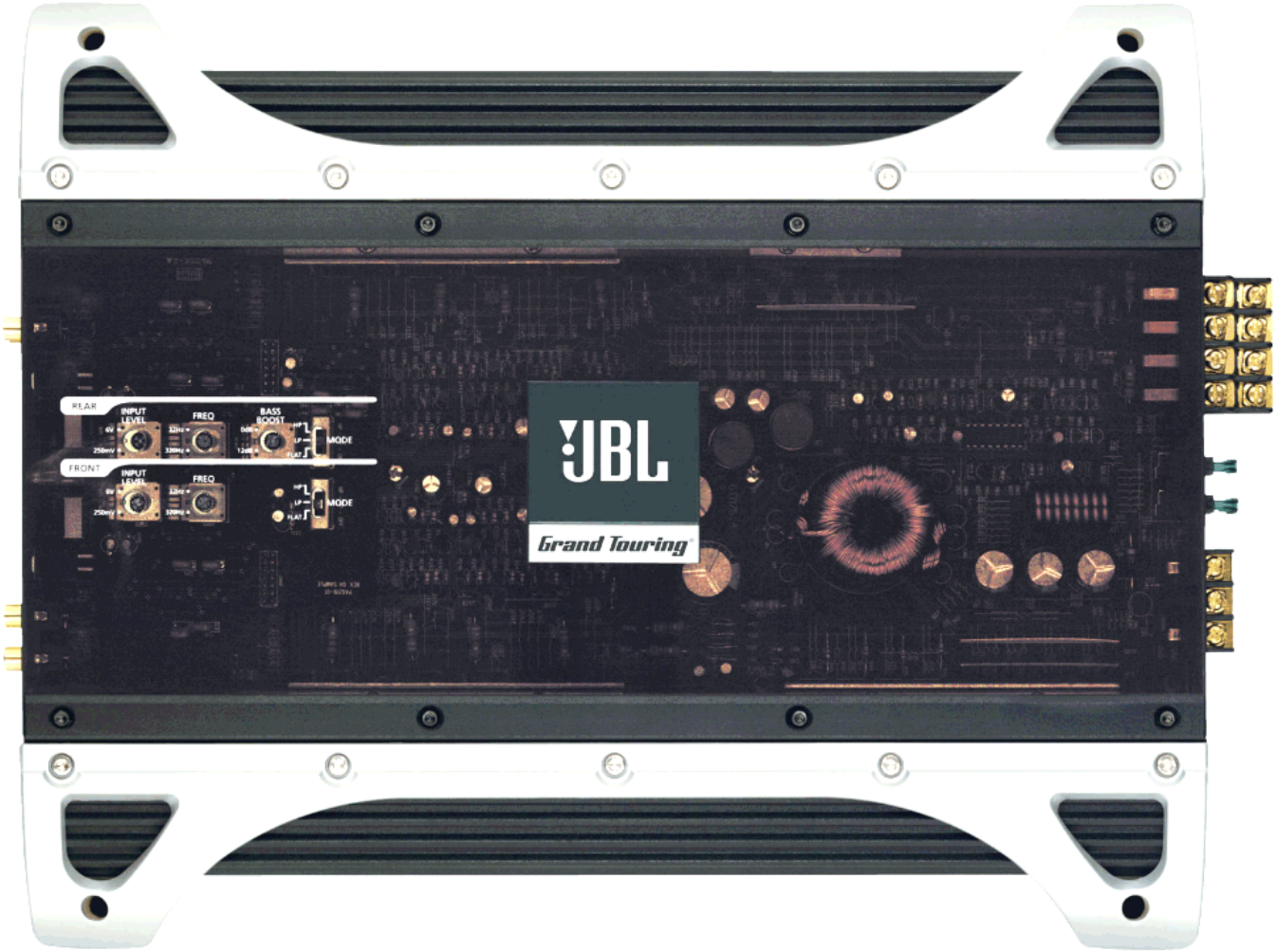
GTO Series
75.4
75.4II

4 CHANNEL POWER AMPLIFIER

SERVICE MANUAL



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

Rev3 10/2005

- CONTENTS -

GTO 75.4/75.4II Specifications

Output Power:	104W RMS x 4 channels @ 4 ohms; ≤1% THD + N
(14.4V supply)	142W RMS x 4 channels @ 2 ohms; ≤1% THD + N
	284W RMS x 2 channels @ 4 ohms; ≤1% THD + N
Signal-to-noise ratio:	80dBA (reference 1W into 4 ohms)
Dynamic power:	163W @ 2 ohms
Effective damping factor:	6.38 @ 4 ohms
Frequency response:	10Hz – 83kHz (–3dB)
Maximum input signal:	5.8V
Maximum sensitivity:	GTO 75.4 - 230mV
	GTO 75.4II - 75mV
DC Offset	<50Mv (-50%)
Output regulation:	.069dB @ 4 ohms
Idle Current	1.3A
Input Impedance	22kΩ
Max Current Draw	52A @ 4 ohms
	83A @ 2 ohms
Dimensions:	15 1/8 x 12 5/16 x 2 3/8" (L x W x D)
	(384mm x 313mm x 60mm)
Fuses:	30A x 2

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.

features

- 4-Channel Operation
- Advanced MOSFET Oversized Floating Rail Power Supply
- Floating Ground Factory - Head - Unit Speaker - Level input
- Variable Input Sensitivity (250mV - 6V)
- Fully Complementary Output Stage with Class-AB Voltage Amplification
- Gold-plated Power, Input and Output Connectors
- 2-Ohm Stable (Stereo)

Test Conditions and Notes

- All tests to be done, unless otherwise specified, from 10Hz to 83KHz at 14.4V DC into 4 ohm loads and adjust the units gain so that with a .250 volt input signal the unit is at Its maximum rated output. All measurements will be done using an Audio precision system one and the supply voltage.

- An A+ line voltage of 14.4V DC shall be applied to the unit under test for all measurements unless otherwise specified. The voltage applied to the unit shall be measured at the power connection on the Amplifier.

- Signal Source
  Unless otherwise specified, all tests shall be conducted with the Audio Signal Generator output configured to be balanced, less than or equal to 50 ohm source impedance, and floating. The signal source "GND" shall be connected to the Amplifier PWR GND at the Amplifier.

- Output Load
  Unless otherwise specified, all tests shall be conducted with 4 ohm resistive loads having less than 10% reactive components at any frequency below 83KHz. Each resistor shall have a value that remains within 1% while dissipating the rated output of the unit under test.

- Power Indicator Green LED steadily illuminates for normal operation. Illuminates up Red LED blinks when protection circuitry is engaged, and during power up.

INSTALLATION

WARNING: Playing loud music in an automobile can hinder your ability to hear traffic and permanently damage your hearing. We recommend listening at low or moderate levels while driving your car. JBL accepts no liability for hearing loss, bodily injury or property damage resulting from the use or misuse of this product.

IMPORTANT: To get the best performance from your JBL Grand Touring® Series amplifiers, we strongly recommend that installation be entrusted to a qualified professional. Although these instructions explain how to install GTO amplifiers in a general sense, they do not show specific installation methods that may be required for your particular vehicle. If you do not have the necessary tools or experience, do not attempt the installation yourself. Instead, please ask your authorized JBL car audio dealer about professional installation.

INSTALLATION WARNINGS AND TIPS

- Always wear protective eyewear when using tools.
- Turn off the audio system and other electrical devices before you start. Disconnect the (–) negative lead from your vehicle's battery.
- Check clearances on both sides of a planned mounting surface before drilling any holes or installing any screws. Remember that the screws can extend behind the surface.
- 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.
- Before drilling or cutting holes, use a utility knife to remove unwanted fabric or vinyl to keep material from snagging in a drill bit.
- When routing cables, keep input-signal cables away from power cables and speaker wires.
- When making connections, make certain they are secure and properly insulated.
- If the amplifier's fuse must be replaced, use only the same type and rating as that of the original. Do not substitute another kind.

CHOOSING A LOCATION AND MOUNTING THE AMPLIFIER

Choose a mounting location in the trunk or cargo area where the amplifier will not be damaged by shifting cargo. Amplifier cooling is essential for proper amplifier operation. If the amplifier is to be installed in an enclosed space, make sure there is sufficient air circulation for the amplifier to cool itself.

When mounting the amplifier under a seat, ensure that it is clear of all moving seat parts and does not affect the seat adjustments. Mount the amplifier so it is not damaged by the feet of backseat passengers. Make sure that the amplifier is mounted securely using nuts and bolts or the supplied mounting screws.

Mount the amplifier so that it remains dry – never mount an amplifier outside the vehicle or in the engine compartment.

POWER CONNECTIONS

The GTO amplifiers are capable of delivering extremely high power levels, and require a heavy-duty and reliable connection to the vehicle's electrical system in order to perform optimally. See Figure 1 for connection location. Please adhere to the following instructions carefully:

Ground Connection

Connect the amplifier's Ground (GND) terminal to a solid point on the vehicle's metal chassis, as close to the amplifier as possible. Refer to the chart below to determine minimum wire-gauge size. Scrape away any paint from this location; use a star-type lock washer to secure the connection.

Power Connection

Connect a wire (see chart at right for appropriate gauge) directly to the vehicle's positive battery terminal, and install an appropriate fuse holder within 18" of the battery terminal. *Do not install the fuse at this time.* Route the wire to the amplifier's location, and connect it to the amplifier's Positive (+12V) terminal. Be sure to use appropriate grommets whenever routing wires through the firewall or other sheet metal. *Failure to adequately protect the positive wire from potential damage may result in a vehicle fire.* When you are done routing and connecting this wire, you may install the fuse at the battery.

Remote Connection

Connect the amplifier's Remote (REM) terminal to the source unit's Remote Turn-On lead using a minimum of 18-gauge wire.

NOTE: When using the speaker level inputs, connect the remote (REM) terminal to the source unit. If your source unit does not have a remote turn-on connection, connect the amplifier's (REM) terminal to the vehicle's accessory circuit.

Speaker Connections

Refer to the application guides on the pages that follow. Speaker connections should be made using a minimum of 16-gauge wire.

High-Level Input Connections

The GTO75.4 and GTO75.4II amplifiers are equipped with speaker-level inputs that allow you to add an amplifier to head units that do not have RCA line outputs. The speaker outputs for the source unit should be connected to the amplifier using the supplied connector (square four-wire plug). Remember to check for proper polarity.

NOTE: When using the high-level inputs, the AUX outputs can be used to pass a line-level signal to another amplifier.

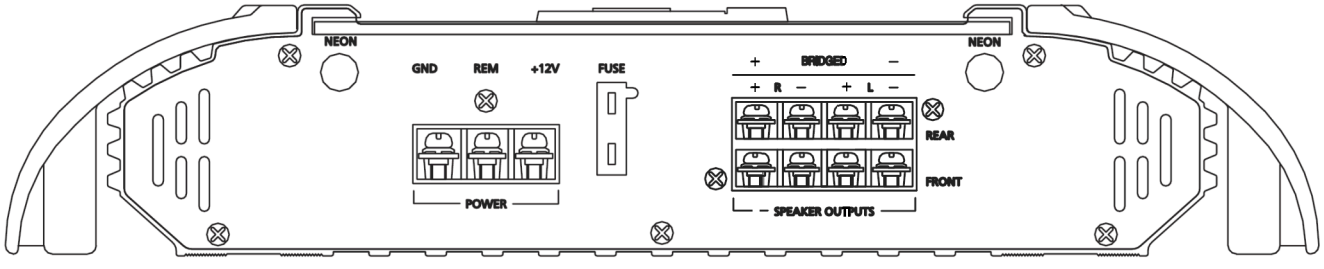
Wire Gauge Chart

Amplifier Model	Maximum Current Draw	Minimum Wire Gauge
GTO75.4	85A	#8 AWG

These recommendations assume 7' – 10' wire runs. If your installation differs markedly, you will need to adjust the wire gauge accordingly.

IMPORTANT NOTE: If you are planning to use optional neon tubes, install them before making any electrical connections to the amplifier (refer to"Installing Neon Tubes" on page 5).

Figure 1. Terminal connection end plate.



CONNECTIONS – GTO 75.4/75.4II

The GTO 75.4/75.4II can be set up for stereo 4-channel, 3-channel or bridged 2-channel operation, as shown in **Figures 6 through 8**.

NOTE: For simplicity, Figures 6 through 8 do not show power, remote and input connections.

NOTE: Minimum speaker impedance for stereo operation is 2 ohms. Minimum speaker impedance for bridged operation is 4 ohms.

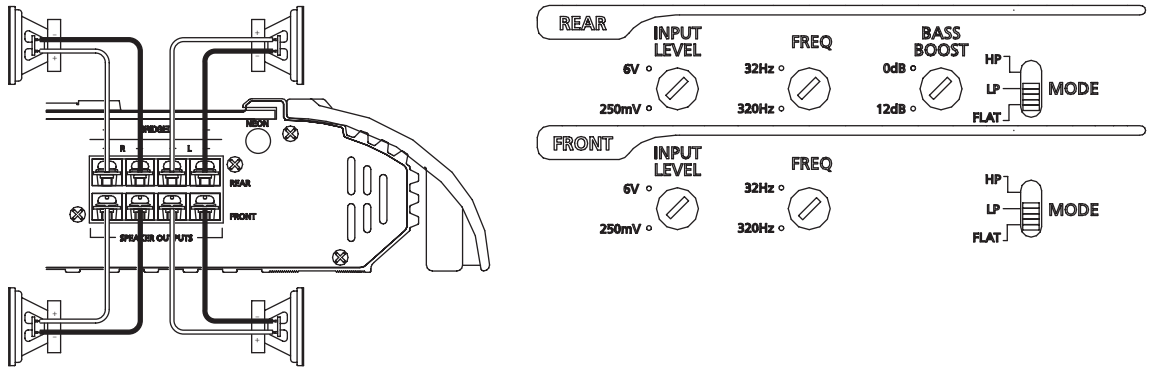


Figure 6.GTO 75.4/75.4II amplifier in 4-channel (stereo) operation to drive front and rear full-range speakers.

