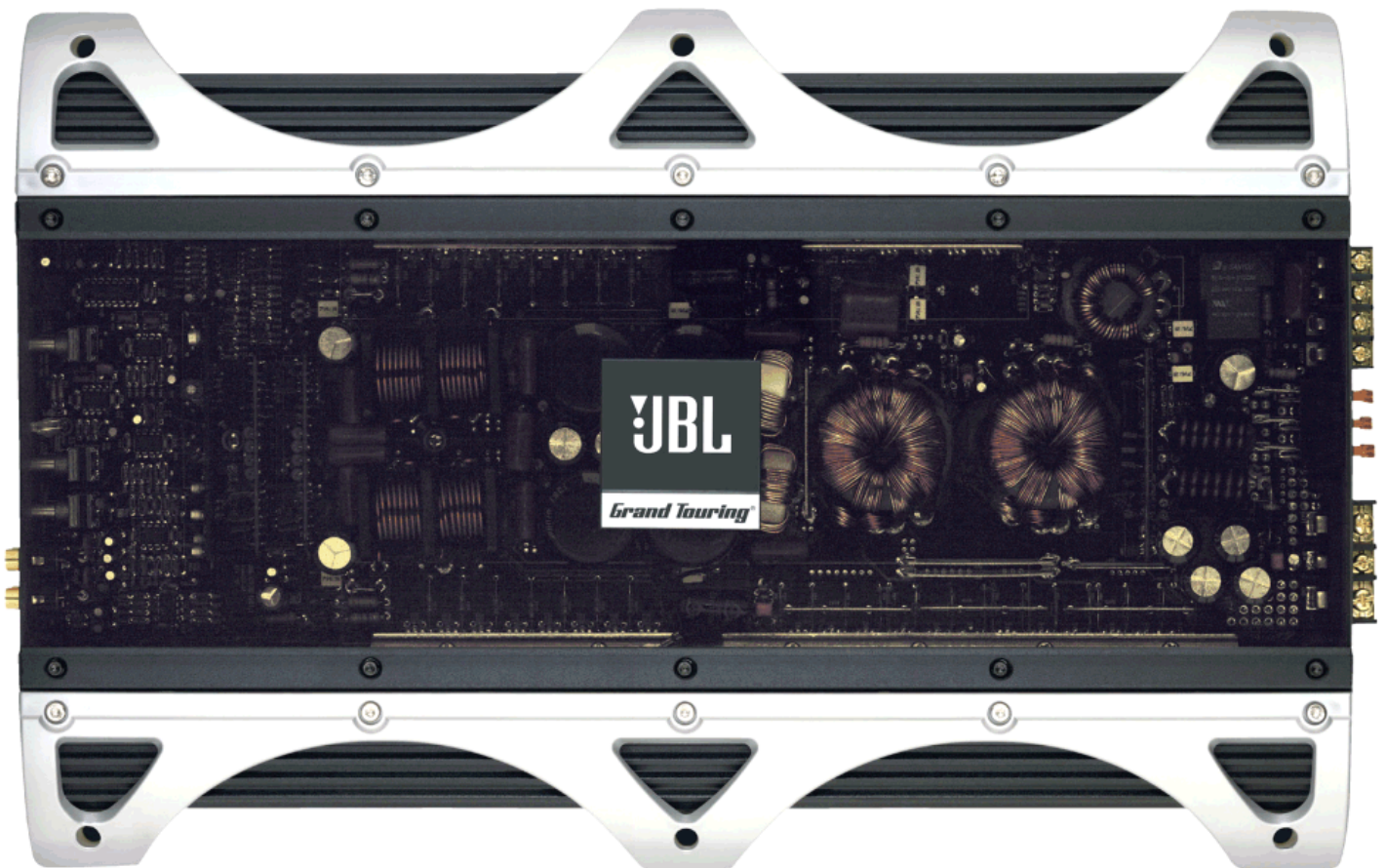


JBL

GTO Series 1201.1 1201.1II

1 CHANNEL POWER AMPLIFIER

SERVICE MANUAL



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

Rev2 10/2005

- CONTENTS -

SPECIFICATIONS	1
FEATURES/TEST CONDITIONS.....	2
INSTALLATION.....	3
CONNECTIONS.....	4
SET-UP/CONTROLS	5
INSTALLING NEON TUBES.....	5
BASIC TROUBLESHOOTING.....	6
TYPICAL SYSTEM WIRING.....	7
EXPLODED VIEW/PARTS LIST.....	8
MECHANICAL PARTS LIST.....	9
AMPLIFIER BLOCK DIAGRAM.....	10
P.C.B. DRAWINGS.....	11
ELECTRICAL PARTS LIST	14
VERSION II ELECTRICAL PARTS LIST ADDENDUM.....	18
IC/TRANSISTOR PINOUTS.....	19
GTO 1201.1 SCHEMATICS.....	25
GTO 1201.1II SCHEMATICS.....	28
PACKING.....	31

GTO 1201.1/ GTO 1201.1II Specifications

Output Power:	787W RMS x 1 channels @ 4 ohms; $\leq 1\%$ THD + N
(14.4V supply)	1114W RMS x 1 channels @ 2 ohms; $\leq 1\%$ THD + N
Signal-to-noise ratio:	70dBA (reference 1W into 4 ohms)
Dynamic power:	1339W @ 2 ohms
Effective damping factor:	6.34 @ 4 ohms
Frequency response:	10Hz – 302Hz (–3dB)
Maximum input signal:	6.1V
Maximum sensitivity:	GTO 1201.1 - 140mV
	GTO 1201.1II - 75mV
DC Offset	<50mV (-50%)
Output regulation:	.14dB @ 4 ohms
Idle Current	2.3A
Input Impedance	22k Ω
Max Current Draw	73A @ 4 ohms
	125A @ 2 ohms
Dimensions:	18 11/16 x 12 5/16 x 2 3/8" (L x W x D)
	(474mm x 313mm x 60mm)
Fuses:	40A x 3

Features

- 1-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-D Voltage Amplification
- Gold-plated Power, Input and Output Connectors
- 2-Ohm Stable

Test Conditions and Notes

- All tests to be done, unless otherwise specified, from 10Hz to 302Hz at 14.4V DC into 2 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 2 ohm resistive loads having less than 10% reactive components at any frequency below 302Hz. Each resistor shall have a value that remains within 1% while dissipating the rated output of the unit under test.
- Power Indicator LED steadily illuminates for normal operation. 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.

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

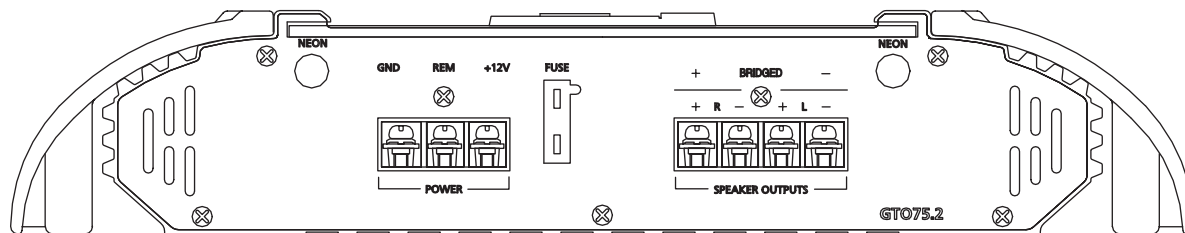
Wire Gauge Chart

Amplifier Model	Maximum Current Draw	Minimum Wire Gauge
GTO1201.1	115A	#4 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 – GTO1201.1/GTO1201.1II

The GTO subwoofer amplifiers are single-channel amplifiers. There are two sets of terminals to make it easy to connect multiple woofers. Either set of (+/-) terminals may be used when connecting woofers.

To the right are two application diagrams to help plan your subwoofer system installation. **Figures 2 and 3** show how to configure the GTO subwoofer amplifiers

NOTE: For simplicity, Figures 2 and 3 do not show power, remote and input connections.

NOTE: Minimum speaker load is 2 ohms.

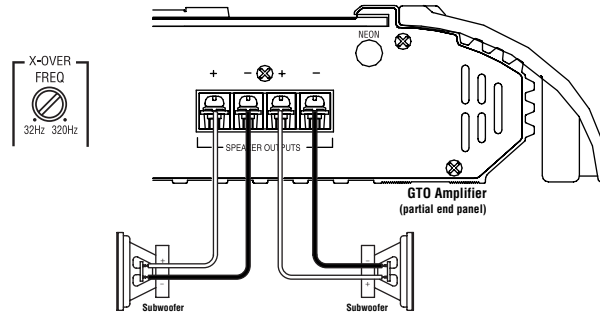


Figure 2. GTO subwoofer amplifier with two woofer connections.

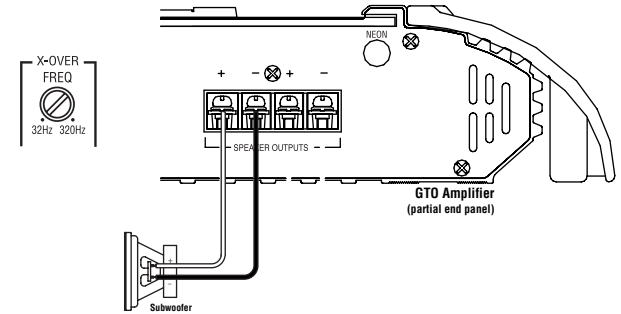


Figure 3. GTO subwoofer amplifier with one woofer connection.

INSTALLATION AND SETUP

SETTING THE CROSSOVER(S)

Determine your system plans and set the crossover mode switch accordingly.

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.

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.

REMOTE LEVEL CONTROL

All three GTO subwoofer amplifiers have inputs for an optional remote level control (RLC). This will allow the amplifier's input level to be adjusted from the listening position. Connect the optional remote level control using the RJ-11 jack on the side of the amplifier. Install the control module in the front of the vehicle within easy reach of the driver. Under the dash or in the center console are both suitable locations.

SETTING THE BASS BOOST

All three GTO subwoofer amplifiers are all equipped with a bass-boost control. This allows you to adjust the bass output of your system at 50Hz up to 12dB and enhance low frequency.

AUX OUTPUT

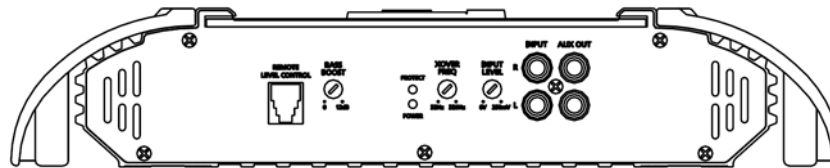
All three GTO subwoofer amplifiers are equipped with full-range outputs that can be used to connect additional amplifiers.

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.



INSTALLATION AND SETUP

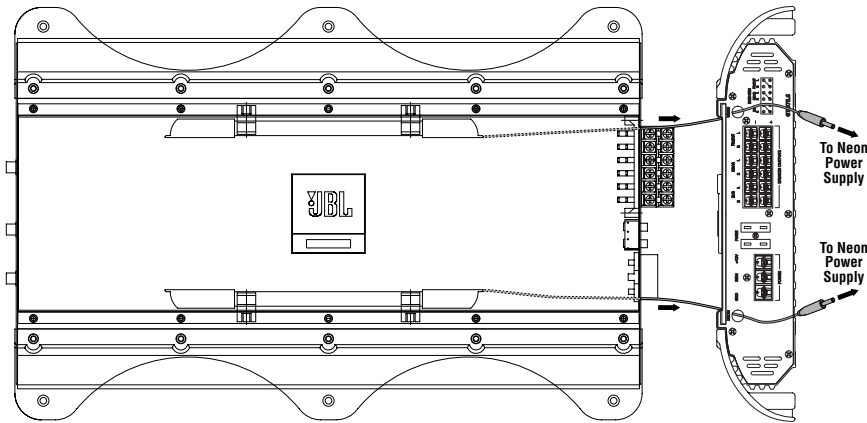


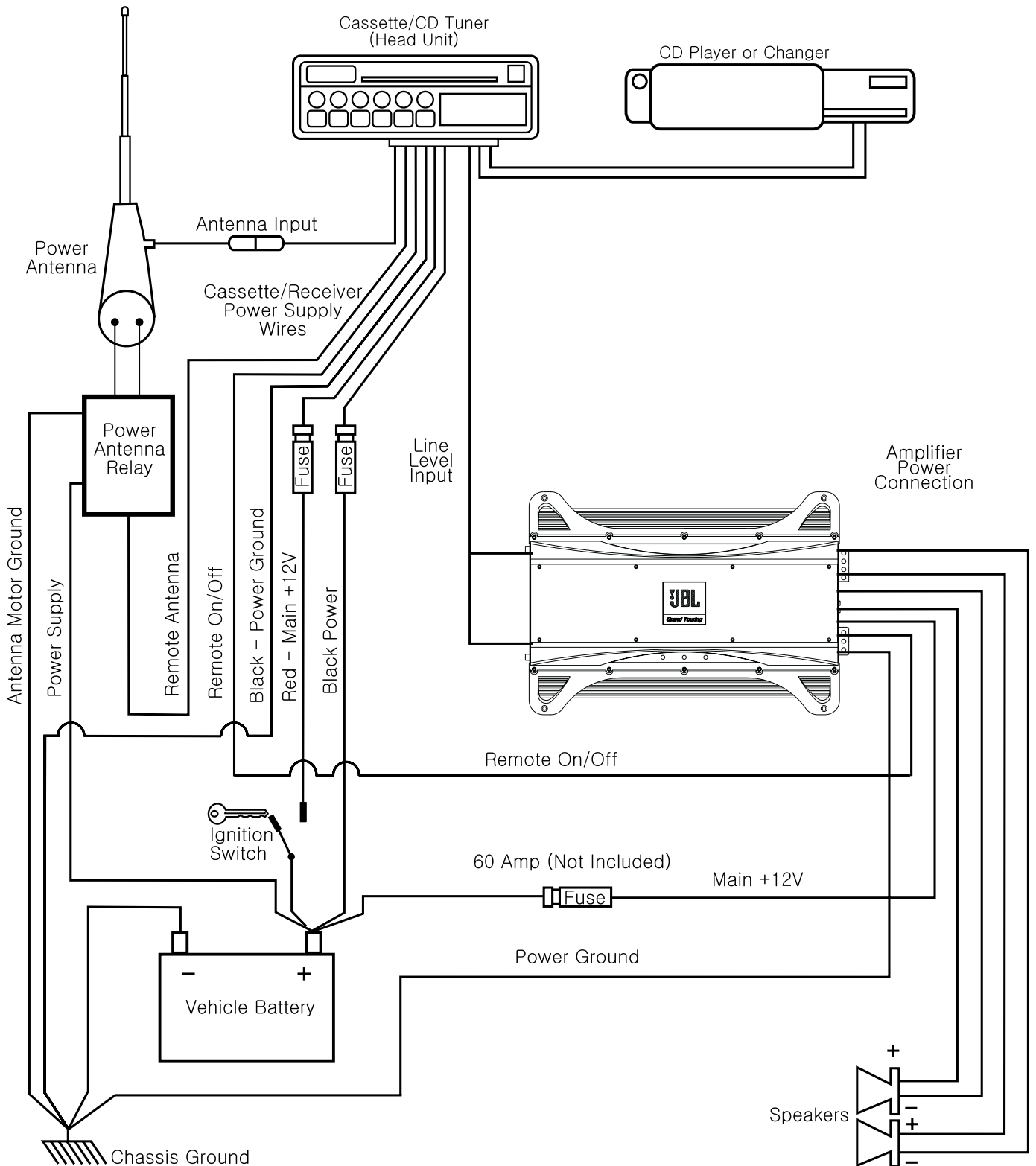
Figure 13.

