BassPro™
Powered Subwoofer

SERVICE MANUAL

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

Rev0 5/2003

CONTENTS

BASIC SPECIFICATIONS

Amplifier power:	100 Watts
Frequency response:	20Hz – 120Hz
Fuse rating:	20A
Max current draw:	12A
Idle current draw:	<800mA
Input sensitivity:	50mV to 4V Line-level input; 1V to 16V universal interface
Crossover frequency:	70Hz – 120Hz
Crossover slope:	12dB
Dimensions (L x W x H):	16-1/8" x 9-1/2" x 12-1/4" (includes mounting feet) (410mm x 242mmx 312mm)

BASSPRO AUTO SUBWOOFER SPECIFICATIONS

GENERAL CONDITIONS: TEST INPUT SIGNAL FOR LINE IN – 2CH/60Hz/250mV.

TEST OUTPUT – 1 W ATT 4 Ohms LOAD (Bridge).

POWER SOURCE DC14.4V/12A min

TEST CONDITIONS: ALL TEST SIGNALS FROM LINE IN UNLESS OTHER REMARKS.

CROSSOVER VR AT MAX POSITION UNLESS OTHER REMARKS.

		UNIT	NOMINAL	LIMIT
1. TOTAL OUTPUT POWER		W	100	
2. OUTPUT POWER (1 CHANNEL) (60, 400; 5.0% THD)		W	22	20
3. THD AT 1.0W (60,250;)		%	0.3	0.5 MAX
4. SIGNAL TO NOISE RATIO (60,250; O/P=1W;)		dB	70	65 MIN
5. FREQUENCY RESPONSE (-- , 250; O/P=1W)	(60-120HZ)	dB	60Hz	0REF
			120Hz	-1.6+/-3
			180Hz	-6.5+/-3
6. CROSSOVER RANGE (120,250,O/P=1W,MAX REF)	MAX TO MIN	dB		-12+/-3
7. CROSSOVER SLOPE		dB	12	
8. INPUT SENSITIVITY (60, --;O/P=18W,L+R, GAIN MAX) (60, --;O/P=18W, 2CH,GAIN MAX)				
	LOW – INPUT	mV	340	+/- 60
	HI – INPUT	V	3.5	+/- 0.6
9. MAX GAIN NOISE, GAIN MAX)		mV	0.8	1.5 MAX
10. MIN GAIN NOISE, GAIN MIN)		mV	0.5	0.9 MAX
11. AUTO SENSE (--, --, HI-N, 1CH)	AUTO ON LEVEL	V	1.8	+/- 0.5
	AUTO OFF TIME	MIN	3.0	+/- 1.5
12. PROTECTION CIRCUIT (60,250,O/P=10W)	SHORT SPK TERMINAL +/-			Functional
13. FUSE RATING		A	20	
14. MAXIMUM CURRENT DRAW		A	12	
15. IDLE CURRENT DRAW		mA	<800	
16. DIMENSIONS	16 1/8 X 9 ½ X 12 ¼” (410 X 242 X 312MM)			

POWER CONNECTIONS

Connecting power to BassPro is shown in **Figure 7**. Please observe the following installation tips:

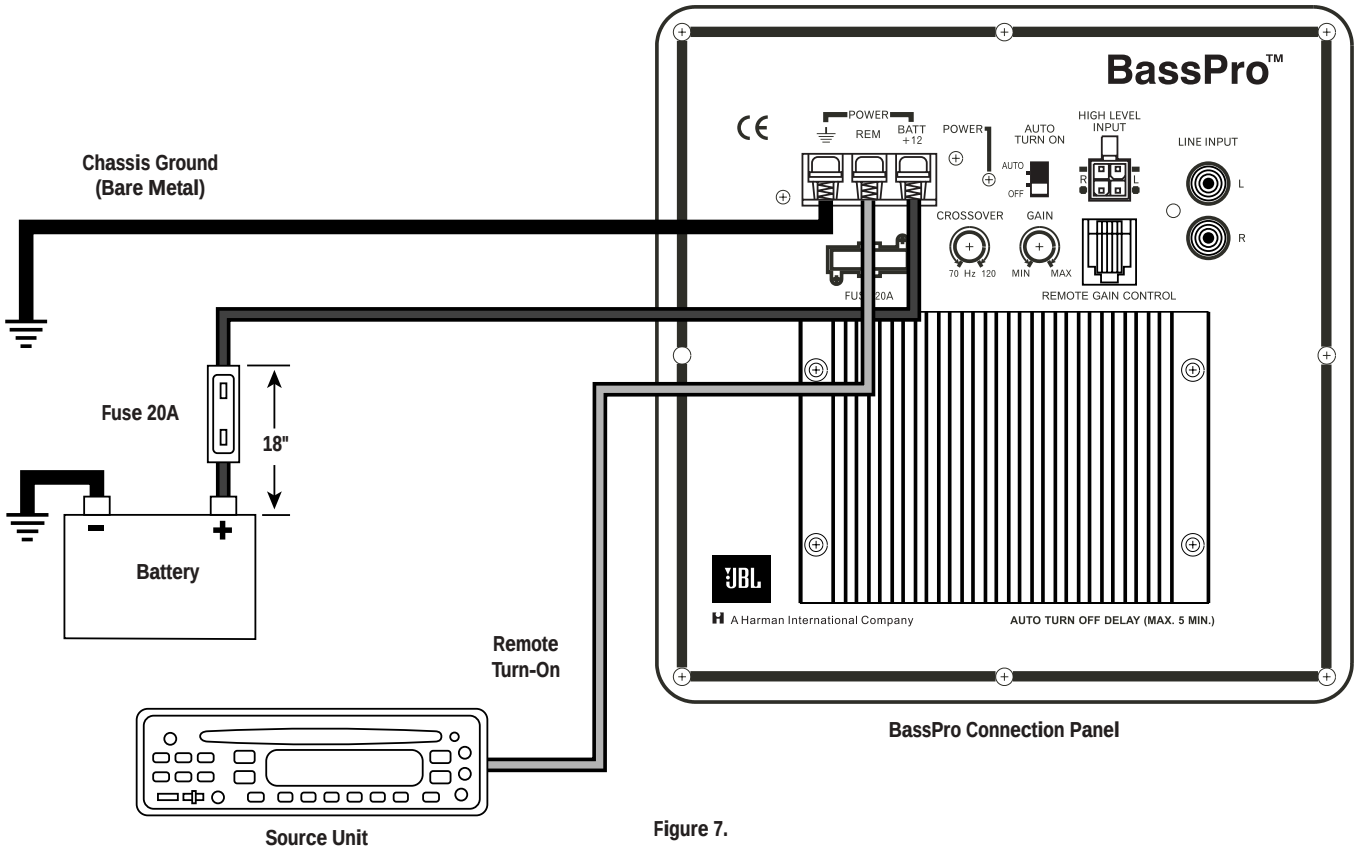
When using the high-level input connections, BassPro will automatically turn on when you turn on your radio. In this case, the remote (REM) connection is not needed. Use at least #20 AWG speaker wire for speaker-level input connections.

Use at least #12 AWG wire for the Positive Battery (BATT +12) and Ground (⏚) connections. If needed, use at least #20 AWG wire for the remote (REM) turn-on connection.

Connect BassPro's "BATT +12V" terminal directly to the battery's positive (+) terminal. Install a fuse holder, with a 20A fuse, within 18" of the battery's positive (+) terminal.

Route all power wires through a grommet in the vehicle's firewall. If a factory grommet is not available, install one. Connect a short ground wire from BassPro's ground terminal (⏚) to the nearest bare metal surface. For a good connection, use sandpaper to clear paint from the metal surface and use a screw with a lock (star) washer.

The remote (REM) connection requires a +5 to +12 Vdc signal for BassPro to turn on when using the line-level connections. Most head units with preamp outputs provide this remote voltage signal. As an alternative, connect this terminal to a switched ignition circuit.



BassPro Connection Panel

Figure 7.

APPLICATIONS

BassPro is equipped with two line-level (RCA) inputs and two high-level inputs. To help you plan the installation of BassPro, we have included two system application diagrams in **Figures 8 and 9**. For more installation suggestions, contact your local authorized JBL car audio dealer.