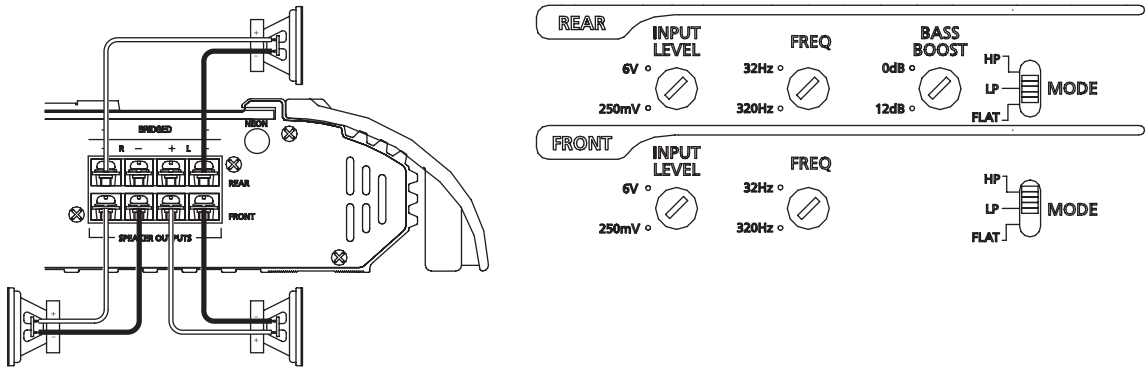


Figure 7.GTO 75.4/75.4II is set up for 3-channel operation to drive a set of full-range speakers and a subwoofer.

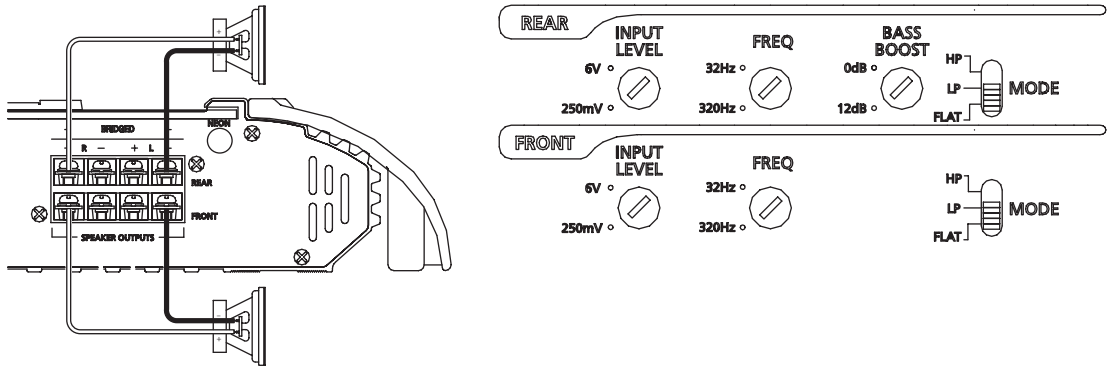


Figure 8.GTO 75.4/75.4II used in bridged 2-channel mode to drive a set of components or subwoofers.

INSTALLATION AND SETUP

SETTING THE CROSSOVER(S)

Determine your system plans and set the crossover mode switch accordingly. If you plan to use the GTO 75.4/75.4II to drive full-range speakers, set the crossover mode to FLAT and skip to "Setting Input Sensitivity."

Initially set the crossover frequency control midway. While listening to music, adjust the crossover for the least perceived distortion from the speakers, allowing them to reproduce as much bass as possible.

Systems using a separate subwoofer set the crossover mode to HP (high pass) for your full-range speakers. Adjust the crossover frequency to limit bass and provide increased system volume with less distortion.

For subwoofers, choose the highest frequency that removes vocal information from the sound of the subwoofer.

If using the GTO 75.4/75.4II to drive a subwoofer(s), set the crossover mode to LP (low pass).

SETTING INPUT SENSITIVITY

1. Initially turn the INPUT LEVEL control(s) to minimum (counter clockwise).
2. Reconnect the (–) negative lead to the vehicle's battery. Apply power to the audio system and play a dynamic music track.
3. On the source unit, increase the volume control to 3/4 volume. Slowly increase the INPUT LEVEL control(s) toward three o'clock until you hear slight distortion in the music. Then reduce the INPUT LEVEL slightly until distortion is no longer heard.

NOTE: After the source unit is on, red LEDs (on the top panel) will light, indicating the amplifier is on. If not, check the wiring, especially the remote connection from the source unit. Also refer to "Troubleshooting" on the next page.

AUX OUTPUT

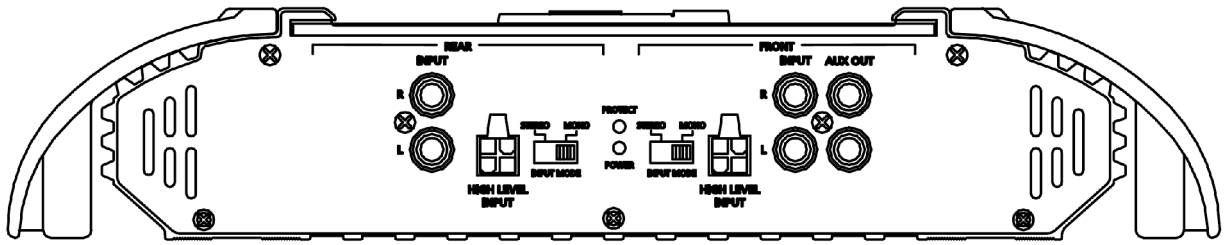
GTO 75.4/75.4II amplifiers are equipped with full-range outputs that can be used to connect additional amplifiers.

NOTE: When using the high-level inputs, the AUX outputs can be used to pass a line-level signal to another amplifier.

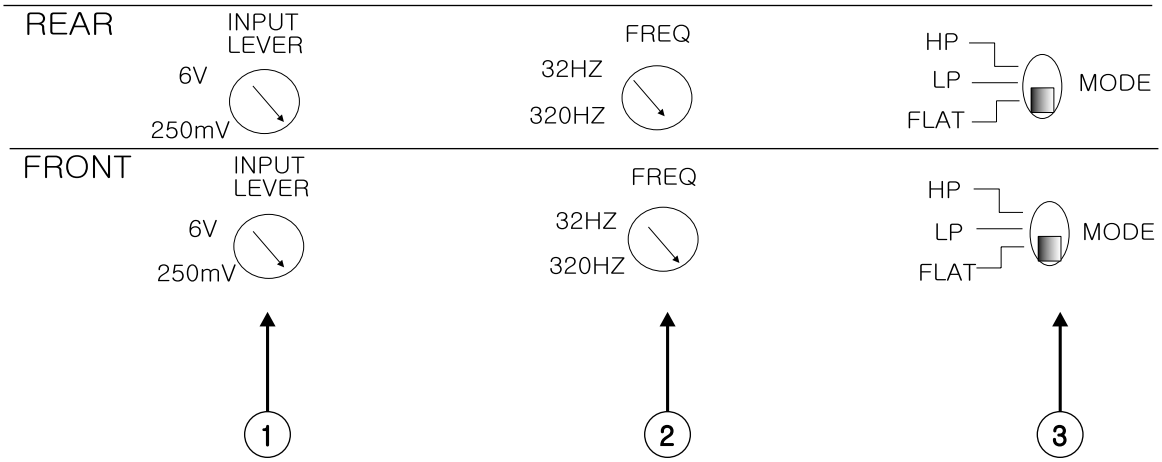
INSTALLING NEON TUBES (OPTIONAL)

1. Using a Phillips screwdriver, remove all screws on the amplifier's output/power end panel and set them aside.
2. Using a 3/32-inch Allen wrench, remove only the screws on the amplifier's (top) clear cover and set them aside.
3. Remove the end panel and slide the cover off. Set both parts aside.
4. Locate the enclosed hardware bag and remove the four clips. Each clip has a square end and a larger round end. Using a round end, press two clips onto each neon tube (e.g., Street Glow AN9 or equivalent), as shown in **Figure 13**.
5. For each tube, align both clips so the square ends slide onto an exposed extrusion edge, as shown in Figure 9. Do not cover any screw holes. When installed correctly, each neon tube will sit under an extrusion and not be visible when viewed from directly above.
6. Route each neon tube's power cable through its respective NEON hole on the end panel (see **Figure 13**).
7. Slide the cover back into place and re-install its screws. Then, replace the end panel and reinstall its screws.
8. Finish the installation of the neon tubes as instructed in their owner's manual.

Figure 12.



TOP CONTROL



1. Input-Level Control - Adjusts input sensitivity for pre-amp level and speaker level inputs.

2. The crossover frequency can be set at any frequency between 32Hz and 320Hz.

3. This switch allows these two amplifier channels to play full range,low pass,or high pass

INSTALLATION AND SETUP

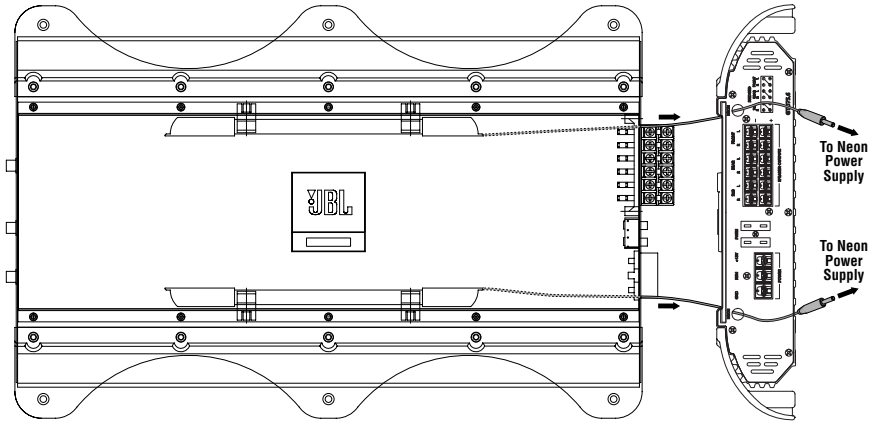
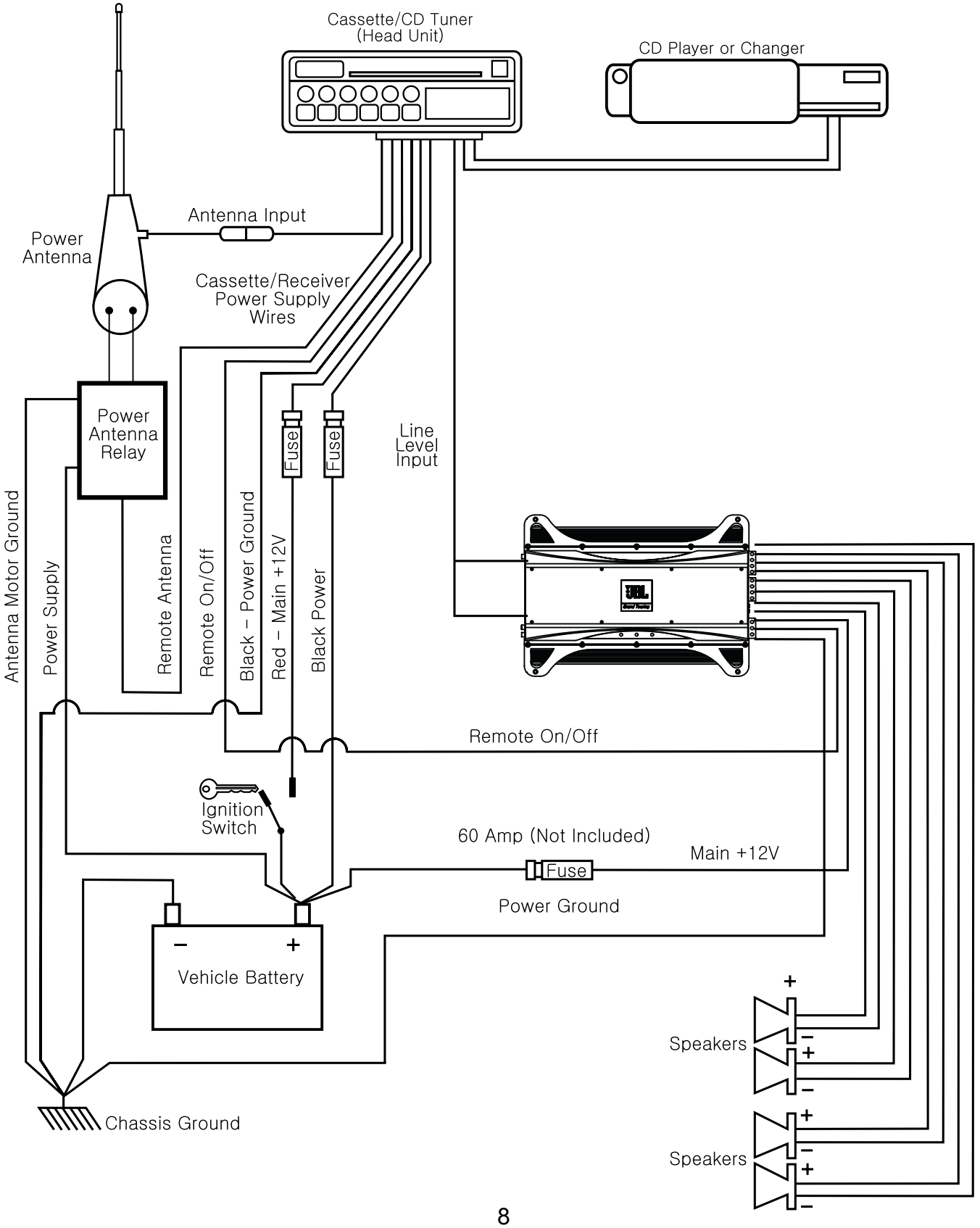


Figure 13. Installing neon tubes in a JBL GTO amplifier.