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

SYMPTOM	LIKELY CAUSE	SOLUTION
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 regulator
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

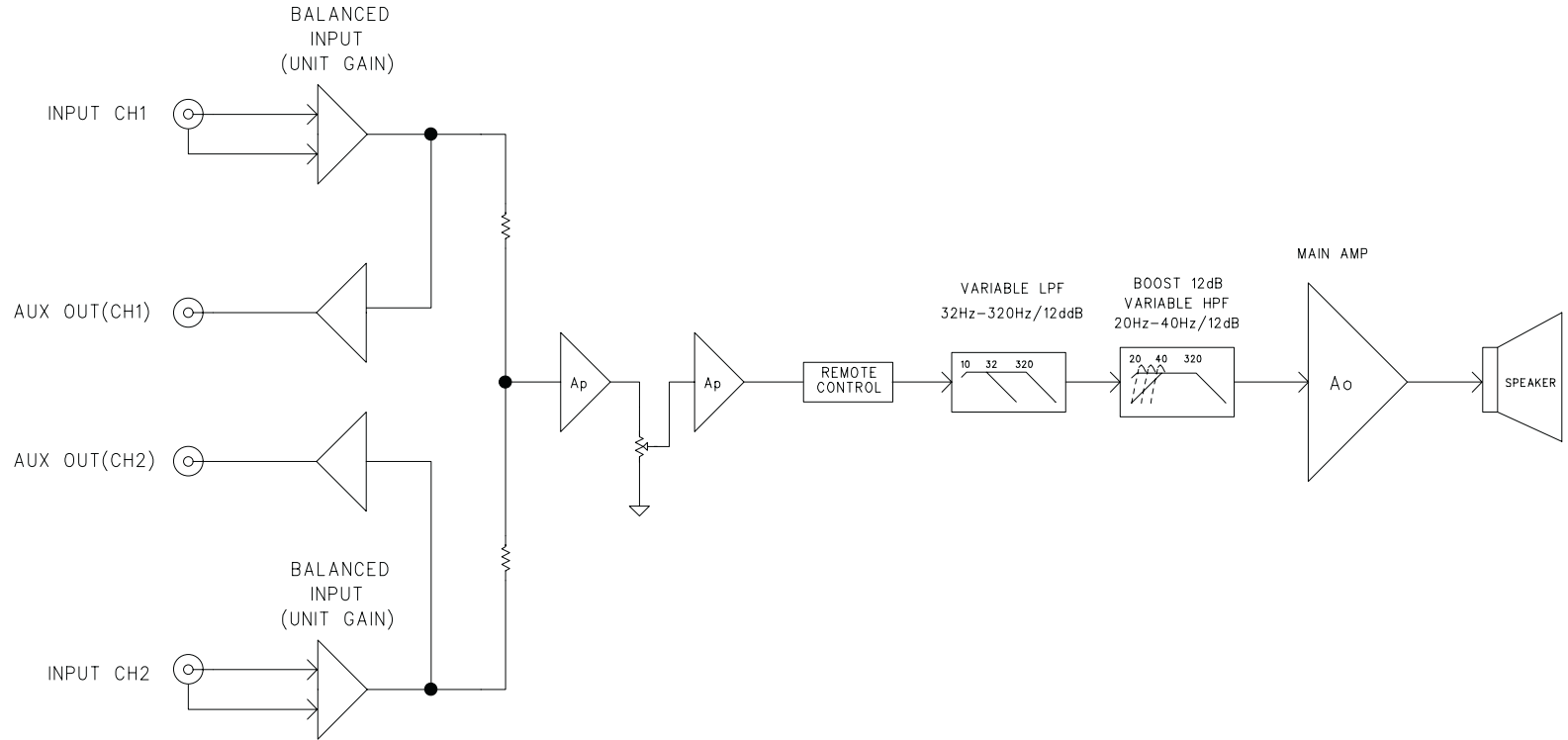
Typical System Configuration



GTO 1201.1/1201.1II Mechanical Parts List

PART NO.	NOMENCATURE	DESCRIPTION	MFR PARTS	Q'TY
HEA-0 1-157AA	HEAT SINK MAIN	AL/EXTRUSI 0 N(L=470.0mm)	W/Spray black color	1
PAN-06-255AA	PANEL FRONT	EGI, 1.2t	W/Painting & silkscreen	1
PAN-06-257AA	PANEL REAR (GTO 1201.1)	EGI, 1.2t	W/Painting & silkscreen	1
PAN-06-334AA	PANEL REAR (GTO 1201.1II)	EGI, 1.2t	W/Painting & silkscreen	1
COV-22-02 1A0	WINDOW PLATE	ACRYLIC, 3.0t(L=469.5mm)		1
BAD-2 1-004AA	BADGE	ABS(XR-40 1)	W/Hot stamp & silkscreen	1
FOO -21-011AA	FOO T M O UNTING	ABS(XR-40 1)	W/Spray silkcolor	2
BKT- 14-523A0	BRACKET LAMP	SK-5/BK	W/Heat treatment	4
BKT- 11-00 1A0	BRACKET TR(A)	SBHG, 110.0x22.5x2.0t		3
BKT- 11-002A0	BRACKET TR(B)	SBHG, 110.0x25.5x2.0t		3
BKT- 11-005A0	BRACKET TR(C)	SBHG, 170.0x22.5x2.0t		1
BKT- 11-006A0	BRACKET TR(D)	SBHG, 170.0x25.5x2.0t		1
SUB-28-00 1A0	CUSHI ON TR BRACKET(A)	F IBER, 110.0x22.0x1.0t		3
SUB-28-008A0	CUSHI ON TR BRACKET(B)	F IBER, 170.0x22.0x1.0t		1
SUB-33-00 1A0	CUSHI ON RUBBER	RUBBER, 10.0x20.0x1.6t		1
SIL-34-00 1A0	SILICO N PAD	SP 1000, 22.0x0.3t		600mm
SS-5	SUPPORT PCB	NYL O N, L=4.8mm		3
SUB-28-002A0	PAPER SPACER(A)	F IBER, 200.0x6.0x0.5t		2
SUB-28-5 19A0	PAPER SPACER(B)	F IBER, 200.0x8.0x0.5t		2
SC5-NB-30050	SCREW	STT2 BH 3x5 NI	GR OUND WIRE	1
SC5-BB-30060	SCREW	STT2 BH 3x6 BK	SIDE PANEL + H/SINK	10
SC5-BB-30080	SCREW	STT2 BH 3x8 BK	RCA(1), TERMINAL(3)	4
SC5-NB-30 120	SCREW	STT2 BH 3x12 NI	PCB + HEAT SINK	3
SC 1-BL-30080	SCREW	SML 3x8 BK	WIND OW + H/SINK	10
SC 1-NL-40 100	SCREW	SML 4x10 NI	FOO T + HEAT SINK	10
SC 1-NP-40 140	SCREW	SMP 4x14 NI	BRACKET TR	10
SC4-NP-40250	SCREW	STT 1 PH 4x25 NI	ACCESS O RY	6

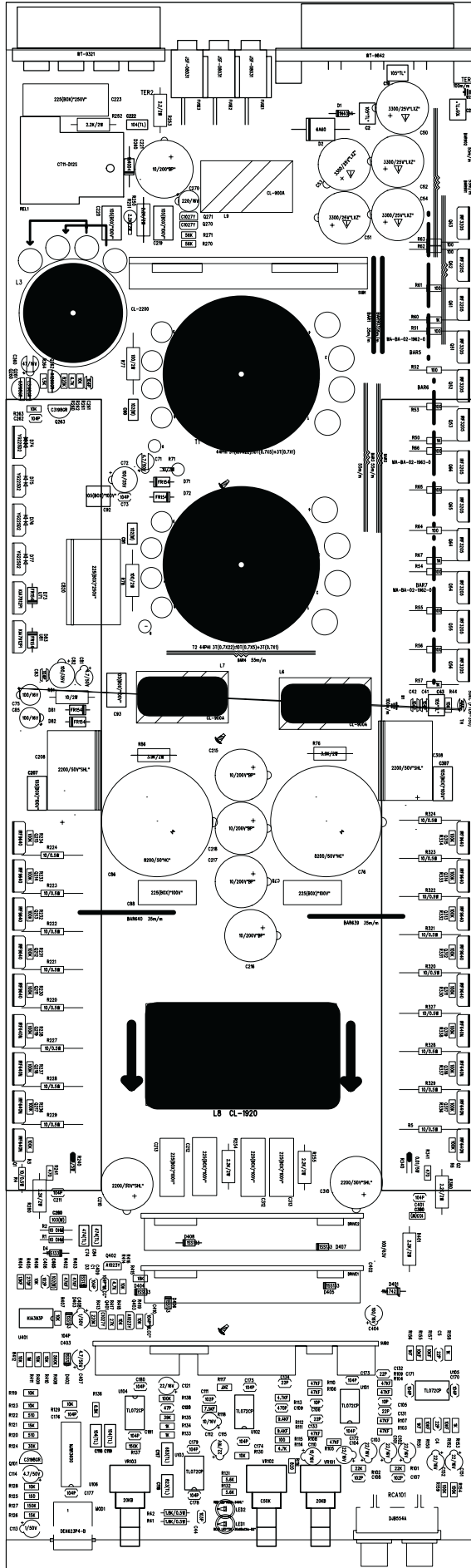
GTO 1201.1/1201.1II BLOCK DIAGRAM



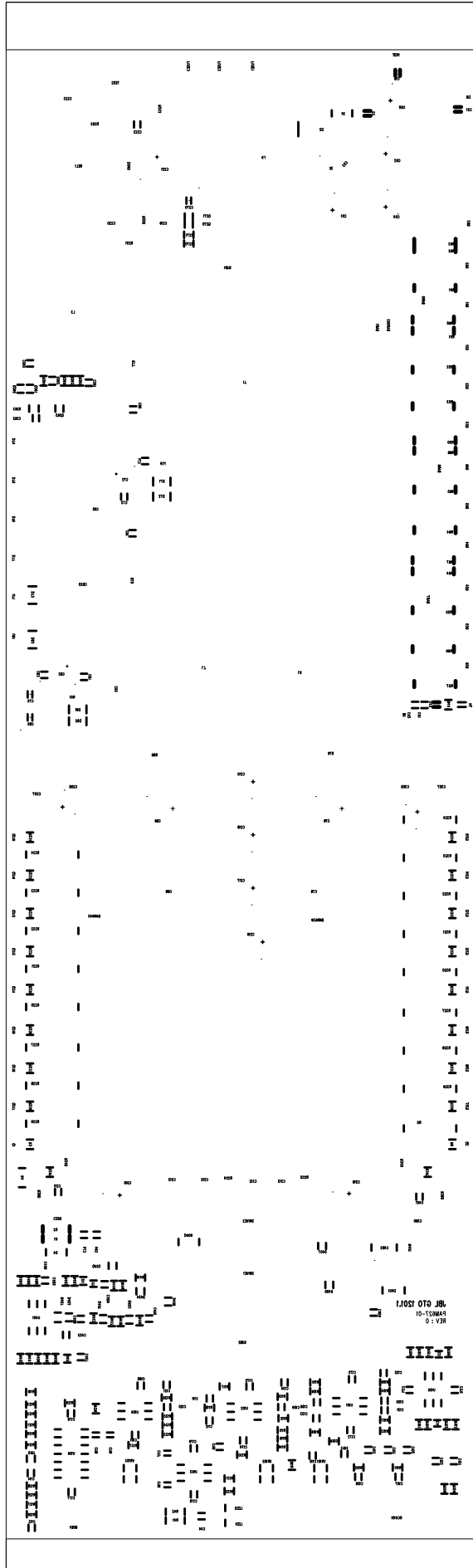
A
B
C
D
E

1 2 3 4 5 6 7

Printed Circuit Board (Top View)

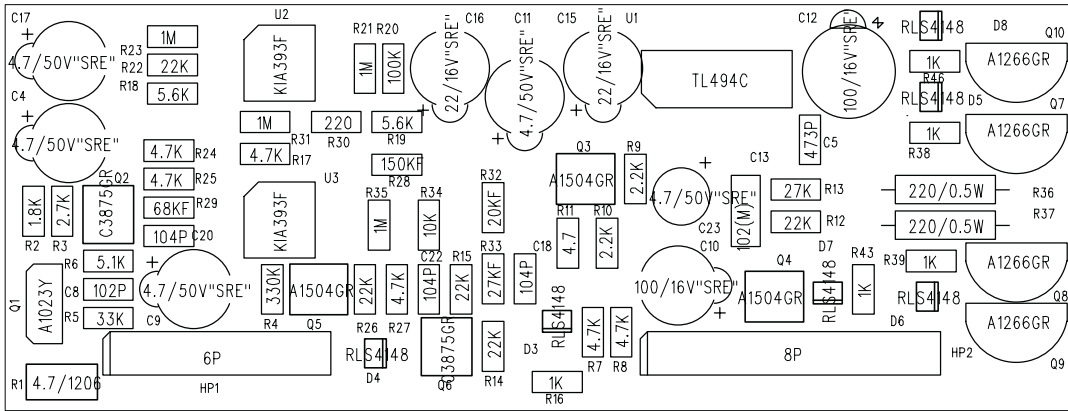


Printed Circuit Board (BOTTOM View)

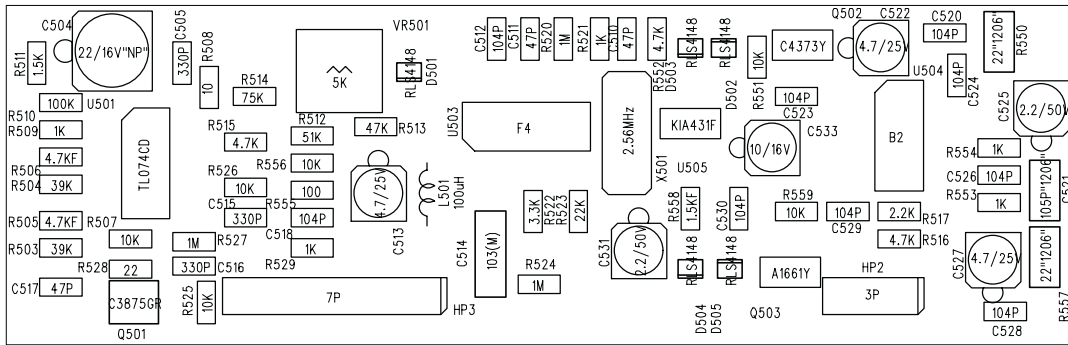


Printed Circuit Board (SUB TOP View)