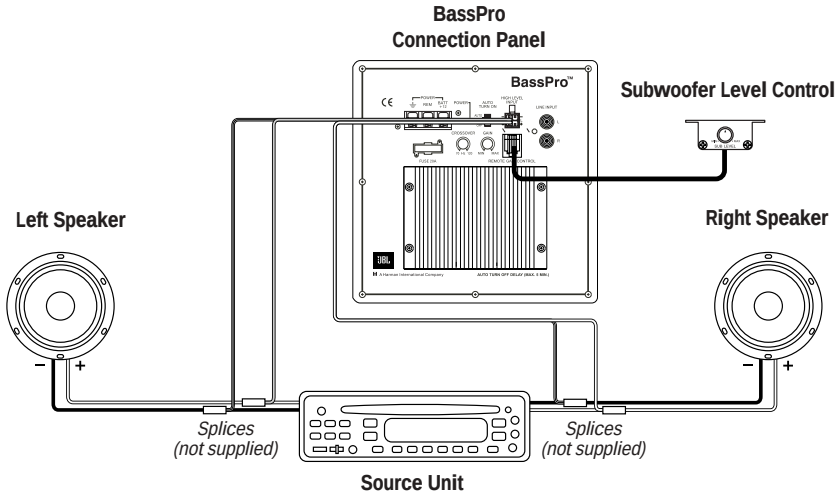
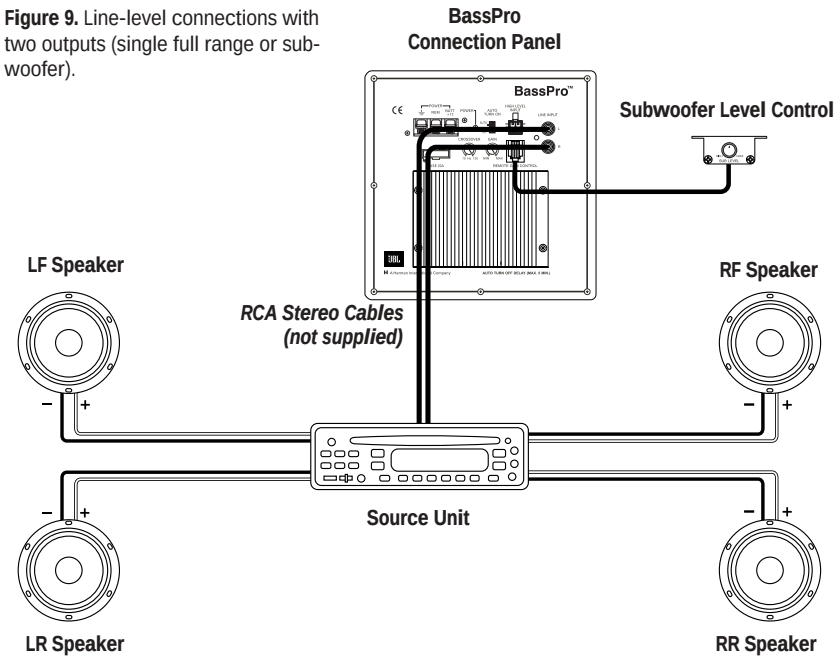


Figure 8. High-level connections. Connect BassPro's high-level inputs to either the front or rear speaker outputs of your head unit (splice crimps not included).

Figure 9. Line-level connections with two outputs (single full range or sub-woofer).



CONTROLS AND FUNCTIONS

BassPro has controls and indicators that help simplify sonic integration with almost any vehicle's unique acoustic properties. These controls are located on the amplifier panel, as shown in **Figure 10**.

Power LED
Gain Control
Crossover
Remote Bass Control
Auto Turn-On

POWER LED: This indicator will glow red when the BassPro is operating.

GAIN CONTROL: Use this control to adjust the relative volume (loudness) of BassPro with the other speakers in the vehicle.

CROSSOVER: Use this control to adjust the amount of high-frequency information present in BassPro's output. A lower value signifies less high-frequency content.