TROUBLESHOOTING

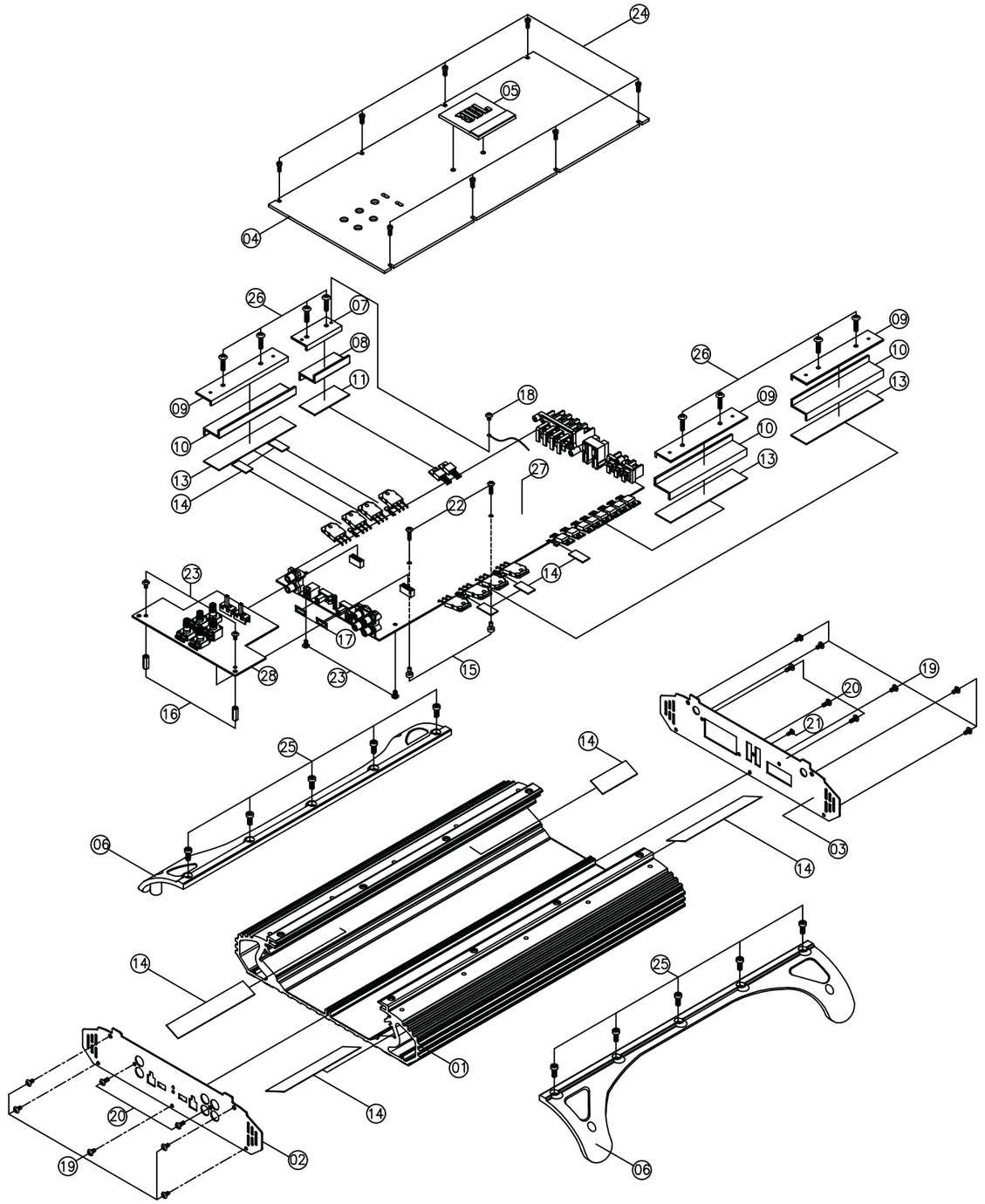
SYMPTOM	LIKELY CAUSE	SOLUTION
No audio (POWER LED is off)	No voltage at BATT+ or REM terminals, or bad or no ground connection	Check voltages at amplifier terminals with VOM
No audio (PROTECT LED flashes every 4 seconds)	DC voltage on amplifier output	Amplifier may need service; see enclosed warranty card for service information
No audio (PROTECT LED is on)	Amplifier is overheated	Make sure amplifier cooling is not blocked at mounting location; verify speaker system impedance is within specified limits (see "Specifications" on the next page)
No audio (PROTECT and POWER LEDs flash)	Voltage less than 9V on BATT+ connection	Check vehicle charging system for defective voltage regulator
No audio (PROTECT LED is on)	Voltage more than 16V or less than 8.5V on BATT+ connection regulator	Check vehicle charging system for defective voltage
Distorted audio	Input sensitivity is not set properly, or amplifier or source unit is defective	Check INPUT LEVEL setting; or check speaker wires for shorts or grounds
Distorted audio and PROTECT LED flashes	Short circuit in speaker or wire	Remove speaker leads one at a time to locate shorted speaker or wire, then repair
Music lacks "punch"	Speakers are not connected properly	Check speaker connections for proper polarity

Typical System Configuration



GTO 75.4/75.4II Exploded View

REVISIONS			
REV	DESCRIPTION	DATE	APRVD
1			
2			
3			



NO	PART NAME	DESCRIPTION	CODE NO.	Q'TY	REMARK
28	SUB PCB ASS'Y	FR-4 ASS'Y	PAS319-01	1	
27	MAIN PCB ASS'Y	FR-1 1.6t ASS'Y	PAM631-01	1	
26	SCREW	SMP 4X14 NI	SC1-NP-40140	8	
25	SCREW	SML 4X10 NI	SC1-NL-40100	10	
24	SCREW	SML 3X8 BK	SC1-BL-30080	8	
23	SCREW	SMB 3X6 NI	SC1-NB-30060	4	
22	SCREW	STT2 BH 3X12 NI	SC5-NB-30120	2	
21	SCREW	STT2 PH 3X8 BK	SC5-BP-30080	1	
20	SCREW	STT2 BH 3X8 BK	SC5-BB-30080	5	
19	SCREW	STT2 BH 3X6 Bk	SC5-BB-30060	10	
18	SCREW	STT2 BH 3X5 NI	SC5-NB-30050	1	
17	SWITCH DECAL	FELT, 15.0X7.0X0.3t	SUB-27-003A0	2	
16	SUPPORT-PCB(B)	BSBM(육각), L=14.0mm(NI)	SUP-02-020A0	2	
15	SUPPORT PCB	NYLON, L=4.8mm	SS-5	2	
14	SILICON-PAD	SP1000, 22.0X0.3t	SIL-34-001A0	400mm	
13	CUSHION-RUBBER	RUBBER, 10.0X20.0X1.6t	SUB-33-001A0	5	
12	CUSHION-TR BRACKET(B)	FIBER, 110.0X22.0X1.0t	SUB-28-001A0	3	
11	CUSHION-TR BRACKET(A)	FIBER, 50.0X22.0X1.0t	SUB-28-084A0	1	
10	BRACKET-TR(D)	SBHG, 110.0X25.5X2.0t	BKT-11-002A0	3	
09	BRACKET-TR(C)	SBHG, 110.0X22.5X2.0t	BKT-11-001A0	3	
08	BRACKET-TR(B)	SBHG, 50.0X25.5X2.0t	BKT-11-010A0	1	
07	BRACKET-TR(A)	SBHG, 50.0X22.5X2.0t	BKT-11-009A0	1	
06	FOOT-MOUNTING	ABS(XR-401)	FOO-21-012AA	2	
05	BADGE	ABS(XR-401)	BAD-21-004AA	1	
04	WINDOW PLATE	ACRYLIC, 3.0t(L=379.5mm)	COV-22-019AA	1	
03	REAR PANEL (GTO75.4)	EGI, 1.2t	PAN-06-252AA	1	
	REAR PANEL (GTO75.4II)		PAN-06-331AA	1	
02	PANEL FRONT	EGI, 1.2t	PAN-06-251AA	1	
01	HEAT SINK MAIN	AL/EXTRUSION(L=380.0mm)	6AA	1	