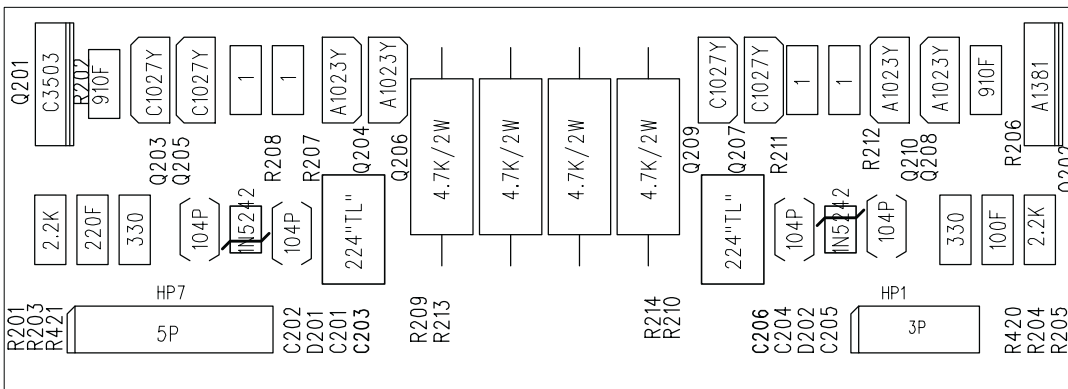
PAS308-01



PAS309-01



PAS310-01



GTO1201.1 Parts List

PART NO.	NOMENCATURE	DESCRIPTION	MFR PARTS	REF. NO	Q'TY
DIO-00-00108	DIODE	FAST RECOVERY	FR154	D71,72,73,81,82,83	6
DIO-00-00003	DIODE	RECTIFIER	1N4004	D1,260	2
DIO-00-00019	DIODE	ZENER 1W,12V	1N4742	D401	1
DIO-00-00006	DIODE	SWITCHING SIGNAL	1SS133/1N4148	D3,4,402,403,404,405,406,407,408	9
TRS-00-00087	TRANSISTOR	SMALL SIGNAL PNP "TO-92L"	KTA1023Y	Q402,403	2
TRS-00-00088	TRANSISTOR	SMALL SIGNAL NPN "TO-92L"	KTC1027Y	Q270,271,401	3
TRS-00-00090	TRANSISTOR	SMALL SIGNAL PNP "TO-92"	KTA1266GR	Q262	1
TRS-00-00110	TRANSISTOR	SMALL SIGNAL NPN "TO-92"	KTC3198GR	Q101,260,261,263	4
RES-00-00479	RESISTOR	METAL FILM 1/5WF	270 OHM	R405	1
RES-00-00437	RESISTOR	METAL FILM 1/5WF	1KF OHM	R151,156	2
RES-00-00482	RESISTOR	METAL FILM 1/5WF	2KF OHM	R117	1
RES-00-00523	RESISTOR	METAL FILM 1/5WF	4.7KF OHM	R113	1
RES-00-00575	RESISTOR	METAL FILM 1/5WF	7.5KF OHM	R118	1
RES-00-00589	RESISTOR	METAL FILM 1/5WF	9.4KF OHM	R111,112	2
RES-00-00402	RESISTOR	METAL FILM 1/5WF	10KF OHM	R150,152,155,157	4
RES-00-00419	RESISTOR	METAL FILM 1/5WF	13KF OHM	R404	1
RES-00-00537	RESISTOR	METAL FILM 1/5WF	47KF OHM	R103,104,105,106,107,108,109,110,402,40	3 10
RES-00-00610	RESISTOR	CARBON FILM 1/5WJ	10 OHM	R1,2	2
RES-00-00606	RESISTOR	CARBON FILM 1/5WJ	100 OHM	R51,52,53,54,55,56,61,62,63,64 R65,66,115	13
RES-00-00622	RESISTOR	CARBON FILM 1/5WJ	150 OHM	R125	1
RES-00-00712	RESISTOR	CARBON FILM 1/5WJ	470 OHM	R241,341	2
RES-00-00723	RESISTOR	CARBON FILM 1/5WJ	510 OHM	R120,122	2
RES-00-00756	RESISTOR	CARBON FILM 1/5WJ	820 OHM	R116	1
RES-00-00633	RESISTOR	CARBON FILM 1/5WJ	1K OHM	R50,57,60,67,133,134,153,158	8
RES-00-00598	RESISTOR	CARBON FILM 1/5WJ	1.5K OHM	R264	1
RES-00-00702	RESISTOR	CARBON FILM 1/5WJ	4.7K OHM	R114,262,414	3
RES-00-00720	RESISTOR	CARBON FILM 1/5WJ	5.6K OHM	R131,132	2
RES-00-00734	RESISTOR	CARBON FILM 1/5WJ	6.8K OHM	R136	1
RES-00-00608	RESISTOR	CARBON FILM 1/5WJ	10K OHM	R44,119,123,128,129,130,261,263,406,407 R409,410,412,416,418,419	16
RES-00-00623	RESISTOR	CARBON FILM 1/5WJ	15K OHM	R121,126	2
RES-00-00630	RESISTOR	CARBON FILM 1/5WJ	18K OHM	R415	1
RES-00-00658	RESISTOR	CARBON FILM 1/5WJ	22K OHM	R101,102	2
RES-00-00666	RESISTOR	CARBON FILM 1/5WJ	27K OHM	R417	1
RES-00-00680	RESISTOR	CARBON FILM 1/5WJ	30K OHM	R124	1
RES-00-00697	RESISTOR	CARBON FILM 1/5WJ	39K OHM	R135	1
RES-00-00730	RESISTOR	CARBON FILM 1/5WJ	56K OHM	R270,271	2
RES-00-00604	RESISTOR	CARBON FILM 1/5WJ	100K OHM	R3,6,138,154,159,230,231,232,233,234, R236,237,238,330,331,332,333,334,336,337 R338	21
RES-00-00620	RESISTOR	CARBON FILM 1/5WJ	150K OHM	R127,137	2
RES-00-00654	RESISTOR	CARBON FILM 1/5WJ	220K OHM	R413	1
RES-00-00727	RESISTOR	CARBON FILM 1/5WJ	560K OHM	R408	1
RES-00-00755	RESISTOR	CARBON FILM 1/5WJ	820K OHM	R260	1
RES-00-00635	RESISTOR	CARBON FILM 1/5WJ	1M OHM	R411	1
RES-00-00018	RESISTOR	METAL FILM 1/2WJ	10 OHM	R4,5,220,221,222,223,224,227,228,229 R320,321,322,323,324,327,328,329	18
RES-00-00014	RESISTOR	METAL FILM 1/2WJ	1.8K	R41,42	2
IND-00-00025	INDUCTOR	LAL02TB1R0K AXIAL TYPE 5%	1uH	L101,102	2
CEC-00-00077	CAPACITOR	CERAMIC DISK 50V "NPO"	10pF	C105,106	2
CEC-00-00090	CAPACITOR	CERAMIC DISK 50V "NPO"	22pF	C4,5,131,132,133,134	6
CEC-00-00103	CAPACITOR	CERAMIC DISK 50V "NPO"	47pF	C120	1
CEC-00-00101	CAPACITOR	CERAMIC DISK 50V	470pF	C109	1
CEC-00-00074	CAPACITOR	CERAMIC DISK 50V	102pF	C107,108,111,406	4
CEC-00-00075	CAPACITOR	CERAMIC DISK 50V	103pF	C44	1
CEC-00-00076	CAPACITOR	CERAMIC DISK 50V	104pF	C1,41,42,73,83,170,171,172,173,174 C175,176,177,178,179,180,181,211,261,262 C401,403	22
CEC-00-00152	CAPACITOR	CERAMIC DISK 50V "MLCC"	102pF	C21,701,C704	3
CEC-00-00124	CAPACITOR	CERAMIC DISK 50V "MLCC"	104pF	C409,410,702,703	4
ELC-00-00153	CAPACITOR	ELECTROLYTIC "SMS"	1uF/50V	C113,408	2

GTO1201.1 Parts List

PART NO.	NOMENCATURE	DESCRIPTION	MFR PARTS	REF. NO	Q'TY
ELC-00-00160	CAPACITOR	ELECTROLYTIC"SMS"	4.7uF/50V	C71,81,114,407	4
ELC-00-00125	CAPACITOR	ELECTROLYTIC"SMS"	10uF/16V	C110,112	2
ELC-00-00127	CAPACITOR	ELECTROLYTIC"SMS"	22uF/16V	C101,102,103,104,115,121,151,152	8
ELC-00-00130	CAPACITOR	ELECTROLYTIC"SMS"	47uF/16V	C260	1
ELC-00-00523	CAPACITOR	ELECTROLYTIC"SMS"	100uF/16V	C75,85,404	3
ELC-00-00150	CAPACITOR	ELECTROLYTIC"SMS"	100uF/35V	C72,82	2
ELC-00-00132	CAPACITOR	ELECTROLYTIC"SMS"	220uF/16V	C270	1
MYC-00-00020	CAPACITOR	MYLAR 5% 100V	102J	C90,91,405	3
MYC-00-00019	CAPACITOR	MYLAR 5% 100V	103J	C280,380	2
MYC-00-00091	CAPACITOR	MYLAR 5% 63V "TL TYPE"	683J	C117	1
MYC-00-00157	CAPACITOR	MYLAR 5% 63V "TL TYPE"	823J	C116	1
MYC-00-00083	CAPACITOR	MYLAR 5% 63V "TL TYPE"	104J	C118,119,222	3
MYC-00-00066	CAPACITOR	MYLAR 5% 63V "TL TYPE"	474J	C74,84	2
MYC-00-00085	CAPACITOR	MYLAR 5% 63V "TL TYPE"	105J	C19,43	2
ICO-00-00003	I.C	DUAL OPAMP DIP-08	TL072CP	U101,102,103,104,105	5
ICO-00-00170	I.C	VOLUME IC DIP-16	NJM 13600D	U106	1
ICO-00-00095	I.C	COMPORATOR IC DIP-08	KIA393P	U401	1
ICO-00-00157	I.C	VOTAGE REGULATOR +12V 1A	KIA7812PI	U71	1
ICO-00-00162	I.C	VOTAGE REGULATOR -12V 1A	KIA7912PI	U81	1
FET-00-00001	F.E.T	N-CH POWER FET "TO-220"	IRF3205	Q51,52,53,54,55,56,61,62,63,64 Q65,66	12
FET-00-00046	F.E.T	N-CH POWER FET "TO-220"	IRF640N	Q1,2,217,218,219,317,318,319	8
FET-00-00021	F.E.T	P-CH POWER MOSFET	IRF9640	Q211,212,213,214,215,311,312,313,314,31 5	10
DIO-00-00152	DIODE	FAST RECOVERY	YG225D2	D74,75,76,77	4
DIO-00-00177	DIODE	FAST RECOVERY	6A60	D2	1
RES-00-01112	RESISTOR	MOR-S 2WJ	2.2 OHM	R253	1
RES-00-00846	RESISTOR	MOR-S 2WJ	10 OHM	R71,81	2
RES-00-00844	RESISTOR	MOR-S 2WJ	100 OHM	R77,78	2
RES-00-00853	RESISTOR	MOR-S 2WJ	2.2K OHM	R250,251,252,254,255,280,380,401	8
RES-00-01099	RESISTOR	MOR-S 2WJ	3.9K OHM	R76,86	2
RES-00-00947	RESISTOR	SHUNT RESISTOR 5WJ (3P)	0.01 OHM	R240,340	2
ELC-00-00167	CAPACITOR	ELECTROLYTIC "SMS"	100/63V	C402	1
ELC-00-00010	CAPACITOR	ELECTROLYTIC"BP"	10uF/200V	C215,216,217,218,221	5
ELC-00-00187	CAPACITOR	ELECTROLYTIC"SHL"	2200/50V	C208,210,308,310	4
ELC-00-00716	CAPACITOR	ELECTROLYTIC "LXZ"	3300uF/25V	C50,51,52,53,54	5
ELC-00-00033	CAPACITOR	ELECTROLYTIC "HC"	8200/50V"HC"	C76,86	2
MYC-00.-0010	CAPACITOR	MYLAR 10% 100V "BOX TYPE"	105K	C92,93,207,219,220,307	6
MYC-00.-0007	CAPACITOR	MYLAR 10% 100V "BOX TYPE"	225K	C78,88,212,213,312,313	6
MYC-00.-0010	CAPACITOR	MYLAR 10% 250V "BOX TYPE"	225K	C223,820	2
COI-00-00086	INDUCTOR	DRUM COIL	CL-900A	L6,7,9	3
COI-00-00073	INDUCTOR	DRUM COIL	CL-2200	L3	1
COI-00-00112	INDUCTOR	DRUM COIL	CL-1920	L8	1
COR-TF-00392	CORE	MAGNETIC	44 PHI	T1,T2 44PHI 3T(0.7X22):10T(0.7X5):3T(0.7X 1	2

