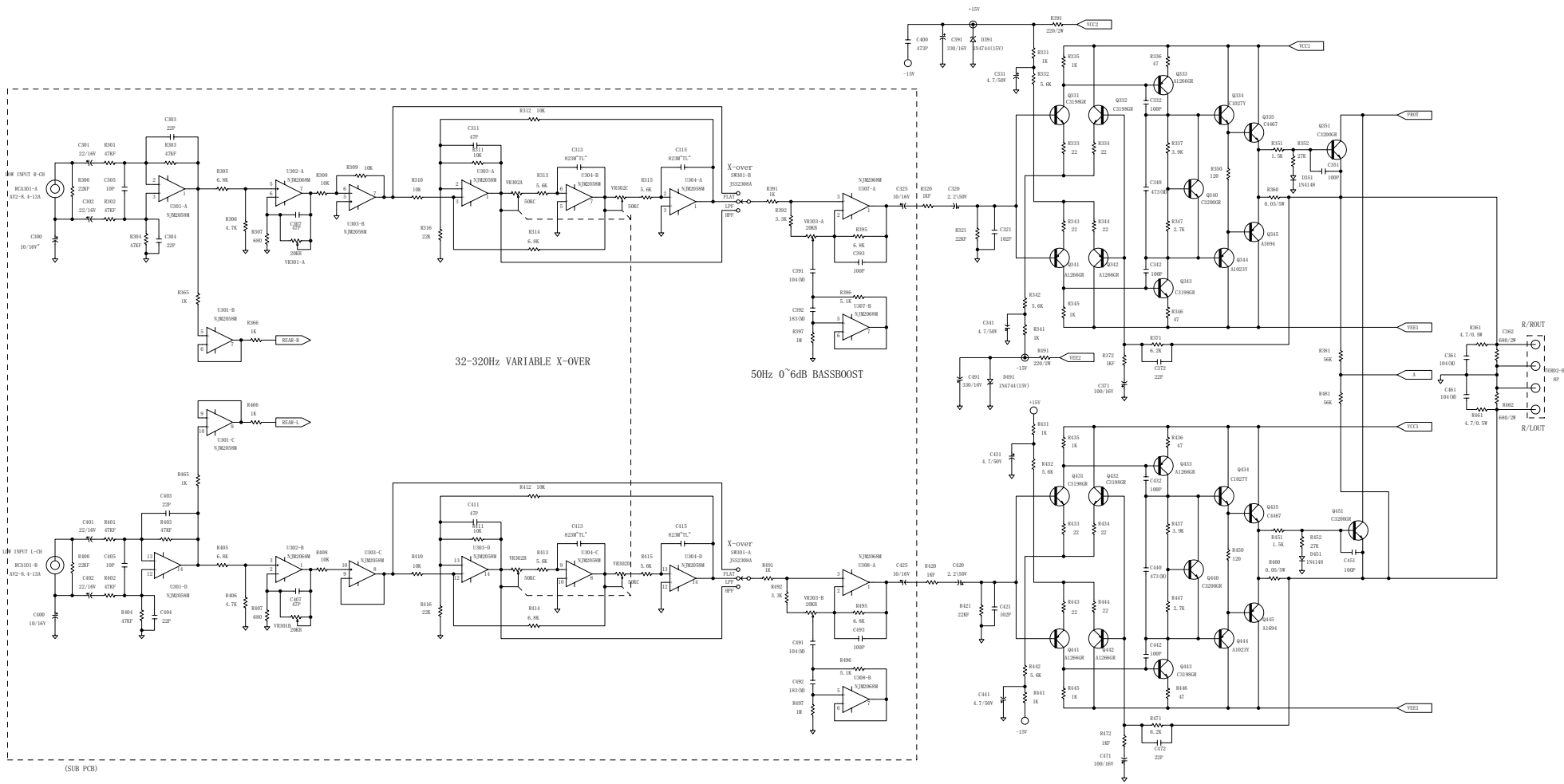
YG225D2
DUAL DIODE
D41,42

TO-220




Q01
A1220Y
R03
1/0.5W
FH01 WF-9604
P01
POWER-TERMINAL
L03
CL-310
D01
1N5404
C02
100/25V"SXE"
C01
104M
BATT
REM
REMOTE
GROUND
R07
1K
CON1
LAL0640-02
LED1
ORANGE
LED2
ORANGE
LOGO LIGHTING
D02
N4004
R04
56K
R06
430K
C06
10/16V
R02
4.7K
R01
4.7K
Q02
C3198GR
R05
8.2K
R60
10.5KF
C60
104P
R62
4.7KF
D51
FR154
D52
FR154
D53
FR154
D54
FR154
C57
47/50V
C67
47/50V
VCC2
VEE2
R44
47
Q44
FQP50N06
C14
47/16V
D04
1N4148
R43
47
Q43
FQP50N06
T01
13T
D41
YG225D2
L01
CL-500
VCC1
U01
TL494CN
Q23
A1266GR
R41
220/0.5W
R42
1K
D03
1N4148
R53
47
Q53
FQP50N06
C05
3300/25V"WL"
C04
3300/25V"WL"
C03
104P
6T
6T
13T
R30
100/2W
C08
222(M)
D42
YG225D2
L02
CL-500
C51
470/35V
C52
3300/35V"MHA"
C53
473P
C61
470/35V
C62
3300/35V"MHA"
C63
473P
VEE1
R11
10.5KF
R13
10K
Q12
A1266GR
Q11
A1266GR
R12
10K
C11
100/16V
R14
10K
C12
100/16V
R52
1K
Q33
A1266GR
R54
47
Q54
FQP50N06
C21
102(M)
R22
24K
C13
100/16V
R51
220/0.5W
R21
24K
LED1-B
HNRD-3401L
PROTECTION LED
R55
22K
Q55
C3198GR
R56
1K
D65
1N4148
R65
1K
Q21
C3198BL
C65
22/16V
R31
1K
R32
22K
C22
104P
C15
10/25V
Q22
A1268GR
R33
33K
R34
15K
C16
47/25V
R35
15K
PROT
C33
473P
R61
22K
CASE GND
C31
104P
C32
105(M)TL
C72
104P
U71
KIA393P
R71
9.1K