10 ~ 100	0.1	0.2	0.3
100 ~ 500	0.2	0.3	0.5
500 ~ 1000	0.3	0.5	1.5

DRAW	CHECK	CHECK	APPRO	NAME
				EXPLODE VIEW

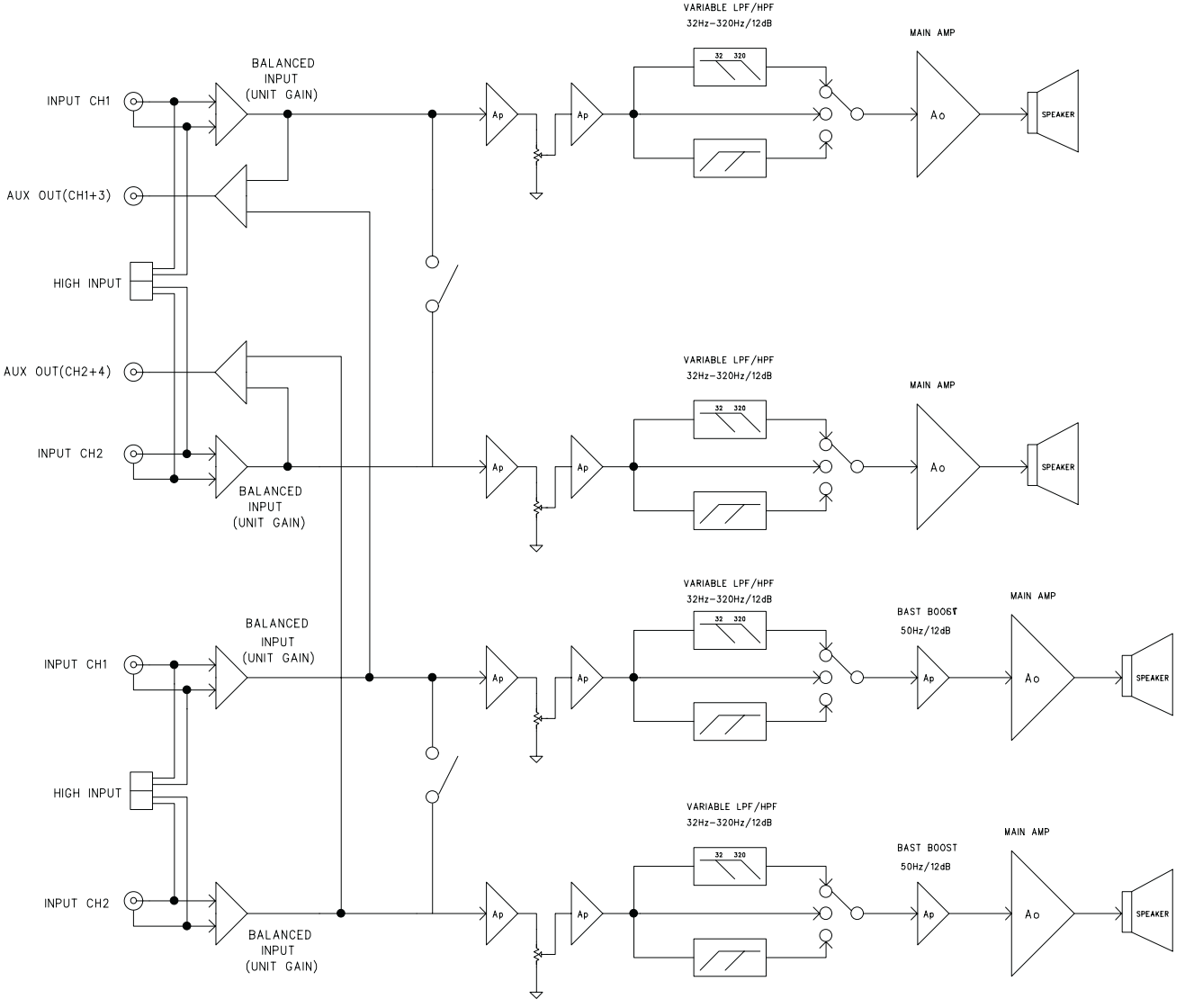
CODE NO. ISSUE

C

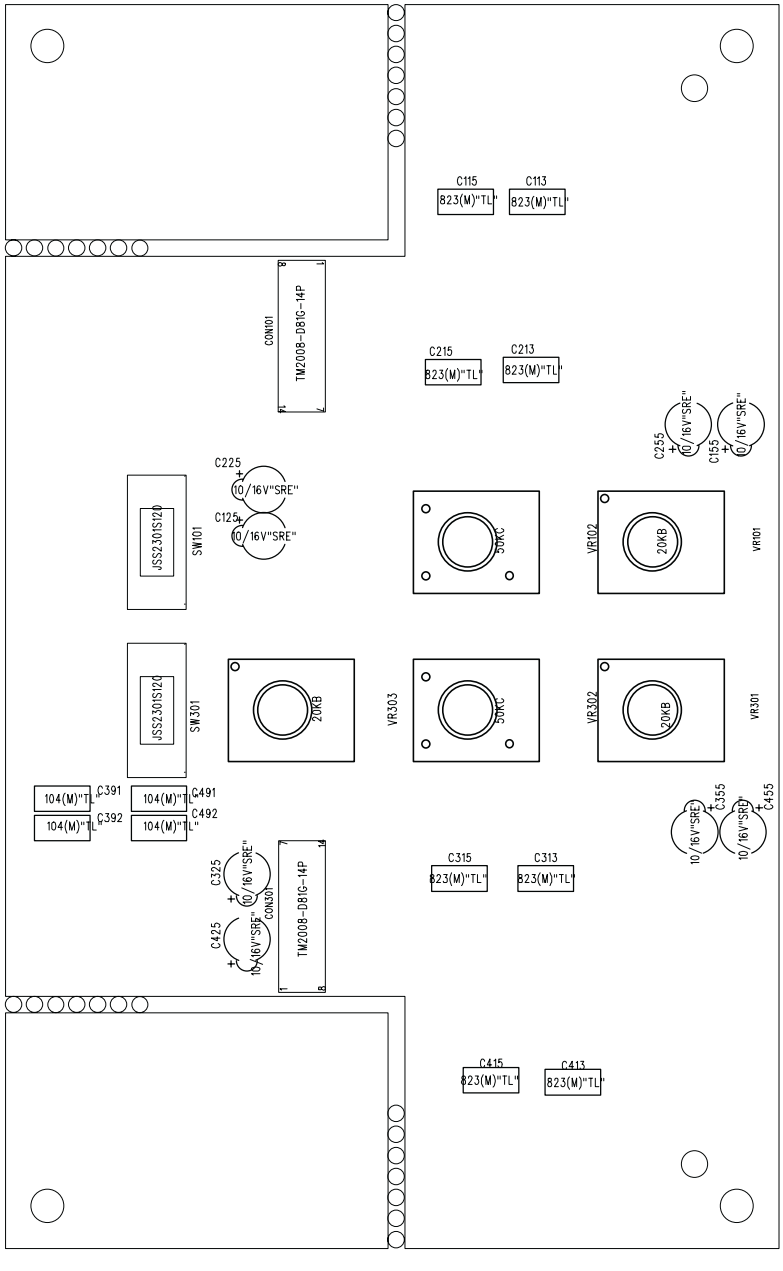
Mechanical Parts List

PART NO.	NOMENCATURE	DESCRIPTION	MFR PARTS	Q'TY
HEA-01-156AA	HEAT SINK MAIN	AL/EXTRUSION(L=380.0mm)	W/Spray black color	1
PAN-06-251AA	PANEL FRONT	EGI, 1.2t	W/Painting & silkscreen	1
PAN-06-252AA	PANEL REAR **(GTO75.4)**	EGI, 1.2t	W/Painting & silkscreen	1
PAN-06-331AA	PANEL REAR **(GTO75.4II)**	EGI, 1.2t	W/Painting & silkscreen	1
COV-22-019AA	WINDOW PLATE	ACRYLIC, 3.0t(L=379.5mm)	W/Silkscreen	1
BAD-21-004AA	BADGE	ABS(XR-40 1)	W/Hot stamp & silkscreen	1
FOO-21-012AA	FOOT MOUNTING	ABS(XR-40 1)	W/Spray silkcolor	2
BKT-14-523A0	BRACKET LAMP	SK-5/BK	W/Heat treatment	4
BKT-11-009A0	BRACKET TR(A)	SBHG, 50.0x22.5x2.0t		1
BKT-11-010A0	BRACKET TR(B)	SBHG, 50.0x25.5x2.0t		1
BKT-11-001A0	BRACKET TR(C)	SBHG, 110.0x22.5x2.0t		3
BKT-11-002A0	BRACKET TR(D)	SBHG, 110.0x25.5x2.0t		3
SUB-28-084A0	CUSHION TR BRACKET(A)	FIBER, 50.0x22.0x1.0t		1
SUB-28-001A0	CUSHION TR BRACKET(B)	FIBER, 110.0x22.0x1.0t		3
SUB-33-001A0	CUSHION RUBBER	RUBBER, 10.0x20.0x1.6t		6
SIL-34-001A0	SILICON PAD	SP1000, 22.0x0.3t		400mm
SS-5	SUPPORT PCB(A)	NYLON, L=4.8mm		2
SUP-02-020A0	SUPPORT PCB(B)	BSBM L=14.0mm(NI)	SUB PCB	2
SUB-27-003A0	SWITCH DECAL	FELT, 15.0x7.0x0.3t		2
SUB-28-002A0	PAPER SPACER(A)	FIBER, 200.0x6.0x0.5t		1
SUB-28-519A0	PAPER SPACER(B)	FIBER, 200.0x8.0x0.5t		1
SC5-NB-30050	SCREW	STT2 BH 3x5 NI	GROUND WIRE	1
SC5-BB-30060	SCREW	STT2 BH 3x6 BK	SIDE PANEL + H/SINK	10
SC5-BB-30080	SCREW	STT2 BH 3x8 BK	RCA(2), TERMINAL(3)	5
SC5-BP-30080	SCREW	STT2 PH 3x8 BK	FUSE HOLDER	1
SC5-NB-30120	SCREW	STT2 BH 3x12 NI	PCB + HEAT SINK	2
SC1-NB-30060	SCREW	SMB 3x6 NI	SUB PCB	4
SC1-BL-30080	SCREW	SML 3x8 BK	WINDOW + H/SINK	8
SC1-NL-40100	SCREW	SML 4x10 NI	FOOT + H/SINK	10
SC1-NP-40140	SCREW	SMP 4x14 NI	BRACKET TR	8
SC4-NP-40250	SCREW	STT1PH 4x25 NI	ACCESSORY	4

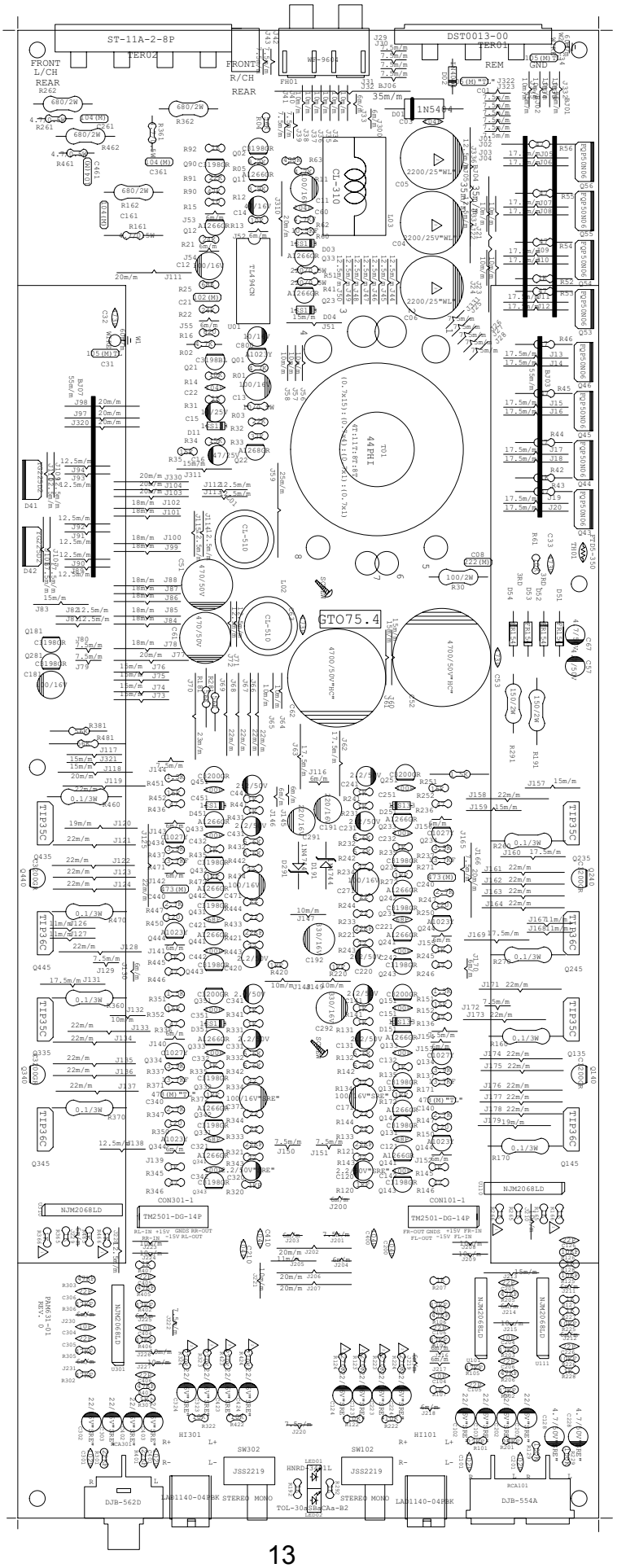
GTO 75.4/75.4II BLOCK DIAGRAM



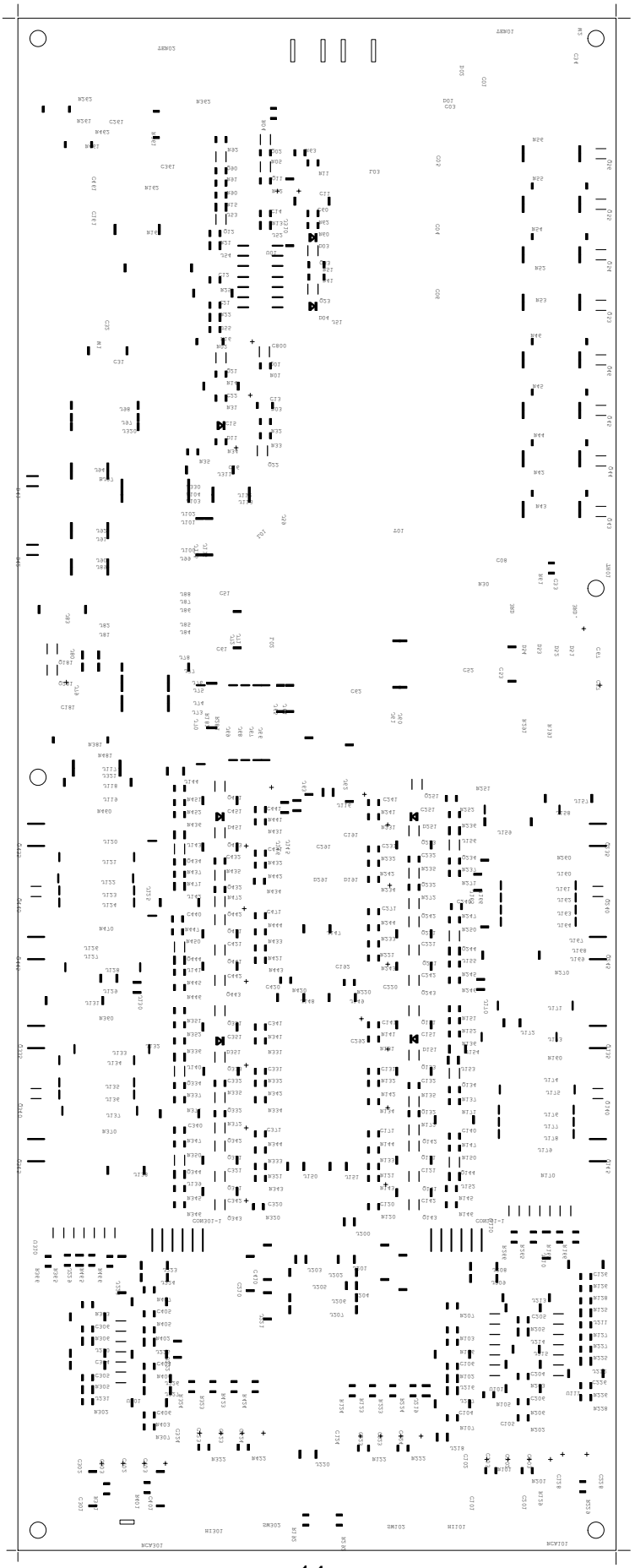
Printed Circuit Board (TOP View)



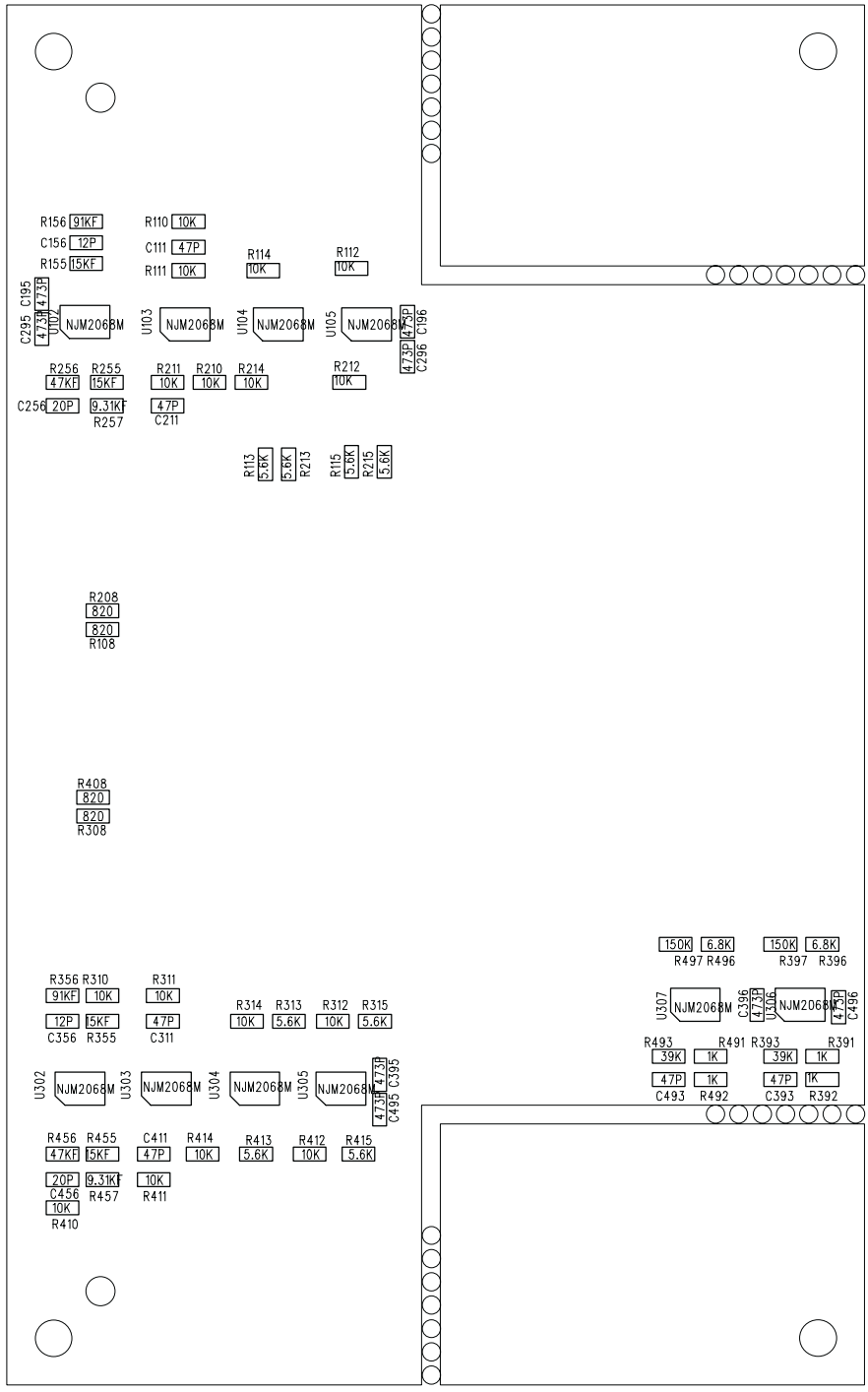
Printed Circuit Board (Top View)



Printed Circuit Board (BOTTOM View)



Printed Circuit Board (BOTTOM View)