GTO1201.1 Parts List

PART NO.	NOMENCATURE	DESCRIPTION	MFR PARTS	REF. NO	Q'TY
TER-00-00238	3P TERMINAL	POWER TERMINAL	WT-9842	TER1	1
TER-00-00239	4P TERMINAL	SPEAKER TERMINAL	WT-9321	TER2	1
HOD-00-00006	FUSE HOLDER	PCB TYPE	JSF-08031	FUSE1,2,3	3
FUS-AT-00008	AUTO FUSE	AUTO FUSE	40A	SET(3)+ACCESSORY(3)	6
JAC-00-00043	RCA JACK	GOLD PLATE	DJB-554A	RCA101	1
JUP-00-00003	JUMPER	BAR JUMP	35m/m	BAR1,639,640,903	4
JUP-00-00005	JUMPER	BAR JUMPER	55 m/m	BAR2,3,4,901.902	5
JUP-00-00028	JUMPER	MA-BA-02-1962-0	4P JUMPER	BAR5,6,7	3
JAC-00-00050	MODULAR	4P,BLACK	DEK623PCB4-B	MOD1	1
REL-00-00008	RELAY	DC 30A 12V	CT11-D12S	REL1	1
THS-00-00013	THERMISTOR	FTD5-350	50K	TH	1
VOL-00-00335	VOLUME	V12L5(9X5)G(PH2D)N15S	15B20K	VR101,103	2
VOL-00-00336	VOLUME	V12L5(9X5)G(PH2D)N15S	15C50K	VR102	1
WIR-00-00018	GND WIRE	#1007 AWG #22 BLACK , 3.2PHI	120m/m	W702	1
WIR-00-00017	GND WIRE	#1007 AWG #22 BLACK , 3.2PHI	100m/m	W1.W701	2
WIR-00-00016	GND WIRE	#1007 AWG #22 BLACK , 3.2PHI	80m/m	W2	1
DIO-00-00278	LED	3PHI RED	HNRD-3401L	LED2	1
DIO-00-00303	LED	3PHI BLUE	TOL-30aSBaCAa	LED1	1
TUB-00-00112	HEAT TUBE	2 PHI	10m/m	W701,702	2
TUB-00-00008	TEFLON TUBE	0.7 PHI	10 m/m	TH	2
TUB-00-00009	TEFLON TUBE	0.7 PHI	15 m/m	LED1	2
TUB-00-00006	TEFLON TUBE	0.7 PHI	20 m/m	LED2	2
ICO-00-00021	I.C	SMD PWM	TL494CD	U1	1
ICO-00-00094	I.C	SMD "FLP-8"	KIA393F	U2,3	2
TRS-00-00098	TRANSISTOR	SMALL SIGNAL PNP,SOT-23	KTA1504GR	Q3,4,5	3
TRS-00-00113	TRANSISTOR	SMALL SIGNAL NPN,SOT-23	KTC3875GR	Q2,6	2
DIO-00-00117	DIODE	SWITCHING SIGNAL	RLS4148	D3,4,5,6,7,8	6
RES-08-00035	RESISTOR	SMD "0805"1/8WF	20KF OHM	R32	1
RES-08-00048	RESISTOR	SMD "0805"1/8WF	27KF OHM	R33	1
RES-08-00111	RESISTOR	SMD "0805"1/8WF	68KF OHM	R29	1
RES-08-00021	RESISTOR	SMD "0805"1/8WF	150KF OHM	R28	1
RES-08-00193	RESISTOR	SMD "0805"1/8WJ	4.7 OHM	R11	1
RES-08-00163	RESISTOR	SMD "0805"1/8WJ	220 OHM	R30	1
RES-08-00148	RESISTOR	SMD "0805"1/8WJ	1K OHM	R16,38,39,43,46	5
RES-08-00129	RESISTOR	SMD "0805"1/8WJ	1.8K OHM	R2	1
RES-08-00151	RESISTOR	SMD "0805"1/8WJ	2.2K OHM	R9,10	2
RES-08-00156	RESISTOR	SMD "0805"1/8WJ	2.7K OHM	R3	1
RES-08-00191	RESISTOR	SMD "0805"1/8WJ	4.7K OHM	R7,8,17,24,25,27	6
RES-08-00200	RESISTOR	SMD "0805"1/8WJ	5.1K OHM	R6	1
RES-08-00201	RESISTOR	SMD "0805"1/8WJ	5.6K OHM	R18,19	2
RES-08-00132	RESISTOR	SMD "0805"1/8WJ	10K OHM	R34	1
RES-08-00164	RESISTOR	SMD "0805"1/8WJ	22K OHM	R12,14,15,22,26	5
RES-08-00170	RESISTOR	SMD "0805"1/8WJ	27K OHM	R13	1
RES-08-00182	RESISTOR	SMD "0805"1/8WJ	33K OHM	R5	1
RES-08-00130	RESISTOR	SMD "0805"1/8WJ	100K OHM	R20	1
RES-08-00180	RESISTOR	SMD "0805"1/8WJ	330K OHM	R4	1
RES-08-00149	RESISTOR	SMD "0805"1/8WJ	1M OHM	R21,23,31,35	4
RES-12-00189	RESISTOR	SMD "1206"1/6WJ	4.7 OHM	R1	1

GTO1201.1 Parts List

PART NO.	NOMENCATURE	DESCRIPTION	MFR PARTS	REF. NO	Q'TY
CEC-08-00002	CAPACITOR	CHIP"0805" 50V 5%	102P	C8	1
CEC-08-00040	CAPACITOR	CHIP"0805" 50V 5%	473P	C5	1
CEC-08-00004	CAPACITOR	CHIP"0805" 50V 5%	104P	C14,18,20,22	4
TRS-00-00087	TRANSISTOR	SMALL SIGNAL PNP	KTA1023Y	Q1	1
TRS-00-00090	TRANSISTOR	SMALL SIGNAL PNP	KTA1266GR	Q7,8,9,10	4
RES-00-00038	RESISTOR	METAL FILM 1/2WJ	220 OHM	R36,37	2
ELC-00-00250	CAPACITOR	ELECTROLYTIC"SRE"	4.7uF/50V	C4,9,11,17,23	5
ELC-00-00641	CAPACITOR	ELECTROLYTIC"SRE"	22uF/16V	C15,16	2
ELC-00-00243	CAPACITOR	ELECTROLYTIC"SRE"	100uF/16V	C10,12	2
MYC-00-00020	CAPACITOR	MYLAR 5% 100V	102J	C13	1
HED-00-00100	HEADER PIN	PIN HEADER C-TYPE 6P(R-ANGLE)	TM2007-C9G-06P	HP1	1
HED-00-00228	HEADER PIN	PIN HEADER C-TYPE 8P(R-ANGLE)	TM2007-C9G-08P	HP2	1
WIR-00-00087	WIRE	AWG#22BK	20m/m		1
ICO-00-00005	I.C	SMD QUAD OP AMP "SO-14"	TL074CD	U501	1
ICO-00-00099	I.C	2.5V SHUNT IC , SOT-89	KIA431F	U505	1
ICO-00-00054	I.C	DIVIDER	F4	U503	1
ICO-00-00546	I.C	COMPARATOR "SO-14"	B2	U504	1
TRS-00-00197	TRANSISTOR	HIGH CURRENT PNP,SOT-89	KTA1661Y	Q503	1
TRS-00-00115	TRANSISTOR	HIGH CURRENT NPN,SOT-89	KTC4373Y	Q502	1
TRS-00-00113	TRANSISTOR	SMALL SIGNAL NPN,SOT-23	KTC3875GR	Q501	1
DIO-00-00117	DIODE	SWITCHING SIGNAL	RLS4148	D501,502,503,504,505	5
RES-08-00005	RESISTOR	SMD "0805"1/8WF	1.5KF OHM	R558	1
RES-08-00077	RESISTOR	SMD "0805"1/8WF	4.7KF OHM	R505,506	2
RES-08-00135	RESISTOR	SMD "0805"1/8WJ	10 OHM	R508	1
RES-08-00165	RESISTOR	SMD "0805"1/8WJ	22 OHM	R528	1
RES-08-00131	RESISTOR	SMD "0805"1/8WJ	100 OHM	R555	1
RES-08-00148	RESISTOR	SMD "0805"1/8WJ	1K OHM	R509,521,529,553,554	5
RES-08-00126	RESISTOR	SMD "0805"1/8WJ	1.5K OHM	R511	1
RES-08-00151	RESISTOR	SMD "0805"1/8WJ	2.2K OHM	R517	1
RES-08-00174	RESISTOR	SMD "0805"1/8WJ	3.3K OHM	R522	1
RES-08-00191	RESISTOR	SMD "0805"1/8WJ	4.7K OHM	R515,516,552	3
RES-08-00132	RESISTOR	SMD "0805"1/8WJ	10K OHM	R507,525,526,551,556,559	6
RES-08-00164	RESISTOR	SMD "0805"1/8WJ	22K OHM	R523	1
RES-08-00187	RESISTOR	SMD "0805"1/8WJ	39K OHM	R503,504	2
RES-08-00198	RESISTOR	SMD "0805"1/8WJ	47K OHM	R513	1
RES-08-00204	RESISTOR	SMD "0805"1/8WJ	51K OHM	R512	1
RES-08-00221	RESISTOR	SMD "0805"1/8WJ	75K OHM	R514	1
RES-08-00130	RESISTOR	SMD "0805"1/8WJ	100K OHM	R510	1
RES-08-00149	RESISTOR	SMD "0805"1/8WJ	1M OHM	R520,524,527	3
RES-12-00161	RESISTOR	SMD "1206"1/6WJ	22 OHM	R550,557	2
CEC-08-00042	CAPACITOR	CHIP"0805" 50V 5%	47pF	C510,511,517	3
CEC-08-00028	CAPACITOR	CHIP"0805" 50V 5%	330pF	C505,515,516	3
CEC-08-00004	CAPACITOR	CHIP"0805" 50V 5%	104pF	C512,518,520,523,524,526,528,529,530	9
CEC-12-00008	CAPACITOR	CHIP"1206" 50V 5%	105pF	C521	1
ELC-00-00077	CAPACITOR	ELECTROLYTIC CHIP "MV"	2.2uF/50V	C525,531	2
ELC-00-00070	CAPACITOR	ELECTROLYTIC CHIP "MV"	4.7uF/25V	C513,522,527	3
ELC-00-00356	CAPACITOR	ELECTROLYTIC CHIP "MV"	10uF/16V	C533	1
ELC-00-00606	CAPACITOR	ELECTROLYTIC CHIP "BP,NC"	22uF/16V"NP,BP"	C504	1
MYC-00-00019	CAPACITOR	MYLAR 5% 100V	103J	C514	1
IND-00-00020	INDUCTOR	AXIAL TYPE 5%	100uH	L501	1

GTO1201.1 Parts List

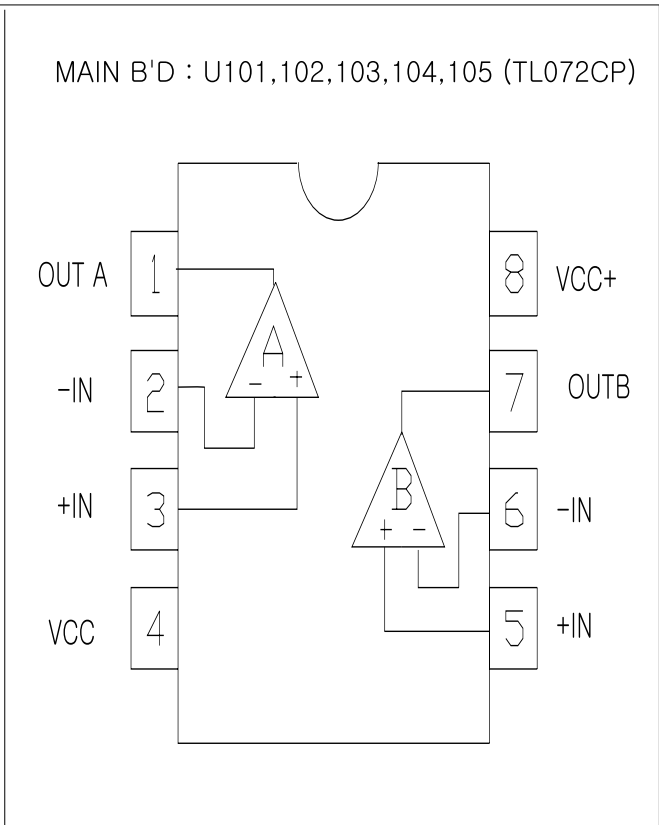
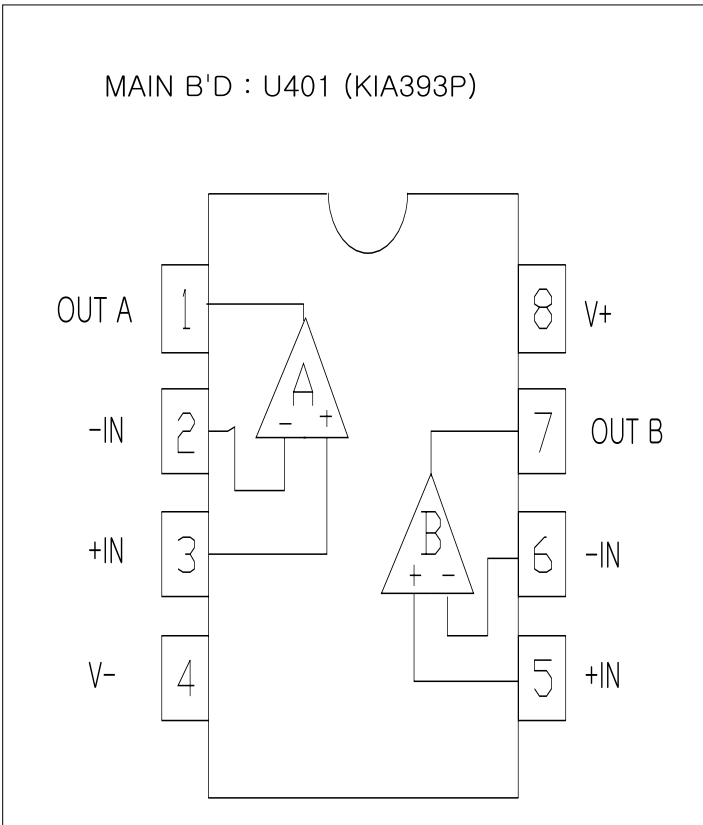
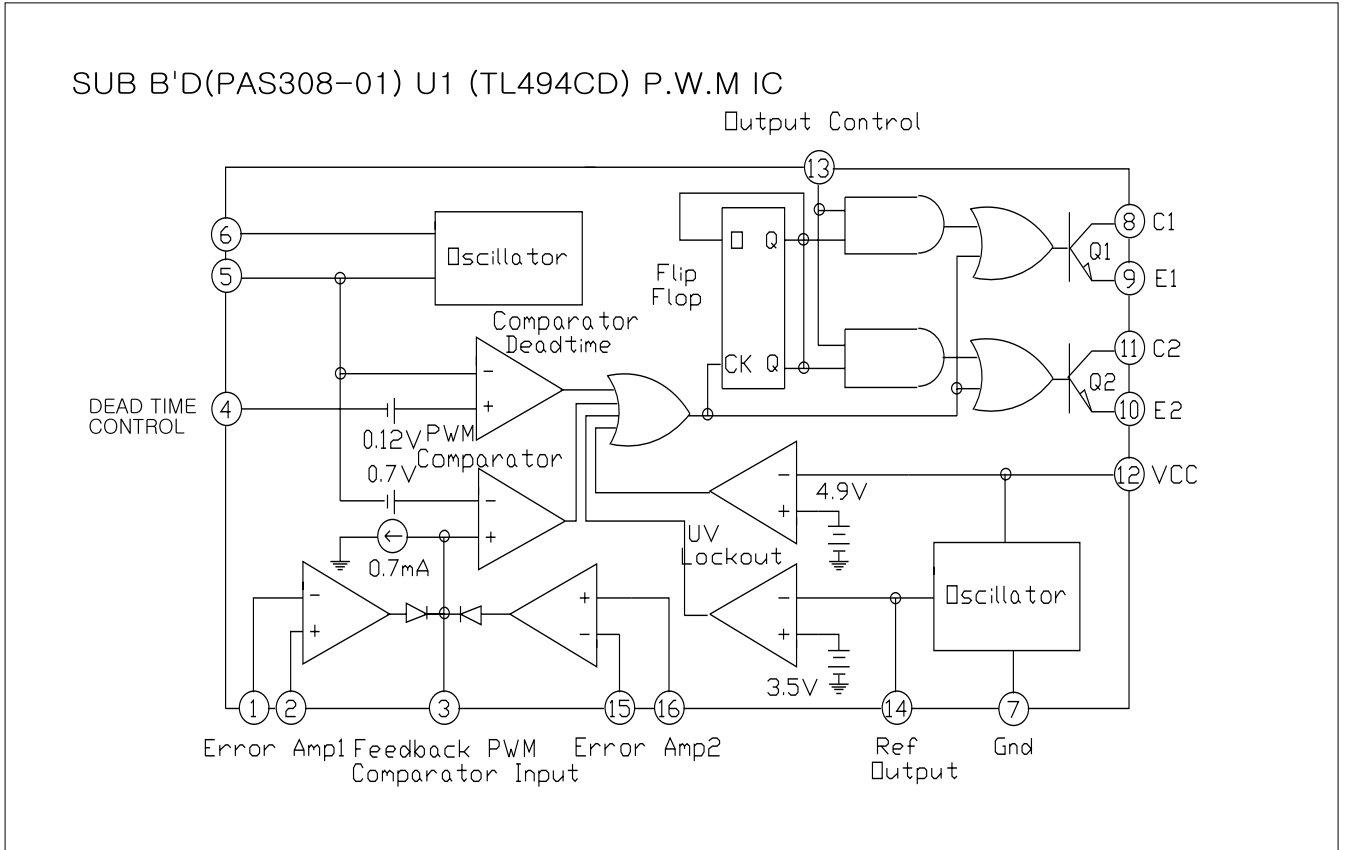
PART NO.	NOMENCATURE	DESCRIPTION	MFR PARTS	REF. NO	Q'TY
REN-00-00001	RESONATOR	2.56MHz	CSA256MG	X501	1
VOL-00-00238	VOLUME	SEMI X-TYPE (RG06X502)	5K SEMI	VR501	1
HED-00-00214	HEADER PIN	PIN HEADER C-TYPE 3P(R-ANGLE)	TM2007-C9G-03P	HP2	1
HED-00-00215	HEADER PIN	PIN HEADER C-TYPE 7P(R-ANGLE)	TM2007-C9G-07P	HP3	1
DIO-00-00041	DIODE	ZENER 0.5W,12V	1N5242	D201,202	2(4)
TRS-00-00087	TRANSISTOR	SMALL SIGNAL PNP "TO-92L"	KTA1023Y	Q204,206,208,210	4(8)
TRS-00-00088	TRANSISTOR	SMALL SIGNAL NPN "TO-92L"	KTC1027Y	Q203,205,207,209	4(8)
RES-00-00401	RESISTOR	METAL FILM 1/5WF	100 OHM	R204	1(2)
RES-00-00463	RESISTOR	METAL FILM 1/5WF	220 OHM	R203	1(2)
RES-00-00590	RESISTOR	METAL FILM 1/5WF	910 OHM	R202,206	2(4)
RES-00-00636	RESISTOR	CARBON FILM 1/5WJ	1 OHM	R207,208,211,212	4(8)
RES-00-00685	RESISTOR	CARBON FILM 1/5WJ	330 OHM	R420,421	2(4)
RES-00-00637	RESISTOR	CARBON FILM 1/5WJ	2.2K OHM	R201,205	2(4)
CEC-00-00076	CAPACITOR	CERAMIC DISK 50V	104pF+E39	C201,202,204,205	4(8)
MYC-00-00088	CAPACITOR	MYLAR 5% 63V "TL TYPE"	224J	C203,206	2(4)
RES-00-01033	RESISTOR	MOR-S 2WJ	4.7K OHM	R209,210,213,214	4(8)
TRS-00-00096	TRANSISTOR	SMALL SIGNAL PNP	KSA/KTA1381	Q202	1(2)
TRS-00-00112	TRANSISTOR	SMALL SIGNAL NPN	KSC/KTC3503	Q201	1(2)
HED-00-00214	HEADER PIN	PIN HEADER C-TYPE 3P(R-ANGLE)	TM2007-C9G-03P	HP1	1(2)
HED-00-00231	HEADER PIN	PIN HEADER C-TYPE 5P(R-ANGLE)	TM2007-C9G-05P	HP7	1(2)