R72
6.8K
R73
100K
R76
2.2K
D70
1N4148
C71
104P
TH01
50KTH
R74
3.3K
R75
1M
C74
104P
R80
1M
D80
1N4148


32-320Hz VARIABLE X-OVER
(SUB PCB)
LOW INPUT R-CH
LOW INPUT L-CH
FRONT-R
REAR-R
FRONT-L
REAR-L
F/ROUT
F/LOUT
VCC1
VCC2
VEE1
VEE2
+15V
-15V


LOW INPUT R-CH
LOW INPUT L-CH
RCA301-A
RCA101-B
AV2-R, 4-13A
U301-A NJM2058M
U301-B NJM2058M
U301-C NJM2058M
U301-D NJM2058M
U302-A NJM2068M
U302-B NJM2068M
U303-A NJM2058M
U303-B NJM2058M
U303-C NJM2058M
U303-D NJM2058M
U304-A NJM2058M
U304-B NJM2058M
U304-C NJM2058M
U304-D NJM2058M
U307-A NJM2068M
U307-B NJM2068M
U308-A NJM2068M
U308-B NJM2068M
VR302A
VR302B
VR302C
VR302D
VR303-A 20KB
VR303-B 20KB
VR301A 20KB
VR301B 20KB
VR301-A 20KB
X-over SW301-B JSS2308A
X-over SW301-A JSS2308A
FLAT
LPF
HPF
REAR-R
REAR-L
32-320Hz VARIABLE X-OVER
50Hz 0~6dB BASSBOOST
(SUB PCB)
+15V
-15V
VCC2
VCC1
VEE1
VEE2
FRONT
A
R/ROUT
R/LOUT
SW302-B 8P
Q331 C3198GR
Q332 C3198GR
Q333 A1266GR
Q334 C1027Y
Q335 C4467
Q340 C3200GR
Q341 A1266GR
Q342 A1266GR
Q343 C3198GR
Q344 A1023T
Q345 A1694
Q351 C3200GR
Q431 C3198GR
Q432 C3198GR
Q433 A1266GR
Q434 C1027Y
Q435 C4467
Q440 C3200GR
Q441 A1266GR
Q442 A1266GR
Q443 C3198GR
Q444 A1023T
Q445 A1694
Q451 C3200GR
D391 1N4744(15V)
D491 1N4744(15V)
D351 1N4148
D451 1N4148