GTO75.4 Parts List

PART NO.	NOMENCATURE	DESCRIPTION	MFR PARTS	REF. NO	Q'TY
TRS-00-00087	TRANSISTOR	SMALL SIGNAL PNP	KTA1023Y	Q01,144,244,344,444	5
TRS-00-00088	TRANSISTOR	SMALL SIGNAL NPN	KTC1027Y	Q134,234,334,434	4
TRS-00-00091	TRANSISTOR	SMALL SIGNAL PNP	KTA1268GR	Q22	1
TRS-00-00111	TRANSISTOR	SMALL SIGNAL NPN	KTC3200GR	Q151,251,351,451	4
TRS-00-00110	TRANSISTOR	SMALL SIGNAL NPN	KTC3198GR	Q02,90,131,132,143,181,231,232,243,281 Q331,332,343,431,432,443	16
TRS-00-00090	TRANSISTOR	SMALL SIGNAL PNP	KTA1266GR	Q11,12,23,33,133,141,142,233,241,242 Q333,341,342,433,441,442	16
TRS-00-00109	TRANSISTOR	SMALL SIGNAL NPN	KTC3198BL	Q21	1
DIO-00-00108	DIODE	FAST RECOVERY	FR154	D51,52,53,54	4
DIO-00-00003	DIODE	RECTIFIER	IN4004	D02	1
DIO-00-00006	DIODE	SWITCHING SIGNAL	1SS133	D03,04,11,151,251,351,451	7
RES-00-00437	RESISTOR	METAL FILM 1/5WF	1K OHM	R120,172,220,272,320,372,420,472	8
RES-00-00523	RESISTOR	METAL FILM 1/5WF	4.7K OHM	R62	1
RES-00-00402	RESISTOR	METAL FILM 1/5WF	10K OHM	R125,126,225,226	4
RES-00-00399	RESISTOR	METAL FILM 1/5WF	10.5K OHM	R60	1
RES-00-00417	RESISTOR	METAL FILM 1/5WF	13.7K OHM	R171,271,371,471	4
RES-00-00467	RESISTOR	METAL FILM 1/5WF	22K OHM	R101,121,201,221,301,321,401,421	8
RES-00-00537	RESISTOR	METAL FILM 1/5WF	47K OHM	R102,103,105,106,202,203,205,206,302,303 R305,306,402,403,405,406	16
RES-00-00610	RESISTOR	CARBON FILM 1/5WJ	10 OHM	R15	1
RES-00-00660	RESISTOR	CARBON FILM 1/5WJ	22 OHM	R133,134,143,144,233,234,243,244,333,334 R343,344,433,434,443,444	16
RES-00-00716	RESISTOR	CARBON FILM 1/5WJ	47 OHM	R43,44,45,46,53,54,55,56,136,146 R236,246,336,346,436,446	16
RES-00-00615	RESISTOR	CARBON FILM 1/5WJ	120 OHM	R150,250,350,450	4
RES-00-00756	RESISTOR	CARBON FILM 1/5WJ	820 OHM	R16	1
RES-00-00633	RESISTOR	CARBON FILM 1/5WJ	1K OHM	R31,42,52,92,107,127,128,131,135,141 R145,165,192,207,227,228,231,235,241,245 R265,292,307,331,335,341,345,365,407,431 R435,441,445,465,166,266,366,466	38
RES-00-00598	RESISTOR	CARBON FILM 1/5WJ	1.5K OHM	R151,251,351,451	4
RES-00-00644	RESISTOR	CARBON FILM 1/5WJ	2.7K OHM	R147,247,347,447	4
RES-00-00676	RESISTOR	CARBON FILM 1/5WJ	3.9K OHM	R12,137,237,337,437	5
RES-00-00702	RESISTOR	CARBON FILM 1/5WJ	4.7K OHM	R01,02,11	3
RES-00-00720	RESISTOR	CARBON FILM 1/5WJ	5.6K OHM	R132,142,232,242,332,342,432,442	8
RES-00-00751	RESISTOR	CARBON FILM 1/5WJ	8.2K OHM	R05	1
RES-00-00608	RESISTOR	CARBON FILM 1/5WJ	10K OHM	R13,14,61,122,222,322,422	7
RES-00-00623	RESISTOR	CARBON FILM 1/5WJ	15K OHM	R34,35,152,252,352,452	6
RES-00-00658	RESISTOR	CARBON FILM 1/5WJ	22K OHM	R32,91	2
RES-00-00663	RESISTOR	CARBON FILM 1/5WJ	24K OHM	R21,22	2
RES-00-00687	RESISTOR	CARBON FILM 1/5WJ	33K OHM	R33	1
RES-00-00714	RESISTOR	CARBON FILM 1/5WJ	47K OHM	R90	1
RES-00-00730	RESISTOR	CARBON FILM 1/5WJ	56K OHM	R04,181,281,381,481	5
RES-00-00742	RESISTOR	CARBON FILM 1/5WJ	68K OHM	R25	1
RES-00-00604	RESISTOR	CARBON FILM 1/5WJ	100K OHM	R129,229	2
RES-00-00706	RESISTOR	CARBON FILM 1/5WJ	430K OHM	R63	1
RES-00-00664	RESISTOR	CARBON FILM 1/5WJ	270K OHM	R123,124,223,224,323,324,423,424	8
RES-00-00053	RESISTOR	METAL FILM 1/2WJ	4.7 OHM	R161,261,361,461	4
RES-00-00018	RESISTOR	METAL FILM 1/2WJ	10 OHM	R03	1
RES-00-00038	RESISTOR	METAL FILM 1/2WJ	220 OHM	R41,51	2
ELC-00-00223	CAPACITOR	ELECTROLYTIC "SMS"	2.2/50V	C131,141,220,231,241,331,341,420,431,441	10
ELC-00-00229	CAPACITOR	ELECTROLYTIC "SMS"	4.7/50V	C57,67	2
ELC-00-00195	CAPACITOR	ELECTROLYTIC "SMS"	10/16V	C800	1
ELC-00-00203	CAPACITOR	ELECTROLYTIC "SMS"	10/25V	C15	1
ELC-00-00198	CAPACITOR	ELECTROLYTIC "SMS"	47/16V	C14	1
ELC-00-00205	CAPACITOR	ELECTROLYTIC "SMS"	47/25V	C16	1
ELC-00-00199	CAPACITOR	ELECTROLYTIC "SMS"	100/16V	C11,12,13,181,271,471	6
ELC-00-00200	CAPACITOR	ELECTROLYTIC "SMS"	220/16V	C191,291	2
ELC-00-00201	CAPACITOR	ELECTROLYTIC "SMS"	330/16V	C192,292	2

GTO75.4 Parts List

PART NO.	NOMENCATURE	DESCRIPTION	MFR PARTS	REF. NO	Q'TY
ELC-00-00249	CAPACITOR	ELECTROLYTIC "SRE"	2.2/50V	C120,320	2
ELC-00-00250	CAPACITOR	ELECTROLYTIC "SRE"	4.7/50V	C128,228	2
ELC-00-00641	CAPACITOR	ELECTROLYTIC "SRE"	22/16V	C102,103,123,124,202,203,223,224,302,303 C323,324,402,403,423,424	16
ELC-00-00243	CAPACITOR	ELECTROLYTIC "SRE"	100/16V	C171,371	2
MYC-00-00020	CAPACITOR	MYLAR 5% 100V	102(M) J	C21	1
MYC-00-00031	CAPACITOR	MYLAR 5% 100V	222(M) J	C08	1
MYC-00-00038	CAPACITOR	MYLAR 5% 100V	473(M) J	C240,440	2
MYC-00-00094	CAPACITOR	MYLAR 5% 100V	104(M) J	C161,261,361,461	4
MYC-00-00090	CAPACITOR	MYLAR 5% 63V "TL"	473(M) J	C140,340	2
MYC-00-00085	CAPACITOR	MYLAR 5% 63V "TL"	105(M) J	C01,31,34	3
CEC-00-00077	CAPACITOR	CERAMIC DISK 50V "NPO"	10P F	C104,204,304,404	4
CEC-00-00090	CAPACITOR	CERAMIC DISK 50V "NPO"	22P F	C105,106,126,205,206,226,305,306,405,406	10
CEC-00-00108	CAPACITOR	CERAMIC DISK 50V "NPO"	68P F	C121,221,321,421	4
CEC-00-00073	CAPACITOR	CERAMIC DISK 50V "NPO"	100P F	C132,142,151,232,242,251,332,342,351,432 C442,451	12
CEC-00-00074	CAPACITOR	CERAMIC DISK 50V	102P F	C101,201,301,401	4
CEC-00-00102	CAPACITOR	CERAMIC DISK 50V	473P F	C32,33,53,63	4
CEC-00-00076	CAPACITOR	CERAMIC DISK 50V	104P F	C03,22,60,200,210,400,410	7
JUP-00-00043	JUMPER	0OHM JUMPER	6m/m	J33,52,53,54,55,116,130,139,140,141 J142,143,145,146,152,153,155,156,170,200 J203,204,211,212,214,216,217,218,219,225 J229,230,231,300	34
JUP-00-00044	JUMPER	0OHM JUMPER	7.5m/m	J01,02,03,04,25,26,27,28,29,30 J31,32,40,41,42,43,79,80,129,144 J150,151,154,165,172,201,220,222,322,323 J331	31
JUP-00-00045	JUMPER	0OHM JUMPER	10m/m	J21,22,23,24,34,35,36,37,38,39 J56,57,58,64,65,132,147,148,149,208 J209,210,215,221,223,224,226,227,332,333 J334,335	32
JUP-00-00052	JUMPER	0OHM JUMPER	11m/m	J126,127,167,168,205	5
JUP-00-00046	JUMPER	0OHM JUMPER	12.5m/m	J44,45,46,47,48,49,50,71,72,81 J82,89,90,91,92,93,94,109,110,112 J113,114,115,138,228,336,337	27
JUP-00-00047	JUMPER	0OHM JUMPER	15m/m	J51,60,61,73,74,75,76,83,117,157 J159,213,311,321	14
JUP-00-00048	JUMPER	0OHM JUMPER	17.5m/m	J05,06,07,08,09,10,11,12,13,14 J15,16,17,18,19,20,62,63,107,108 J131,160,169	23
JUP-00-00066	JUMPER	0OHM JUMPER	18m/m	J78,84,85,86,87,88,99,100,101,102	10
JUP-00-00074	JUMPER	0OHM JUMPER	19m/m	J120,179	2
JUP-00-00049	JUMPER	0OHM JUMPER	20m/m	J77,97,98,103,104,111,118,166,202,206 J207,310,320,330	14
JUP-00-00075	JUMPER	0OHM JUMPER	22m/m	J66,67,68,69,119,121,122,123,124,125 J128,133,134,135,136,137,158,161,162,163 J164,171,173,174,175,176,177,178	28
JUP-00-00076	JUMPER	0OHM JUMPER	23m/m	J70	1
JUP-00-00042	JUMPER	0OHM JUMPER	25m/m	J59	1
ICO-00-00022	I.C	P.W.M	TL494CN	U01	1
ICO-00-00112	I.C	DUAL OP AMP "SIP-08P"	NJM2068LD	U101,110,111,301,310	5
FET-00-00023	F.E.T	N-CH MOSFET	FQP50N06	Q43,44,45,46,53,54,55,56	8
TRS-00-00188	TRANSISTOR	AUDIO POWER NPN	TIP35C	Q135,235,335,435	4
TRS-00-00207	TRANSISTOR	AUDIO POWER PNP	TIP36C	Q145,245,345,445	4
TRS-00-00111	TRANSISTOR	SMALL SIGNAL NPN	KTC3200GR	Q140,240,340,440	4
DIO-00-00152	DIODE	FAST RECOVERY	YG225D2	D41,42	2
DIO-00-00048	DIODE	RECTIFIER	1N5404	D01	1
DIO-00-00206	DIODE	ZENER 1W 15V	1N4744A	D191,291	2