GTO 1201.1 Version II Electrical Parts List Addendum

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

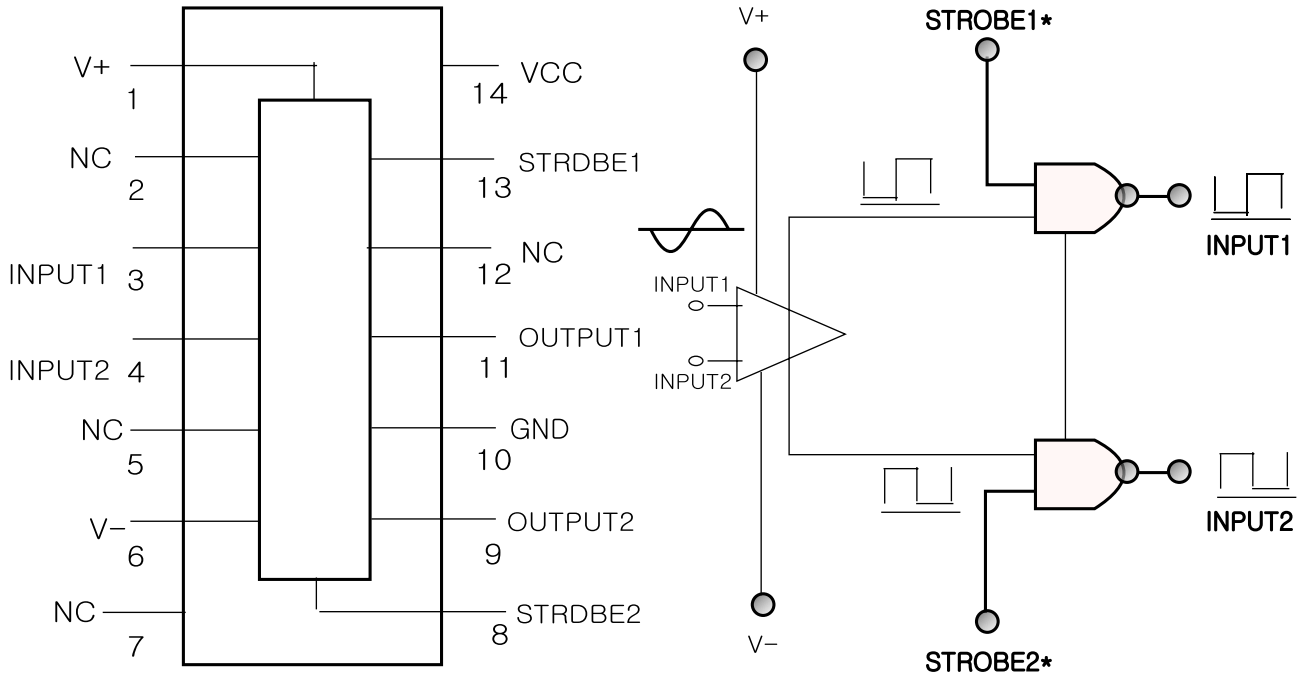
	MODEL	PART NAME	PART NO	SPEC	DESIGNATOR
1	GTO 1201.1	RESISTOR	RES-00-00756	1/5WJ 820 OHM	R116
	GTO 1201.1II	RESISTOR	RES-00-00474	1/5WF 240 OHM	R116
2	GTO 1201.1	RESISTOR	RES-00-00482	1/5WF 2K OHM	R117
	GTO 1201.1II	RESISTOR	RES-00-00577	1/5WF 750 OHM	R117
3	GTO 1201.1	RESISTOR	RES-00-00575	1/5WF 7.5K OHM	R118
	GTO 1201.1II	RESISTOR	RES-00-00402	1/5WF 10K OHM	R118
4	GTO 1201.1	POWER TERMINAL	TER-00-00238	(3P) WT-9842	TER1
	GTO 1201.1II	POWER TERMINAL	TER-00-00277	(3P) DK-03B03-AG-1-DN	TER1
5	GTO 1201.1	SPEAKER TERMINAL	TER-00-00239	(4P) WT-9321	TER2
	GTO 1201.1II	SPEAKER TERMINAL	TER-00-00275	(4P) DK-04A03-AG-1-DN	TER2

Integrated Circuit Diagrams

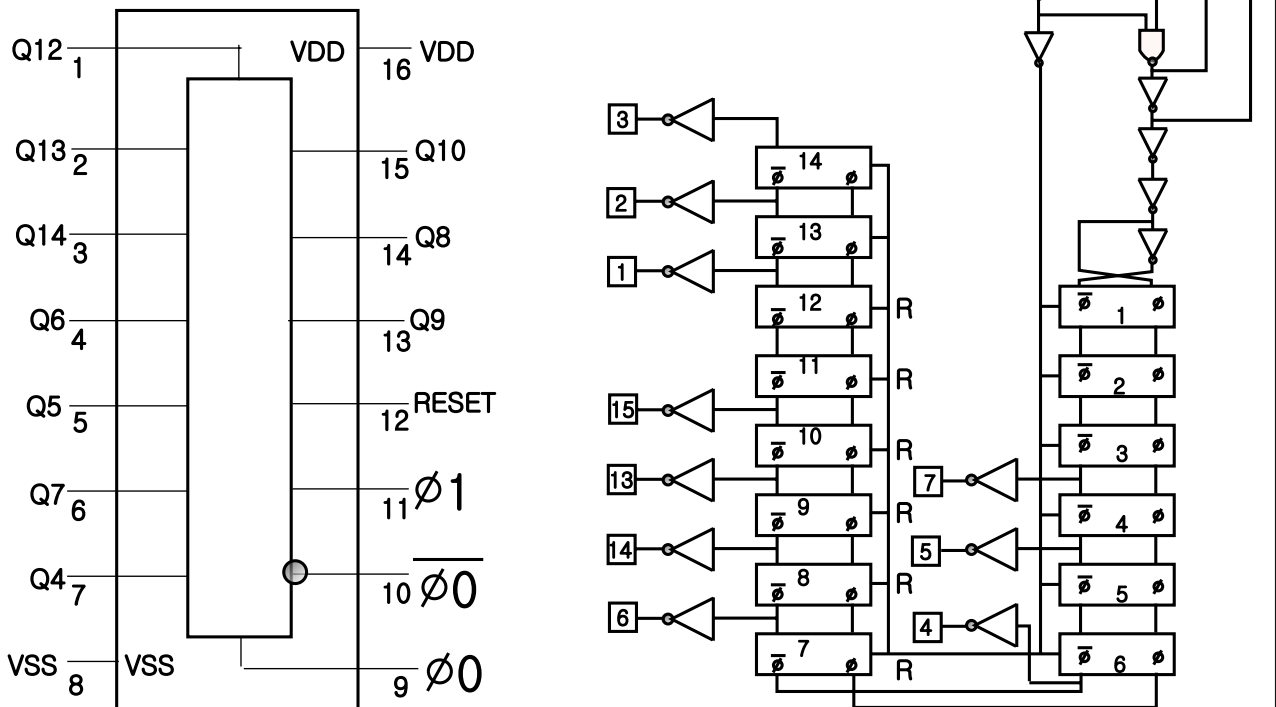


Integrated Circuit Diagrams

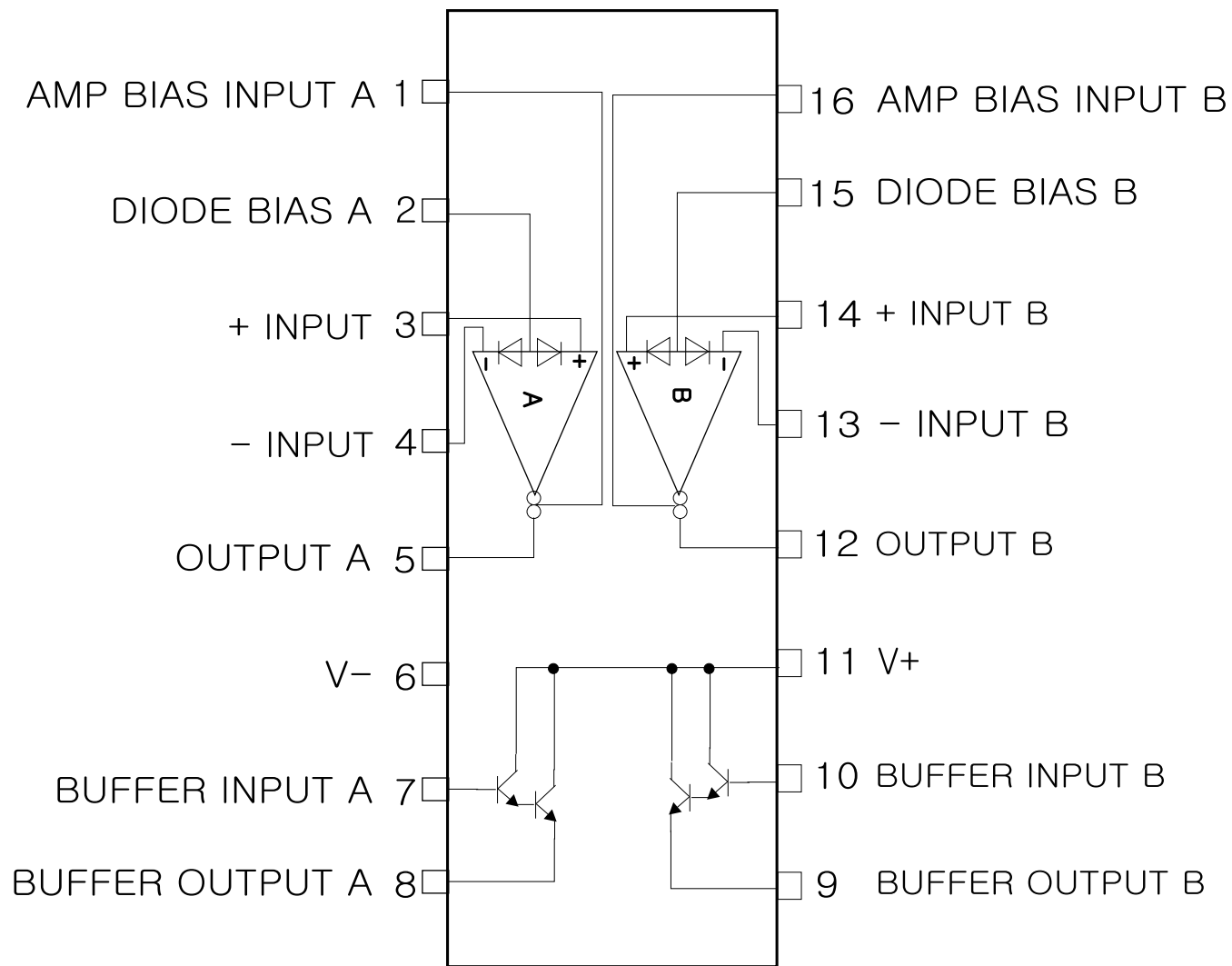
SUB B'D(PAS309-01) U504 (B2)



SUB B'D(PAS309-01) U503 (F4)



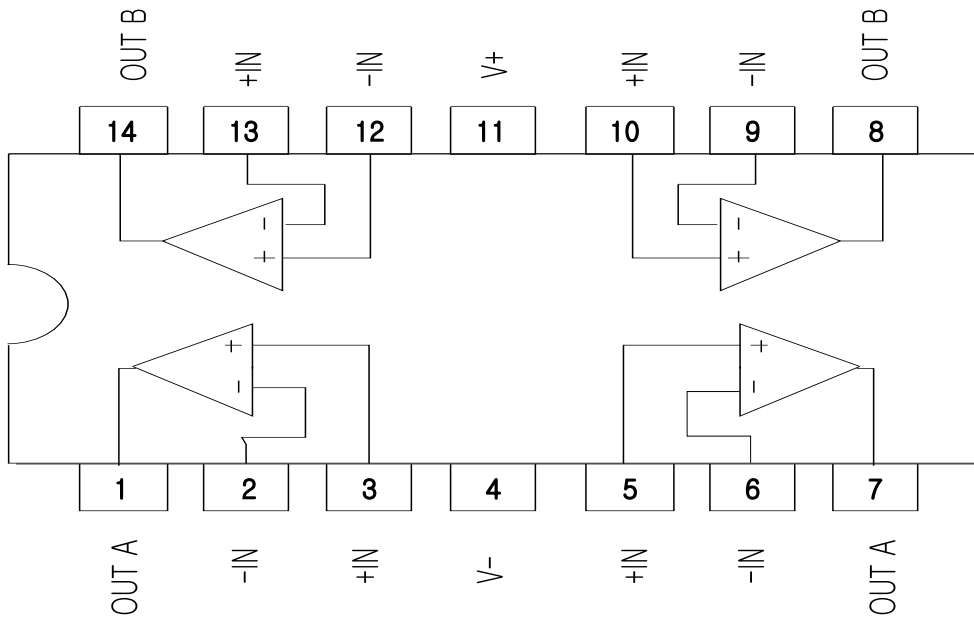
Integrated Circuit Diagrams



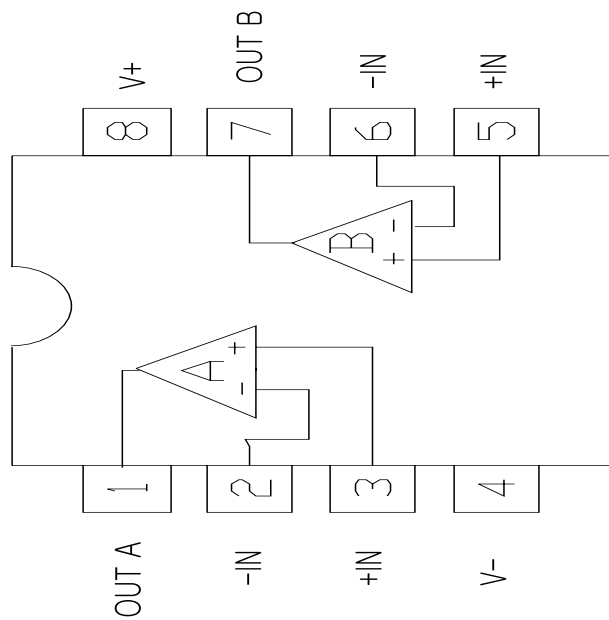
MAIN B'D : U106 (NJM13600D)

Integrated Circuit Diagrams

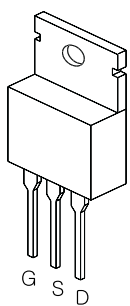
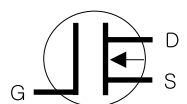
SUB B'D(PAS309-01) : U501 (TL074CD)



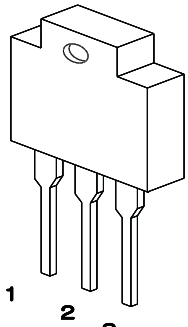
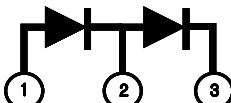
SUB B'D(PAS308-01) : U2,3 (KIA393F)



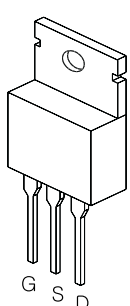
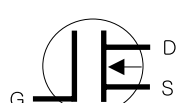

Transistor Diagrams

1RF3205
Q51,52,53,54,55,56,61,62,63,64
Q65,66

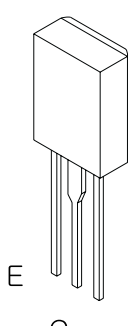
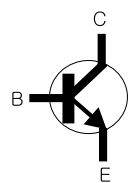
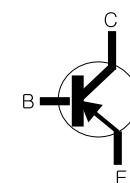



* YG225D2 *
D74,75,76,77

* IRF640N *
Q1,2,217,218,219
Q317,318,319

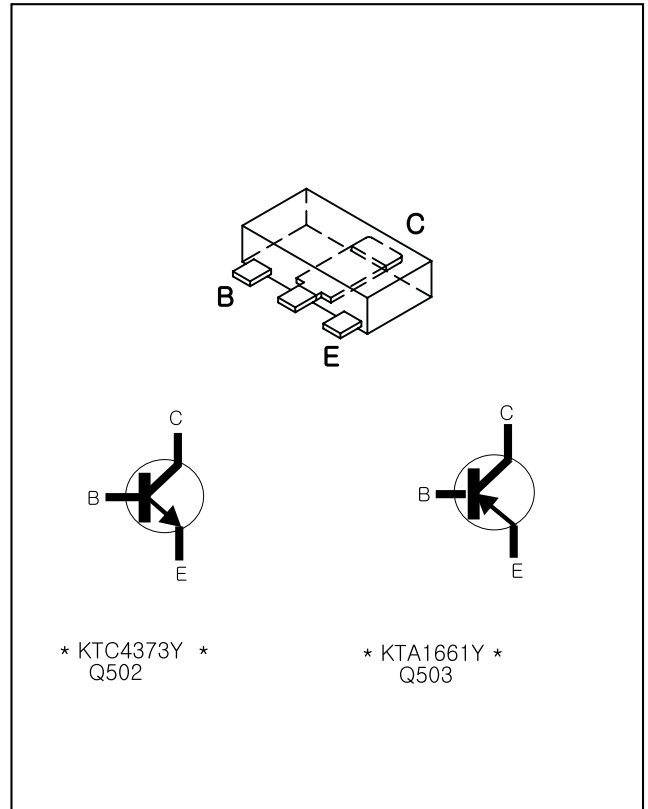
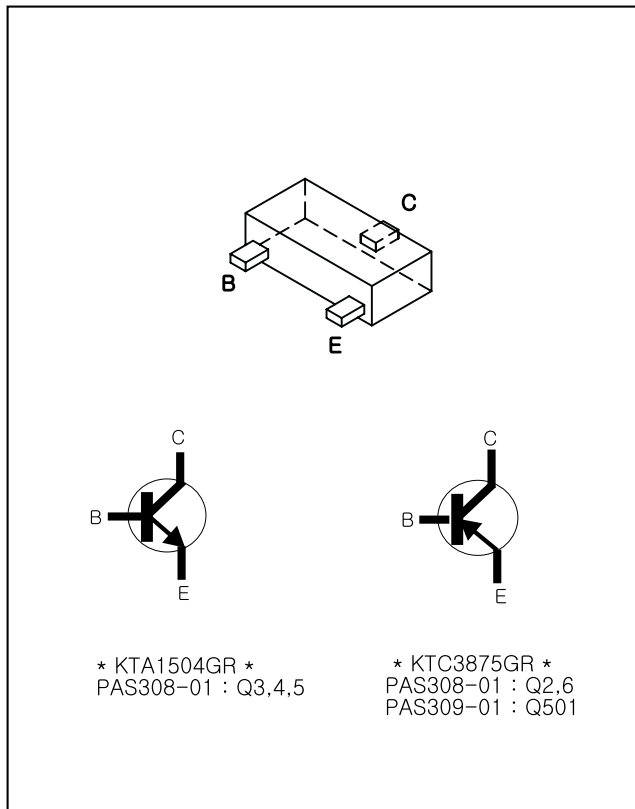
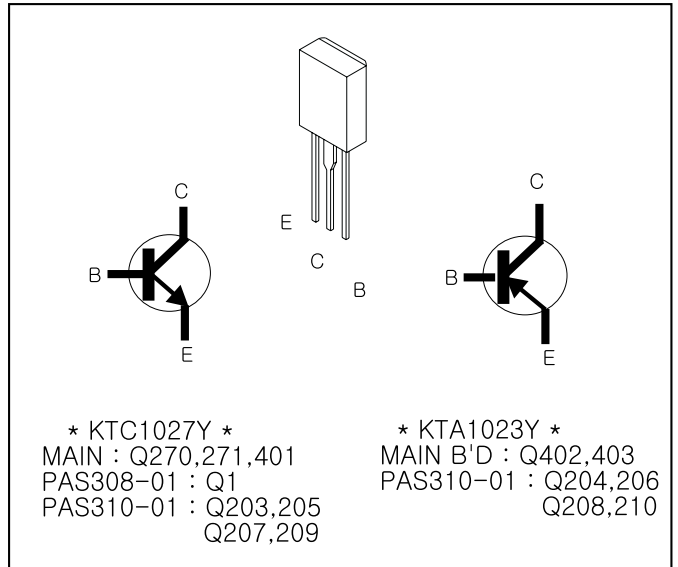
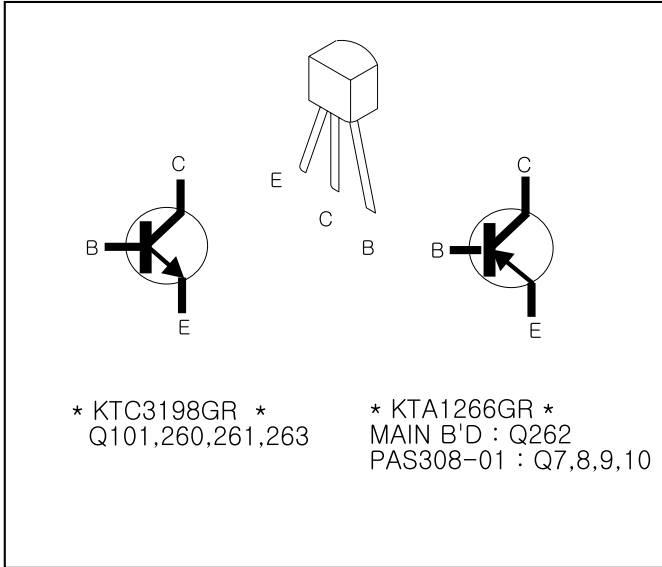
* IRF9640 *
Q211,212,213,214
Q215,311,312,313,314
Q315