GTO75.4 Parts List

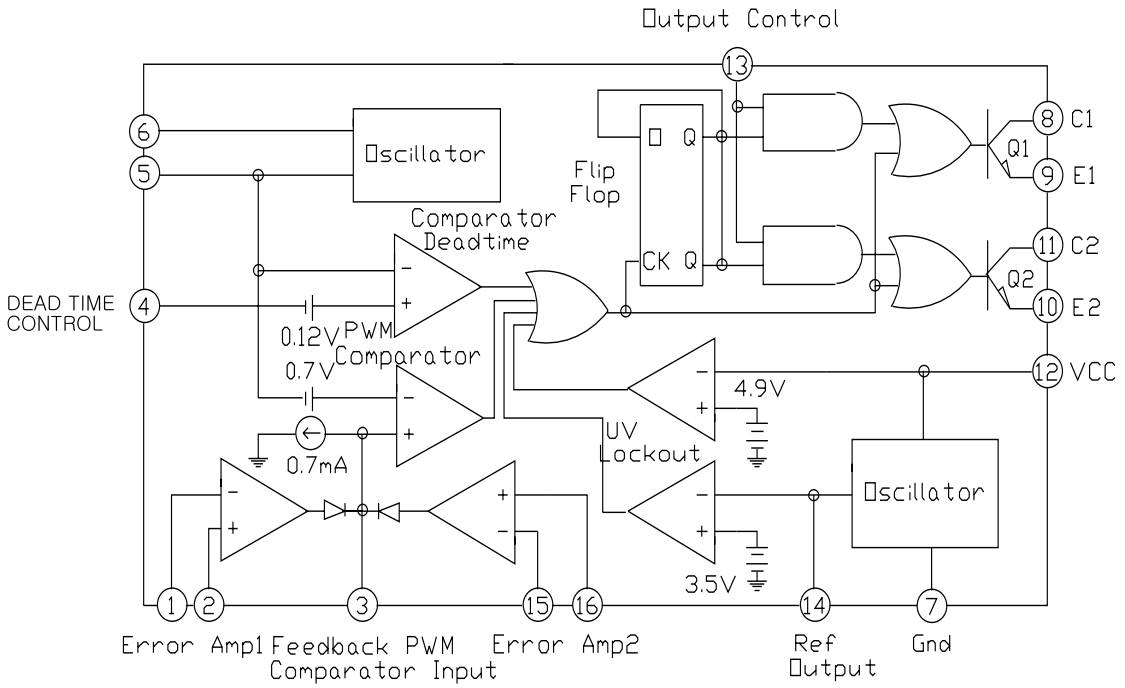
PART NO.	NOMENCATURE	DESCRIPTION	MFR PARTS	REF. NO	Q'TY
DIO-00-00278	LED	RED COLOR	HNRD-3401L	LED01	1
DIO-00-00303	LED	BLUE COLOR	TOL-30aSBaCAa-B2	LED02	1
RES-00-01046	RESISTOR	MOR/S 2WJ (15m/m FORMING)	100 OHM	R30	1
RES-00-01264	RESISTOR	MOR/S 2WJ (15m/m FORMING)	150 OHM	R291	1
RES-00-01265	RESISTOR	MOR/S 2WJ (17.5m/m FORMING	150 OHM	R191	1
RES-00-01041	RESISTOR	MOR/S 2WJ (15m/m FORMING)	680 OHM	R162,262,362,462	4
RES-00-00895	RESISTOR	WIRE WOUND 3WJ(FORMING 20m/m	0.1 OHM	R160,170,260,270,360,370,460,470	8
THS-00-00013	THERMISTOR	NTC RESISTOR	FTD5-350	TH01	1
ELC-00-00234	CAPACITOR	ELECTROLYTIC "SMS"	470/50V (12.5x20m/m)	C51,61	2
ELC-00-00727	CAPACITOR	ELECTROLYTIC "WL"	2200/25V (16x25m/m)	C04,05,06	3
ELC-00-00714	CAPACITOR	ELECTROLYTIC "HC"	4700/50V (25x30m/m)	C52,62	2
COR-TF-00386	CORE	4(0.7x15):11(0.7x4):8(0.7x1):8(0.7x1)	44PHI MAGNETICS	T01	1
COI-00-00093	INDUCTOR	DRUM COIL	CL-510	L01,02	2
COI-00-00028	INDUCTOR	BAR COIL	CL-310	L03	1
SWI-00-00024	SWITCH	SLIDE SWITCH	JSS-2219	SW102,302	2
JAC-00-00043	RCA JACK	GOLD PLATED	DJB-554A	RCA101	1
JAC-00-00042	RCA JACK	GOLD PLATED	DJB-562D	RCA301	1
TER-00-00241	TERMINAL	GOLD PLATED	DST0013-00 (3P)	TER01	1
TER-00-00251	TERMINAL	GOLD PLATED 8P	ST-11A-2-8P	TER02	1
JUP-00-00005	JUMPER	METAL JUMPER	55m/m	BJ01,02,03,07	4
JUP-00-00003	JUMPER	METAL JUMPER	35m/m	BJ04,05,06	3
HOD-00-00011	FUSE HOLDER		WF-9604	FH01	1
CON-00-00128	WAFER		LAD1140-04PBK	HI101,301	2
WIR-00-00208	WIRE ASS'Y	300m/m	CHD1140-04PBK	ACCESSORY	2
WIR-00-00015	WIRE	AWG #22 BK 3.2PHI RING LUG	60m/m	W1,2	2
HED-00-00115	HEADER PIN SOCKET	TM2501-DG-14P	14P	CON101-1,301-1	2
TUB-00-00008	TEFLON TUBE	0.7PHI	10m/m	TH01,Q140,240,340,440	6
TUB-00-00009	TEFLON TUBE	0.7PHI	15m/m	LED02	2
TUB-00-00006	TEFLON TUBE	0.7PHI	20m/m	LED01	2
FUS-AT-00006	AUTO FUSE		30A	SET2+ACCESSORY2	4
PCB-00-01355	P.C.B	FR-4 DOUBLE LAYER, 1Oz BROWN	PAS319-01	148x92m/m	1
ICO-00-00113	I.C	DUAL OP AMP "SOP-08"	NJM2068M	U102,103,104,105,302,303,304,305,306,307	10
RES-08-00239	RESISTOR	SMD 0805 1/8WF	9.31K OHM	R257,457	2
RES-08-00022	RESISTOR	SMD 0805 1/8WF	15K OHM	R155,255,355,455	4
RES-08-00088	RESISTOR	SMD 0805 1/8WF	47K OHM	R256,456	2
RES-08-00117	RESISTOR	SMD 0805 1/8WF	91K OHM	R156,356	2
RES-08-00225	RESISTOR	SMD 0805 1/8WJ	820 OHM	R108,208,308,408	4
RES-08-00148	RESISTOR	SMD 0805 1/8WJ	1K OHM	R391,392,491,492	4
RES-08-00201	RESISTOR	SMD 0805 1/8WJ	5.6K OHM	R113,115,213,215,313,315,413,415	8
RES-08-00210	RESISTOR	SMD 0805 1/8WJ	6.8K OHM	R396,496	2
RES-08-00132	RESISTOR	SMD 0805 1/8WJ	10K OHM	R110,111,112,114,210,211,212,214,310,311 R312,314,410,411,412,414	16
RES-08-00187	RESISTOR	SMD 0805 1/8WJ	39K OHM	R393,493	2
RES-08-00141	RESISTOR	SMD 0805 1/8WJ	150K OHM	R397,497	2
CEC-08-00009	CAPACITOR	SMD 0805	12pF	C156,356	2
CEC-08-00017	CAPACITOR	SMD 0805	20pF	C256,456	2
CEC-08-00042	CAPACITOR	SMD 0805	47pF	C111,211,311,393,411,493	6
CEC-08-00040	CAPACITOR	SMD 0805	473pF	C195,196,295,296,395,396,495,496	8
MYC-00-00157	CAPACITOR	MYLAR 5% 63V "TL"	823J	C113,115,213,215,313,315,413,415	8
MYC-00-00083	CAPACITOR	MYLAR 5% 63V "TL"	104J	C391,392,491,492	4
ELC-00-00241	CAPACITOR	ELECTROLYTIC"SRE"	10/16V	C125,155,225,255,325,355,425,455	8
SWI-00-00112	SWITCH	SLIDE SWITCH	JSS2301S120	SW101,301	2
VOL-00-00337	VOLUME	V123H CO 20RS B20K (10%)	20KBx2	VR101,301,303	3
VOL-00-00338	VOLUME	V124H CO 20RS C50K (10%)	50KCx4	VR102,302	2
HED-00-00245	PIN CONNECTOR	TM2008-D81G-14P	14P	CON101,301	2

GTO 75.4 Version II Electrical Parts List Addendum

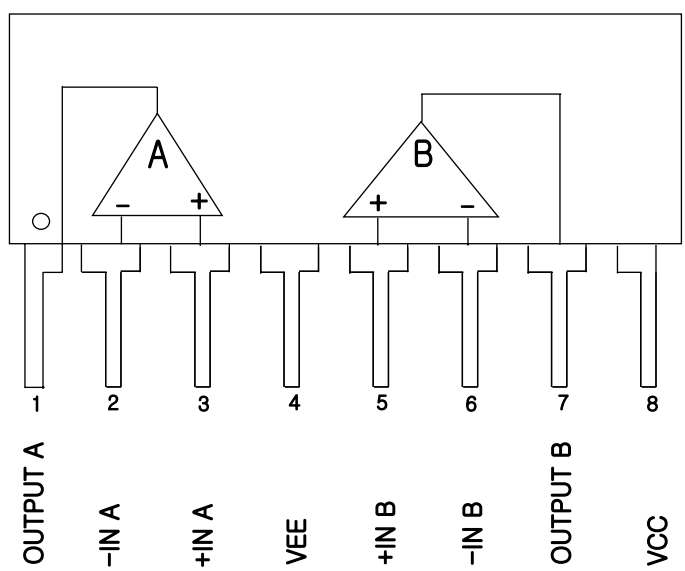
The following chart below represents the only electrical parts differences in Version I and II models:

	MODEL	PART NAME	PART NO	SPEC	DESIGNATOR
1	GTO 75.4	RESISTOR	RES-00-00437	1/5WF 1K OHM	R120,220,320,420
	GTO 75.4II	**RESISTOR**	**RES-00-00545**	**1/5WF 5.6K OHM**	**R120,220,320,420**
2	GTO 75.4	RESISTOR	RES-00-00417	1/5WF 13.7K OHM	R171,271,371,471
	GTO 75.4II	**RESISTOR**	**RES-00-00508**	**1/5WF 33K OHM**	**R171,271,371,471**
3	GTO 75.4	RESISTOR	RES-08-00225	SMD 0805 1/8WJ 820 OHM	R108,208,308,408
	GTO 75.4II	**RESISTOR**	**RES-08-00242**	**SMD 0805 1/8WF 240 OHM**	**R108,208,308,408**
4	GTO 75.4	RESISTOR	RES-08-00022	SMD 0805 1/8WF 15K OHM	R155,255,355,455
	GTO 75.4II	**RESISTOR**	**RES-08-00116**	**SMD 0805 1/8WF 9.1K OHM**	**R155,255,355,455**
5	GTO 75.4	RESISTOR	RES-08-00239	SMD 0805 1/8WF 9.31KOHM	R257,457
	GTO 75.4II	**RESISTOR**	**RES-08-00200**	**SMD 0805 1/8WJ 5.1K OHM**	**R257,457**
6	GTO 75.4	CAPACITOR	CEC-08-00009	SMD 0805 12PF	C156,356
	GTO 75.4II	**CAPACITOR**	**CEC-08-00023**	**SMD 0805 22PF**	**C156,356**
7	GTO 75.4	CAPACITOR	CEC-08-00017	SMD 0805 20PF	C256,456
	GTO 75.4II	**CAPACITOR**	**CEC-08-00037**	**SMD 0805 39PF**	**C256,456**
8	GTO 75.4	POWER TERMINAL	TER-00-00241	(3P) DST0013-00	TER01
	GTO 75.4II	**POWER TERMINAL**	**TER-00-00277**	**(3P) DK-03B03-AG-1-DN**	**TER01**
9	GTO 75.4	SPEAKER TERMINAL	TER-00-00251	(8P) ST-11A-2-8P	TER02
	GTO 75.4II	SPEAKER TERMINAL	**TER-00-00273**	**(8P) DK-0802-AG-1-DN**	**TER02**

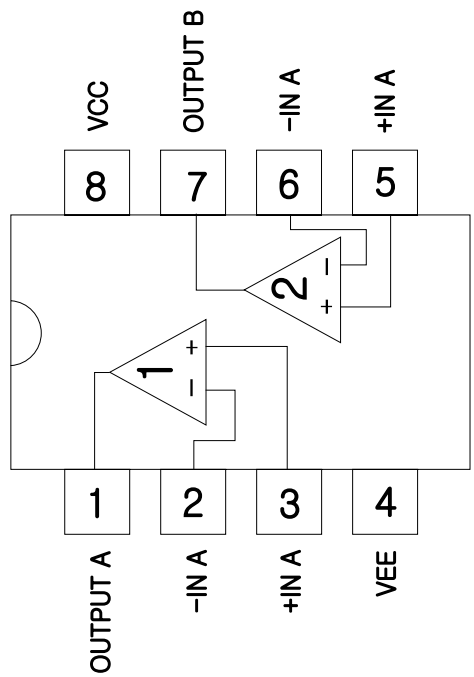
U01 (TL494CN) P.W.M IC



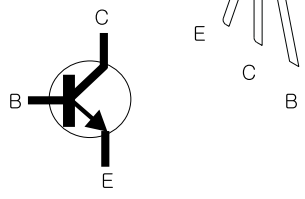
U101,110,111,301,310 (NJM2068LD) DUAL OP AMP

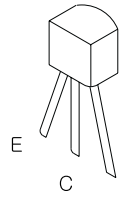


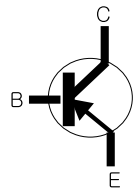
U102,103,104,105,302,303,304,305,306,307 (NJM2068M) DUAL OP AMP



Transistor Diagrams



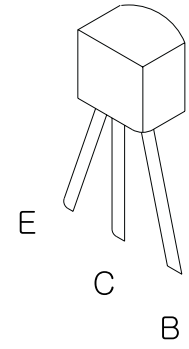


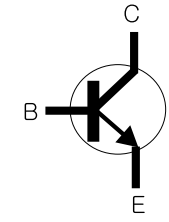


* KTC3198GR *
Q02,90,131,132,143
Q181,231,232,243
Q281,331,332,343
Q431,432,443

* KTA1266GR *
Q11,12,23,33,133
Q141,142,233,241
Q242,333,341,342
Q433,441,442

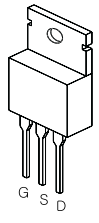
* KTA1268GR *
Q22

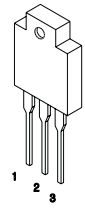


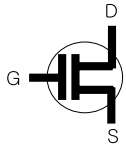


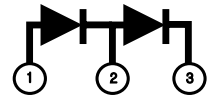
* KTC3200GR *
Q151,152,351,451
Q140,240,340,440