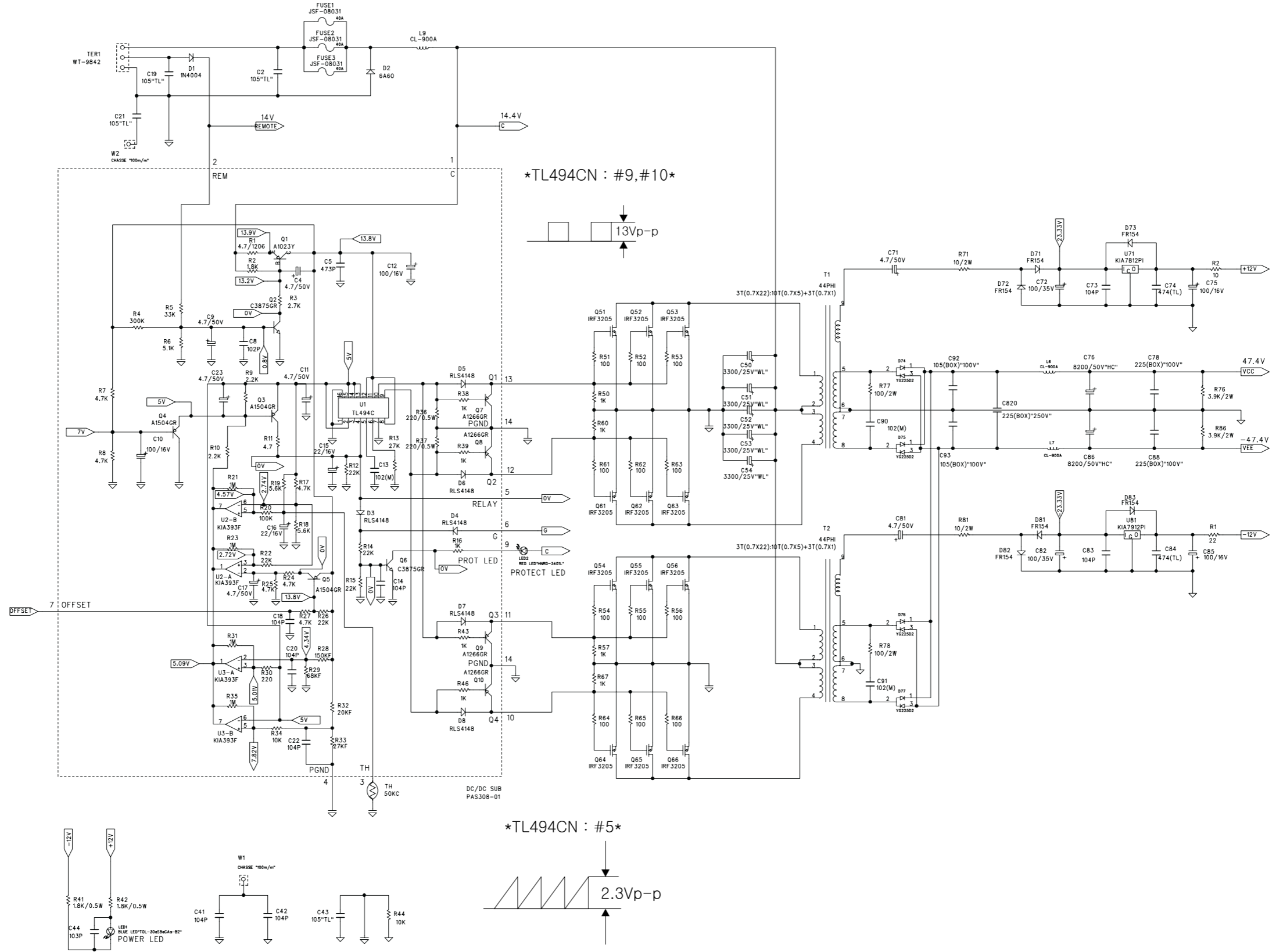
* KTC3503 *
Q201

* KTA1381 *
Q202

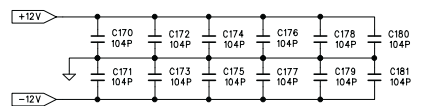
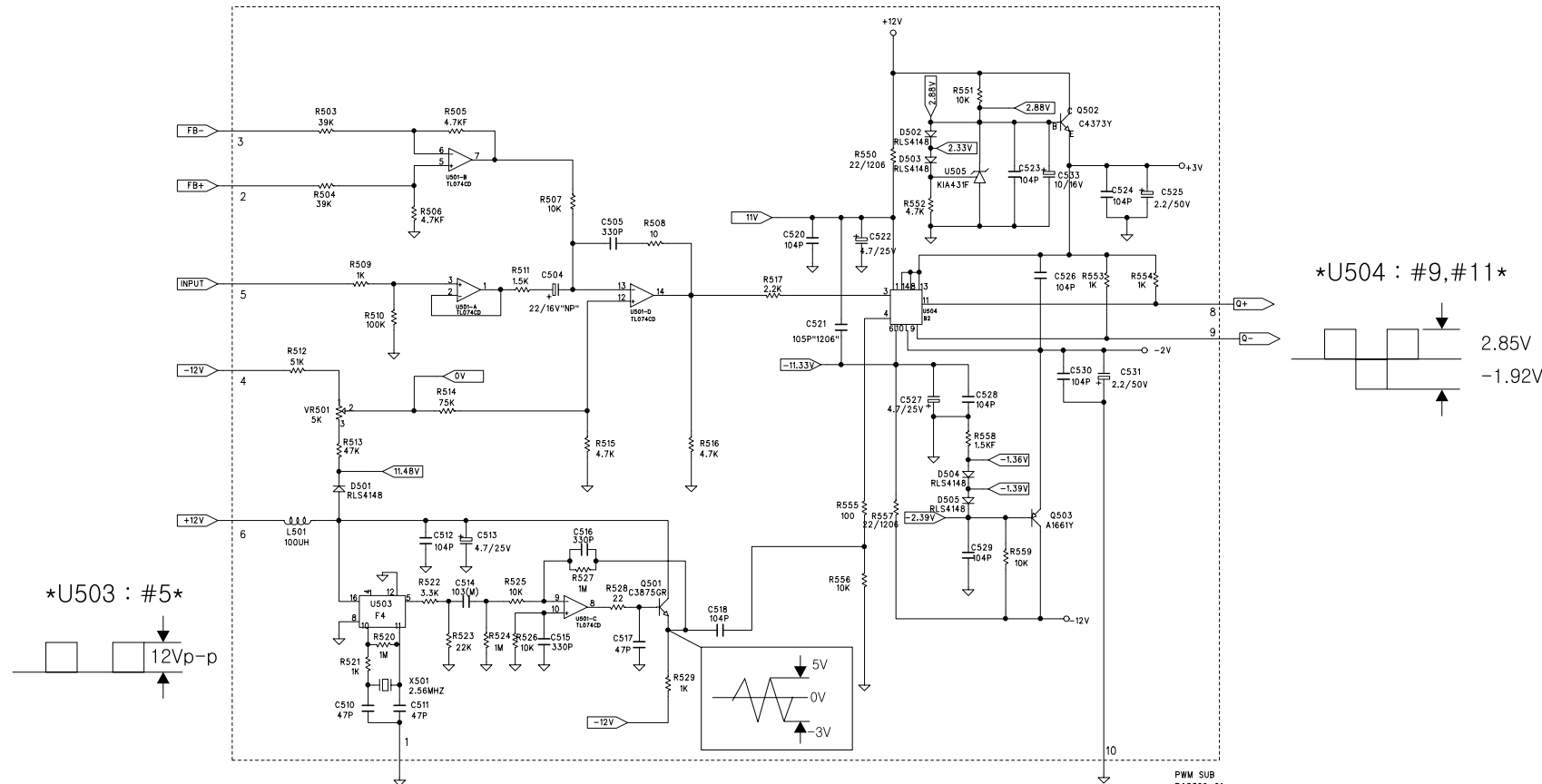
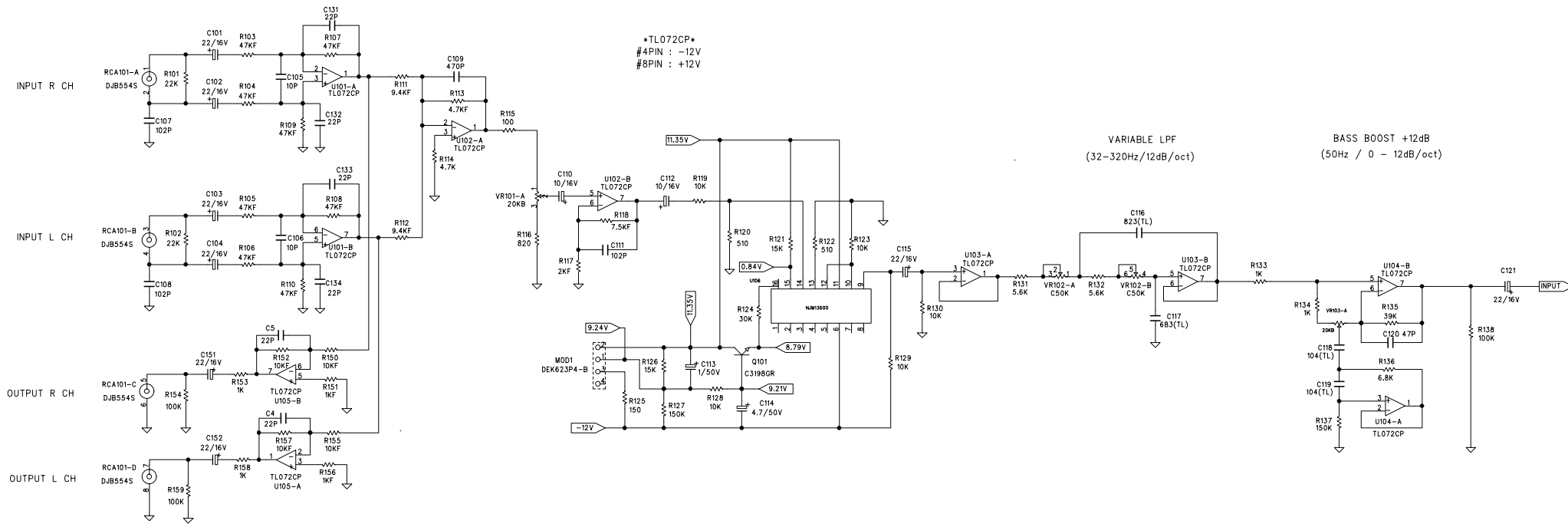
Transistor Diagrams



GTO 1201.1 Page1 Schematic



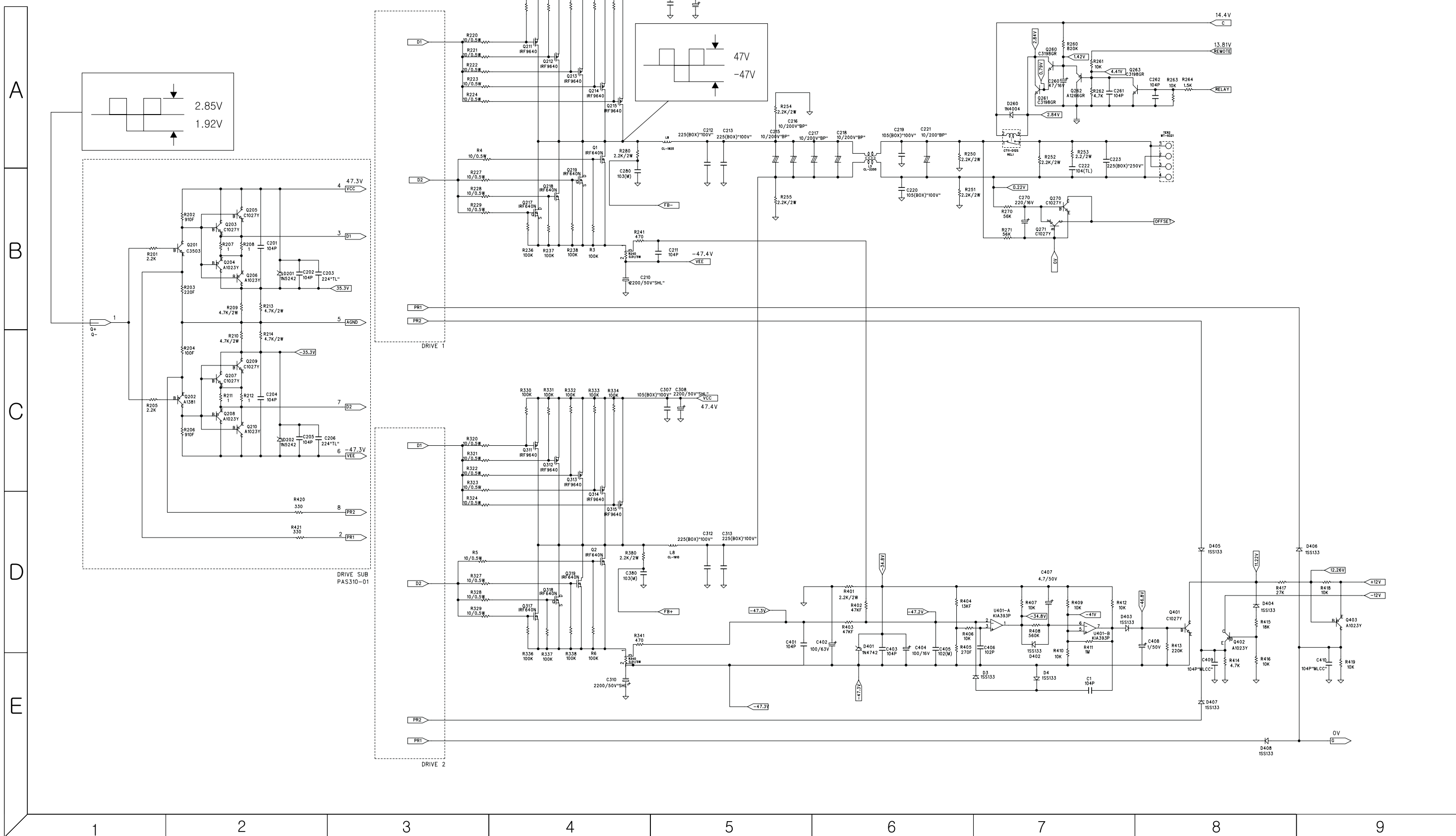
GTO 1201.1 Page2 Schematic



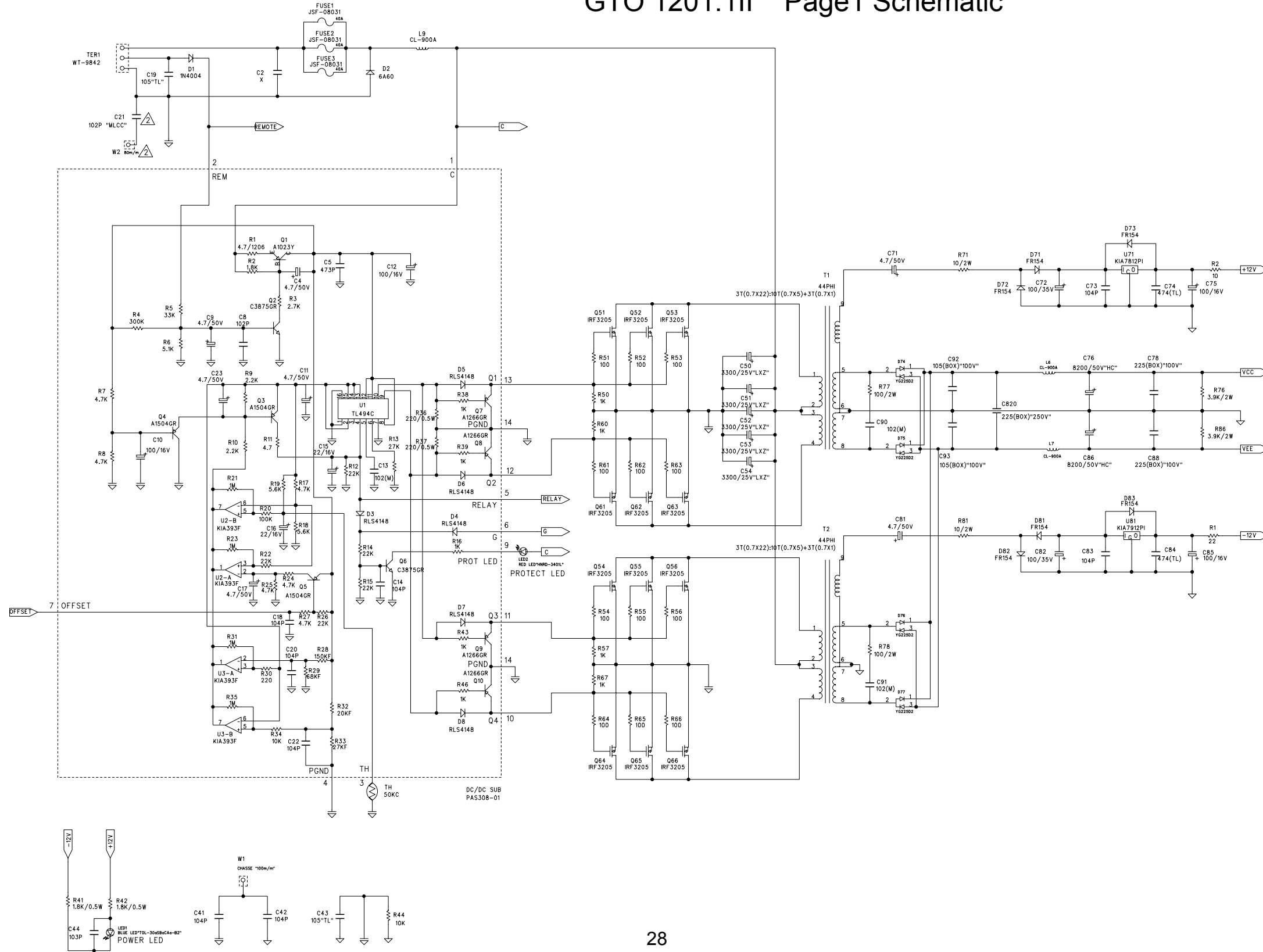
A
B
C
D
E

1 2 3 4 5 6 7 8 9

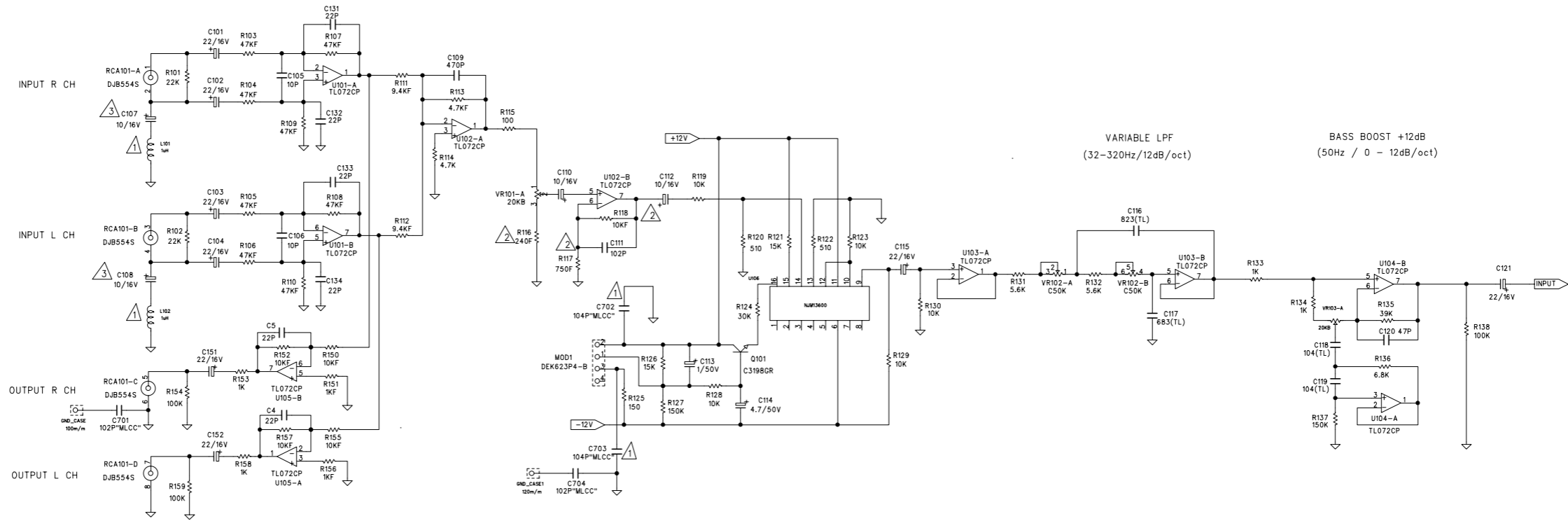
GTO 1201.1 Page3 Schematic



GTO 1201.1II Page1 Schematic

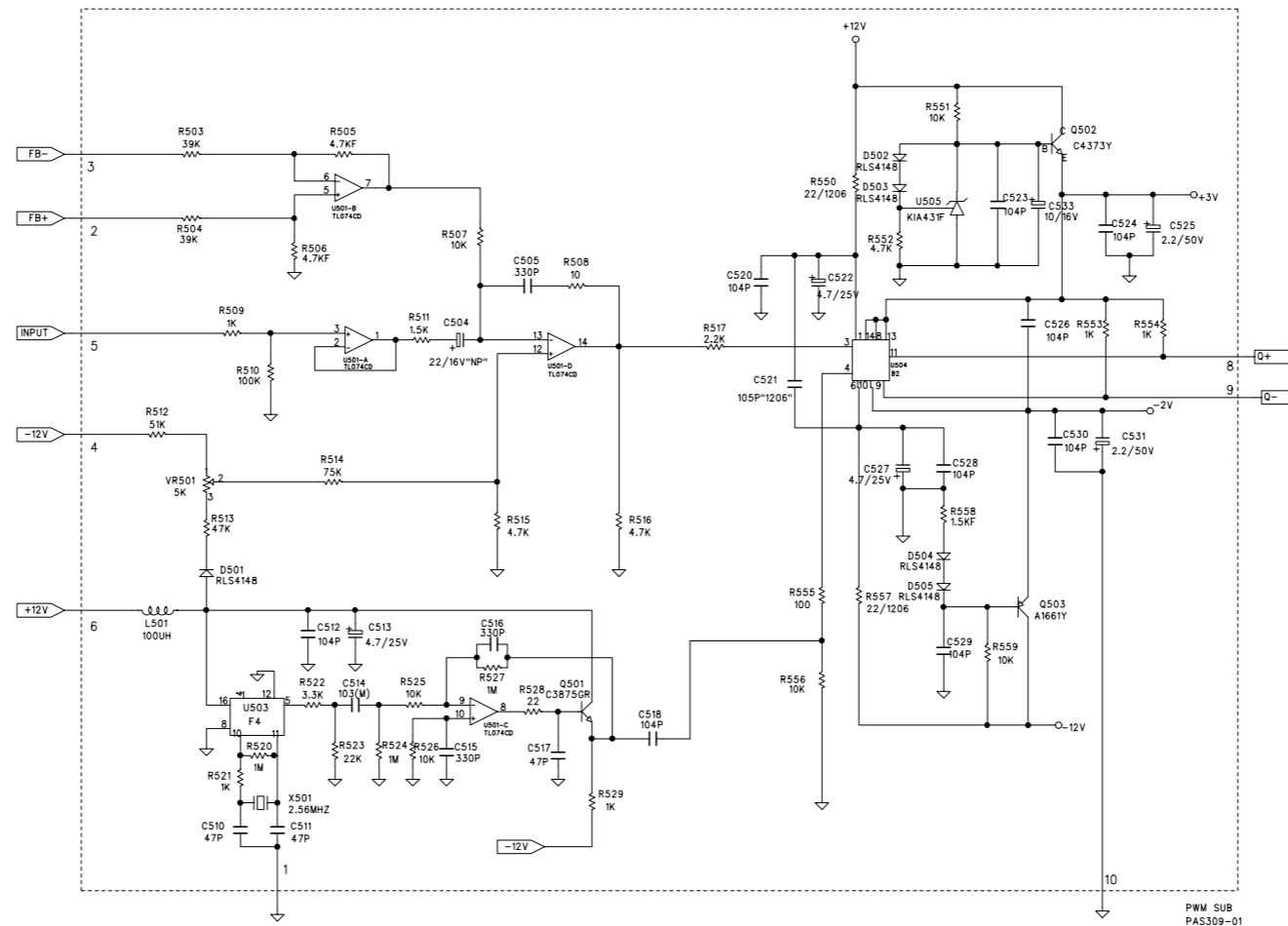


GTO 1201.1II Page2 Schematic

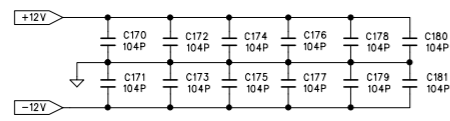


VARIABLE LPF
(32-320Hz/12dB/oct)

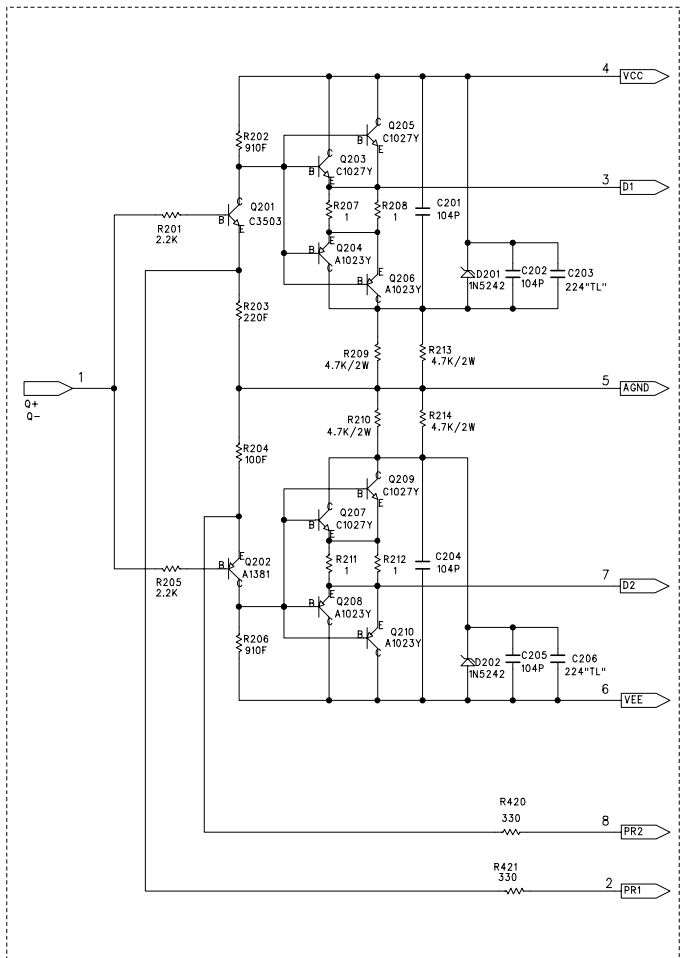
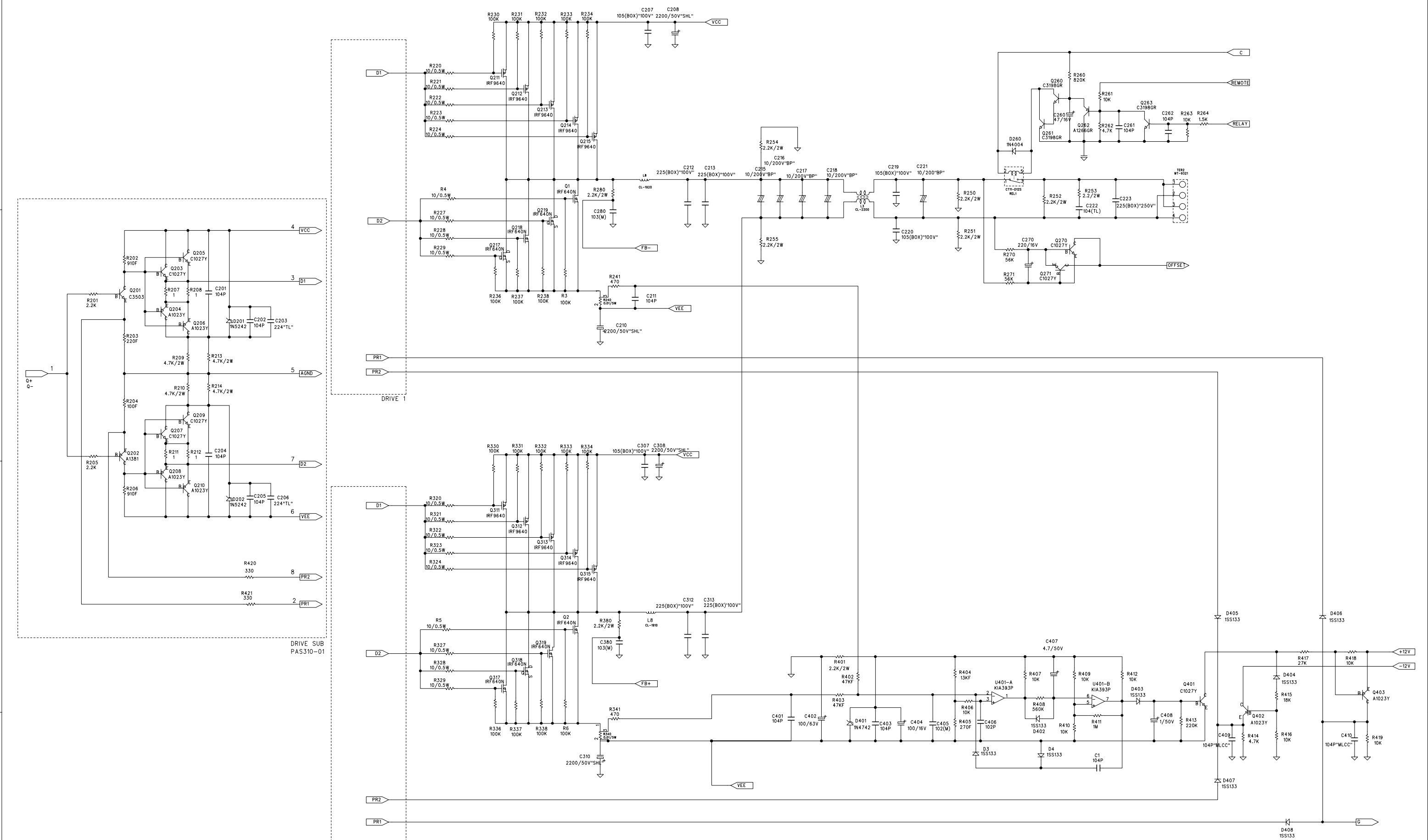
BASS BOOST +12dB
(50Hz / 0 - 12dB/oct)



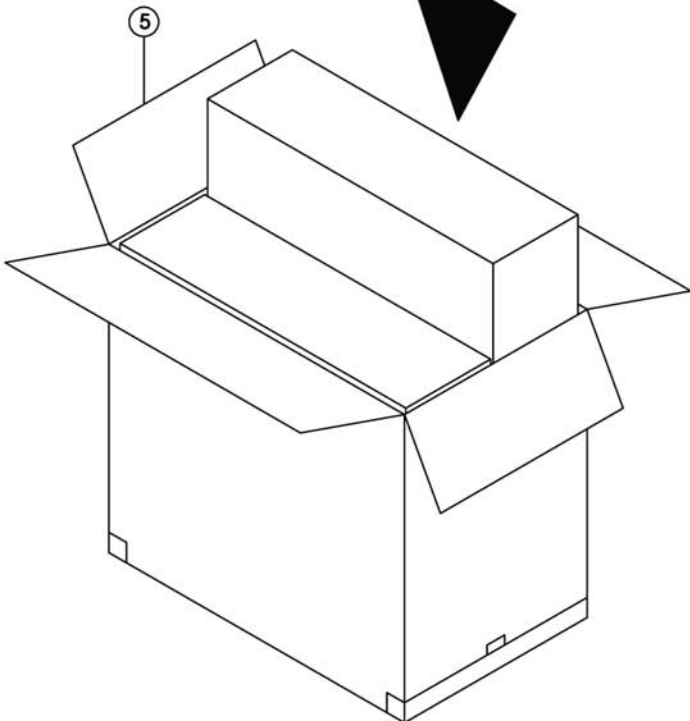
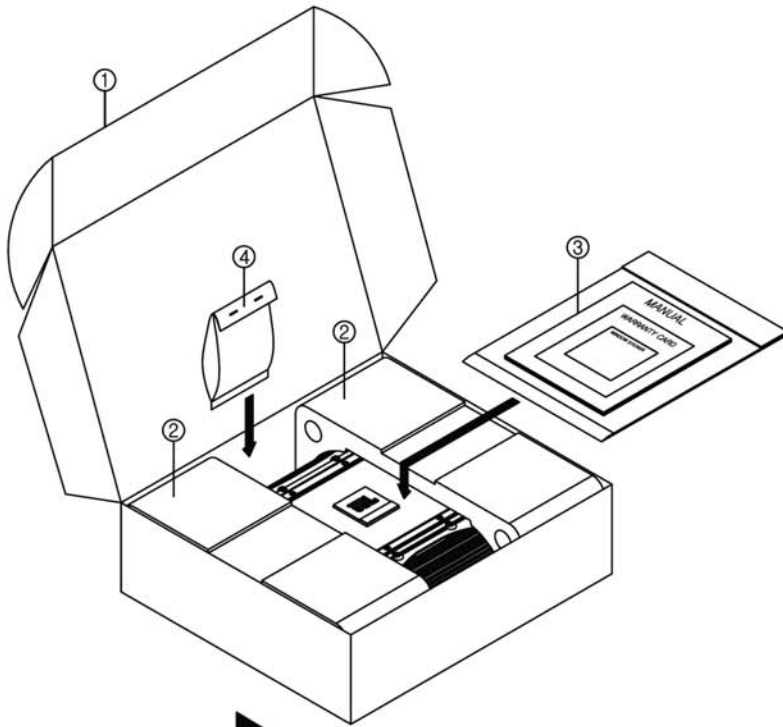
PWM SUB
PAS309-01



GTO 1201.1II Page3 Schematic



Packaging Exploded View



Item	Part Number	Description	Qty
1	BOX-36-147AB	GTO 1201.1 Gift box carton	1
	BOX-36-147AD	GTO 1201.1II Gift box carton	1
2	INN-42-004A0	End Pads	2
3	MAN-00-0195A	GTO 1201.1 Owner's manual (USA)	1
	MAN-01-0195Z	GTO 1201.1II Owner's manual (USA)	1
	MAN-00-0196A	GTO 1201.1 Owner's manual (Europe)	1
	CAR-WA-004A	Warranty Card	1
4	FUS-AT-00008	Fuse 40A	3
	SC4-NP-40250	Mounting screw STT1 PH 4X25 NI	6
	BKT-14-523A0	Bracket lamp SK-5/BK	4
5	BOX-39-158AB	Pair Pack carton	1