* KTC3198BL *
Q21



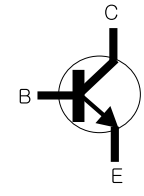


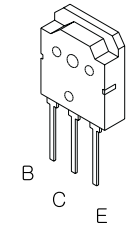


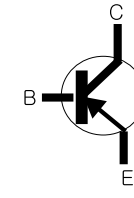


* FQP50N06
Q43,44,45,46
Q53,54,55,56

* YG225D2 *
D41,42

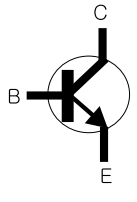


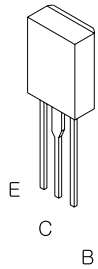


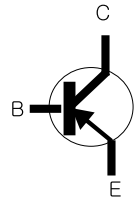


* TIP35C *
Q135,235,335,445

* TIP36C *
Q145,245,345,445



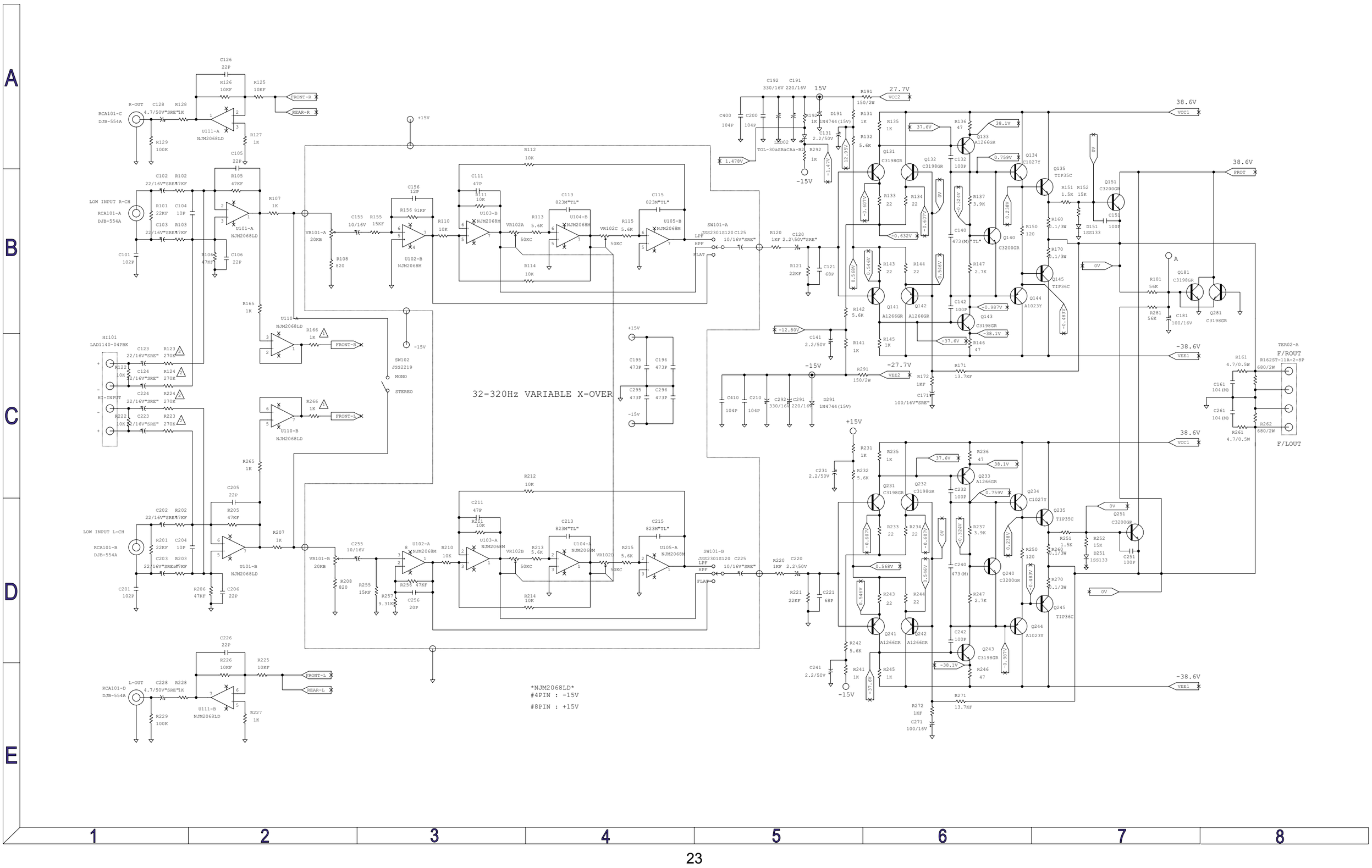




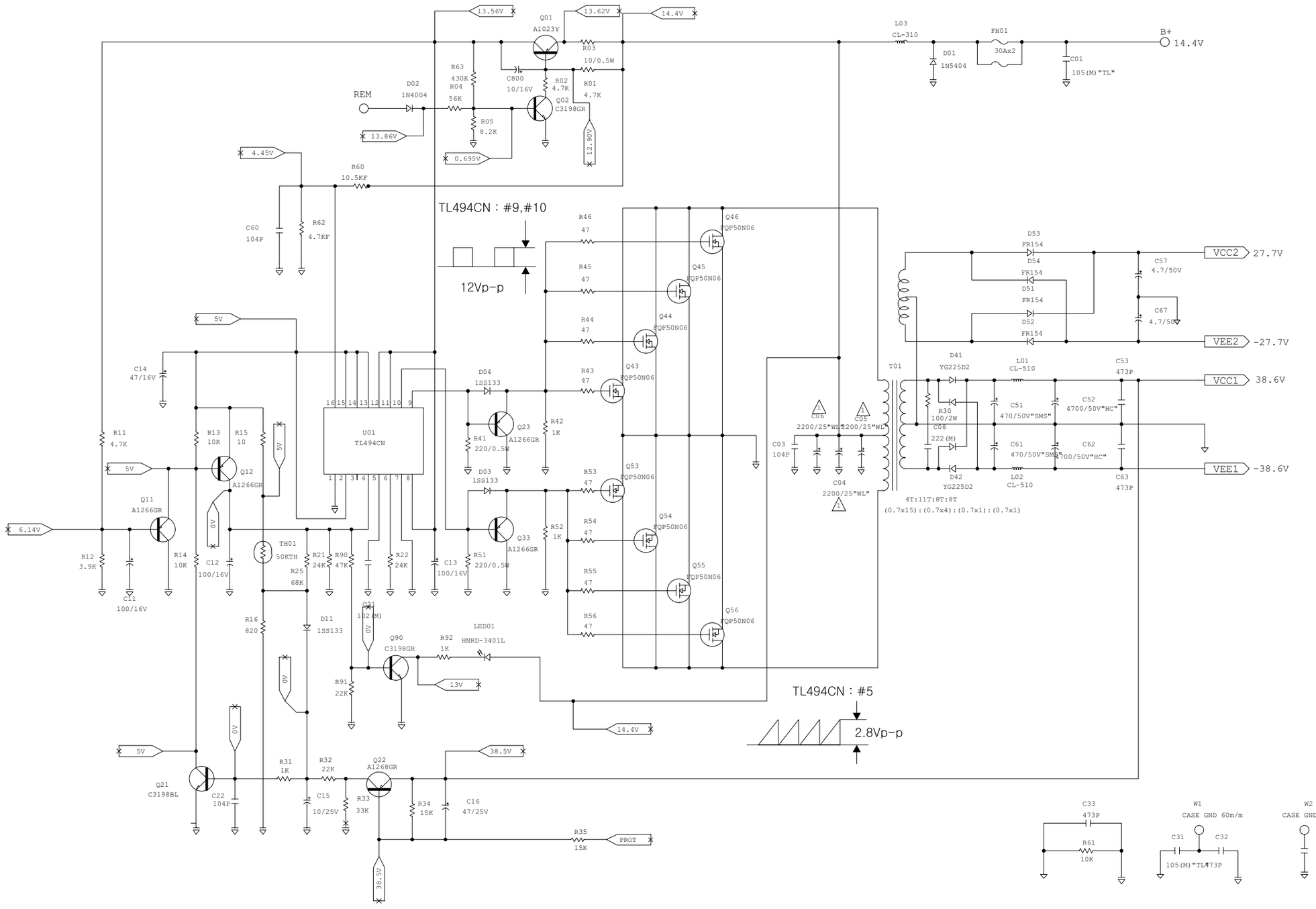
* KTC1027Y *
Q134,234,334,434

* KTA1023Y *
Q01,144,244,344
Q444

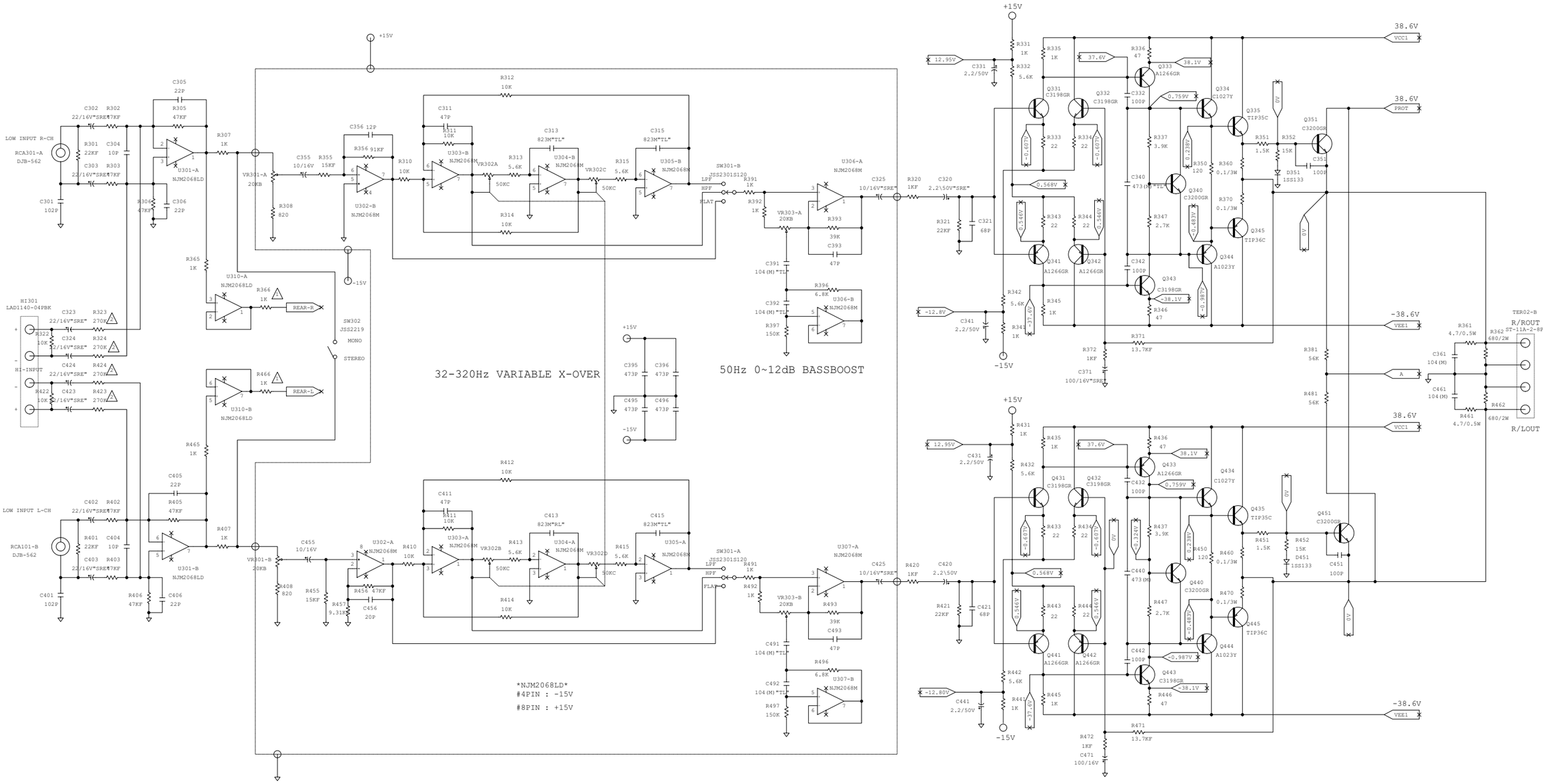
GTO 75.4 Page1 Schematic

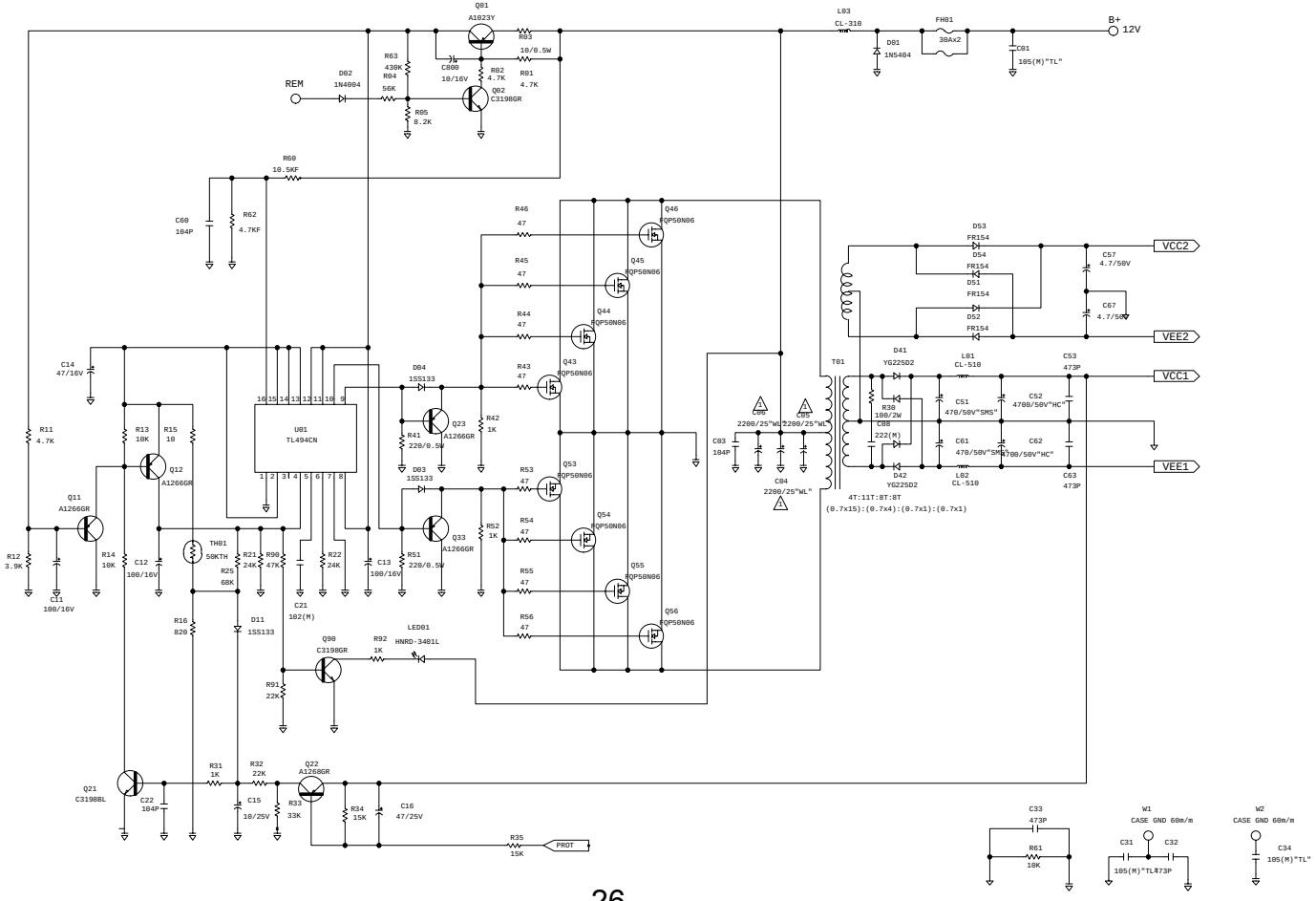


GTO 75.4 Page2 Schematic

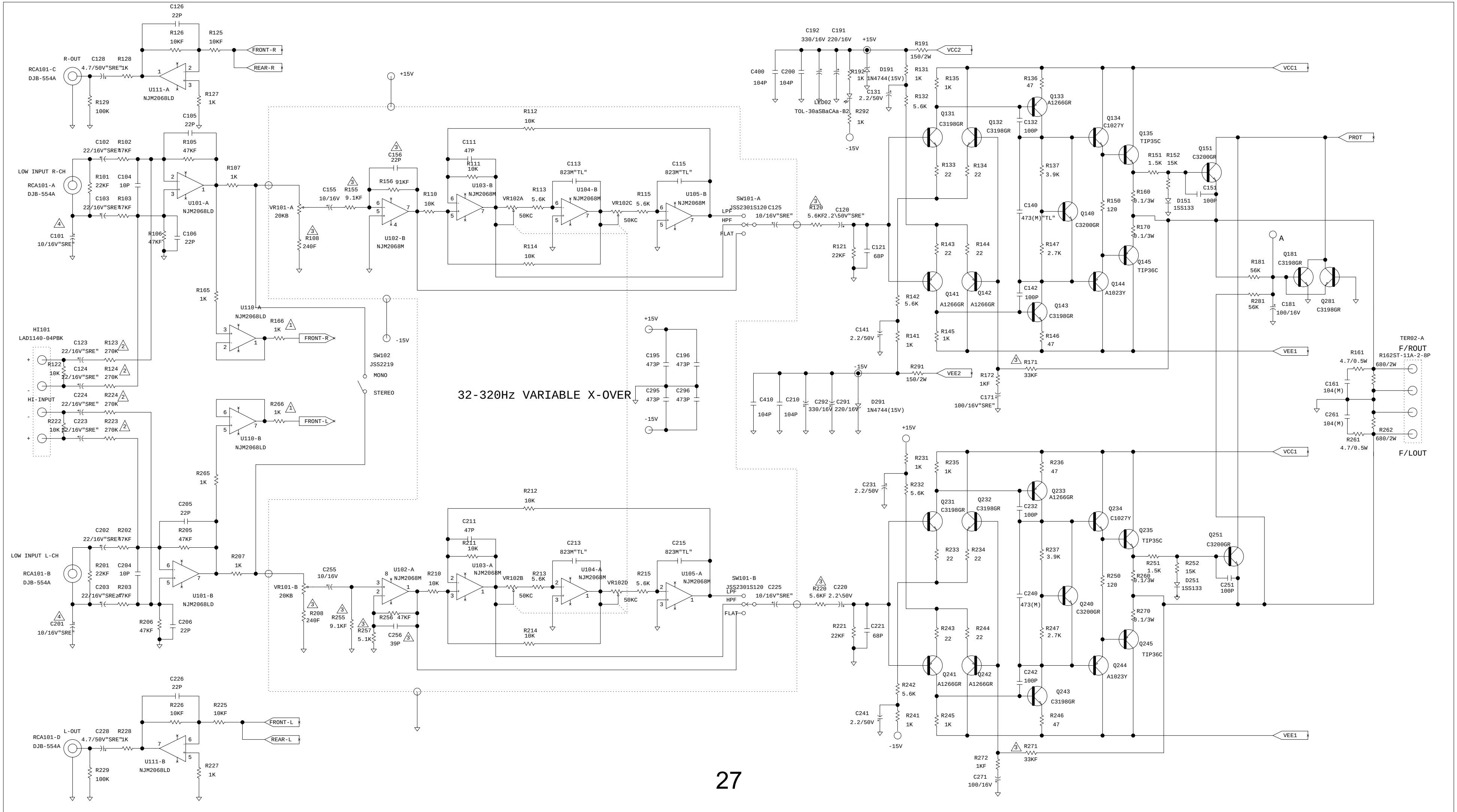


GTO 75.4 Page3 Schematic

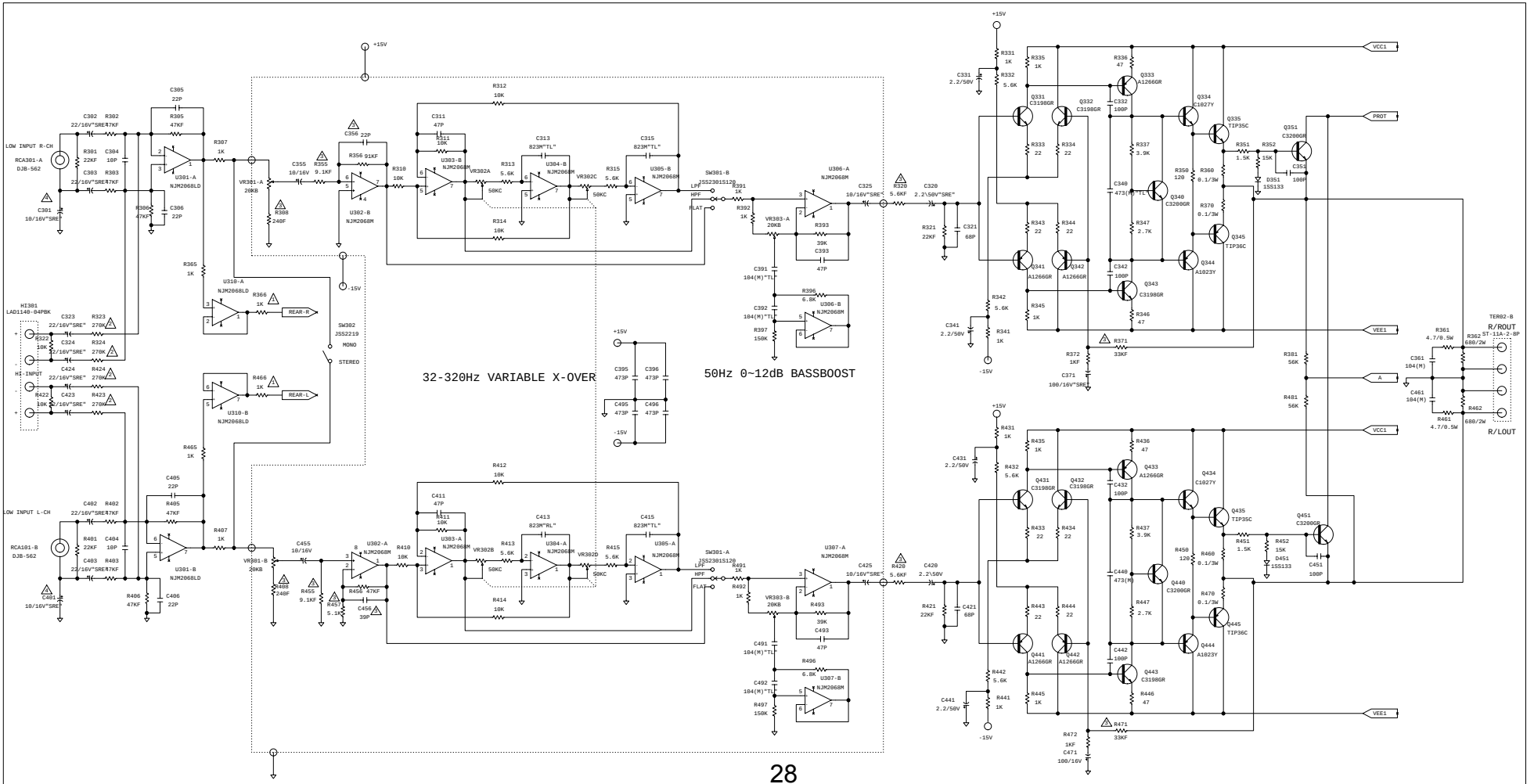



Q01
A1023Y
L03
CL-310
FH01
30Ax2
B+
12V
D01
1N5404
C01
105(M)"TL"
REM
D02
1N4004
R63
430K
R04
56K
C800
10/16V
R03
10/0.5W
R02
4.7K
R01
4.7K
Q02
C3198GR
R05
8.2K
R60
10.5KF
C60
104P
R62
4.7KF
R46
47
Q46
FQP50N06
R45
47
Q45
FQP50N06
R44
47
Q44
FQP50N06
R43
47
Q43
FQP50N06
R53
47
Q53
FQP50N06
R54
47
Q54
FQP50N06
R55
47
Q55
FQP50N06
R56
47
Q56
FQP50N06
D53
FR154
D54
FR154
DS1
FR154
DS2
FR154
C57
4.7/50V
C67
4.7/50V
VCC2
VEE2
VCC1
VEE1
T01
D41
YG225D2
L01
CL-510
C53
473P
R30
100/2W
C88
222(M)
C51
470/50V"SMS"
C52
470/50V"HC"
C61
470/50V"SMS"
C62
470/50V"HC"
D42
YG225D2
L02
CL-510
C63
473P
4T:11T:8T:8T
(0.7x15):(0.7x4):(0.7x1):(0.7x1)
C85
2200/25"WL
C84
2200/25"WL
C03
104P
C14
47/16V
R11
4.7K
R13
10K
R15
10
Q12
A1266GR
Q11
A1266GR
U01
TL494CN
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
D04
1SS133
D03
1SS133
Q23
A1266GR
R42
1K
R41
220/0.5W
Q33
A1266GR
R52
1K
R51
220/0.5W
R12
3.9K
C11
100/16V
R14
10K
C12
100/16V
TH01
50KTH
R21
24K
R90
47K
R25
68K
R22
24K
C13
100/16V
C21
102(M)
R16
820
D11
1SS133
Q90
C3198GR
R92
1K
LED01
HNRD-3401L
R91
22K
Q21
C3198BL
C22
104P
R31
1K
R32
22K
C15
10/25V
Q22
A1268GR
R33
33K
R34
15K
C16
47/25V
R35
15K
PROT
C33
473P
R61
10K
W1
CASE GND 60m/m
C31
105(M)"TL
C32
473P
W2
CASE GND 60m/m
C34
105(M)"TL"

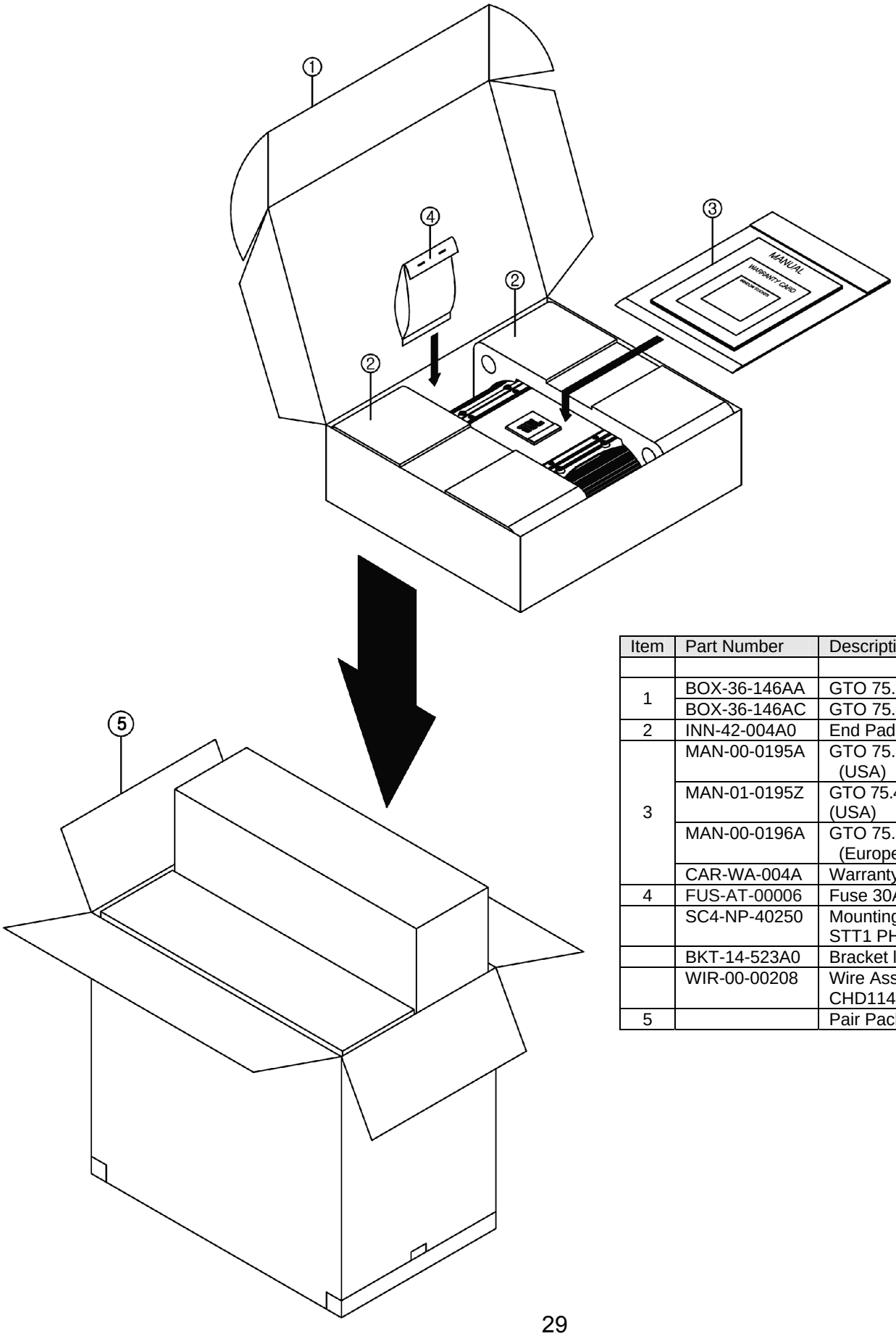
GTO 75.4II Page2 Schematic



3	CL 1-40182A	R120,220 1KF->5.6K / R171,271 13.7FK->33KF R108,208 820->240F / R155,255 15K->9.1K	2004.06.14	BUYER	JBL	SIGN	DATE		


32-320Hz VARIABLE X-OVER
50Hz 0~12dB BASSBOOST
LOW INPUT R-CH
LOW INPUT L-CH
HI-INPUT
REAR-R
REAR-L
MONO
STEREO
R/ROUT
R/LOUT
PROT
VCC1
VEE1
+15V
-15V

Packaging Exploded View



Item	Part Number	Description	Qty
1	BOX-36-146AA	GTO 75.4 Gift box carton	1
	BOX-36-146AC	GTO 75.4II Gift box carton	1
2	INN-42-004A0	End Pads	2
3	MAN-00-0195A	GTO 75.4 Owner's manual (USA)	1
	MAN-01-0195Z	GTO 75.4II Owner's manual (USA)	1
	MAN-00-0196A	GTO 75.4 Owner's manual (Europe)	1
	CAR-WA-004A	Warranty Card	1
4	FUS-AT-00006	Fuse 30A	2
	SC4-NP-40250	Mounting screw STT1 PH 4X25 NI	4
	BKT-14-523A0	Bracket lamp SK-5/BK	4
	WIR-00-00208	Wire Ass'y CHD1140-04P BK	2
5		Pair Pack carton	1