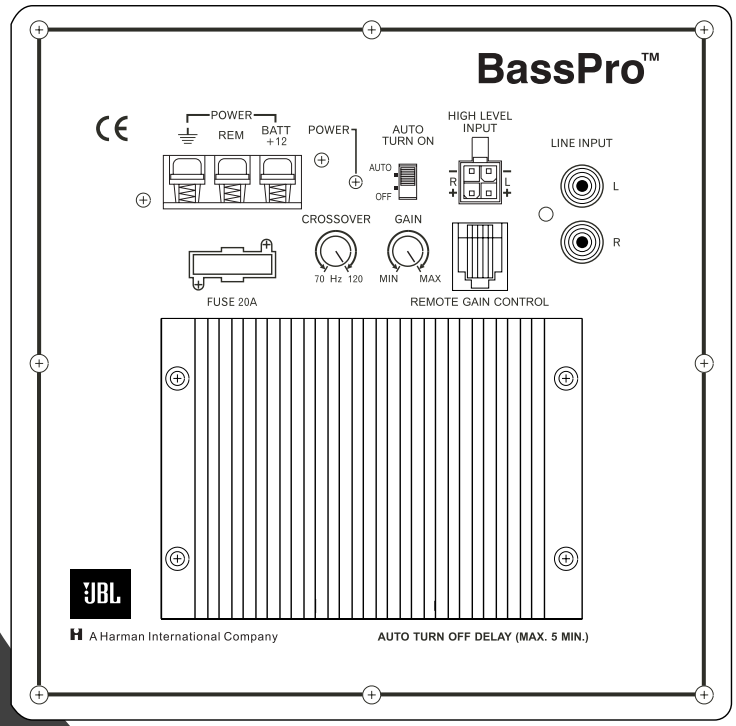


Figure 10.

AUTO TURN-ON: For speaker-level connections, used this switch to activate (or deactivate) BassPro's automatic turn-on circuit. For most speaker-level applications, slide the switch to the AUTO position. If you prefer to use the remote (REM) connection, slide the switch to the OFF position.

REMOTE BASS CONTROL: Use this RJ-11 jack to connect the supplied remote bass control.

SETTING THE CONTROLS:

1. Make sure the head unit is off and VOLUME control is set to minimum.
2. On BassPro's amplifier panel, set the CROSSOVER to its maximum frequency of 120Hz, as shown in **Figure 10**.

   Note: If using the REMOTE BASS CONTROL, set GAIN to maximum and set the BASS CONTROL to the midpoint.
3. Turn the head unit ON and play a selection of your favorite music track that has substantial bass.
4. Adjust the CROSSOVER control counterclockwise, until you hear only low-frequency information. Example – you should not hear vocals coming from BassPro when seated in the normal listening position.
5. Adjust the BASS CONTROL either clockwise or counterclockwise to suit your taste, and to avoid audible distortion.
6. If you elect to not install the Remote Bass Control, adjust the GAIN control to the maximum level that provides undistorted output from the BassPro, with the head unit's volume control at its 3 o'clock setting.

   Note: In most cases the above steps will provide you with satisfactory results. However, the actual process may require several readjustments of each control, since the settings will interact with one another. If necessary, consult your authorized JBL car audio dealer for help in tuning your system.

INSTALLING THE REMOTE

The Subwoofer Level Control may be mounted under the dash or dismantled and mounted in the dash for a factory-installed appearance.

UNDER-DASH MOUNTING

Select a mounting location that allows easy access to the control while driving. Using the Subwoofer Level Control as a template, mark and drill holes in the mounting surface. Attach the Subwoofer Level Control using the mounting screws provided (**Figure 4**).

IN-DASH MOUNTING

Disassemble the Subwoofer Level Control by removing the two Phillips-head screws on the front panel, rear panel and on top. Remove the Subwoofer Level Control's bottom and side panels. Slide the Subwoofer Level Control's PC board forward to release the RJ11 connector from the back panel and remove the board along with the potentiometer, knob and connector as a single assembly.

Choose a mounting location that allows easy access to the control, and provides 1-3/4" clearance behind the mounting surface. Drill a 9/32" hole in the mounting surface. Feed the Subwoofer Level Control's potentiometer shaft (with the knob removed) through the hole and use the nut and washer provided to hold the control in place (**Figure 5**).

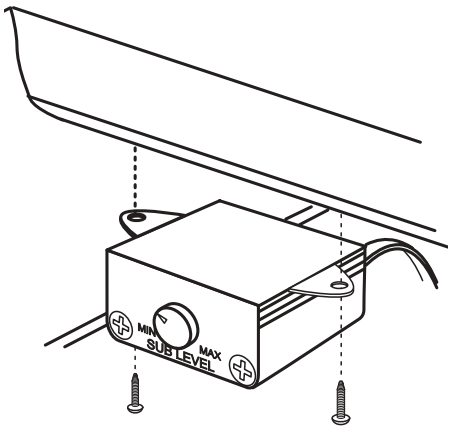


Figure 4. Under-dash mounting of the Subwoofer Level Control.

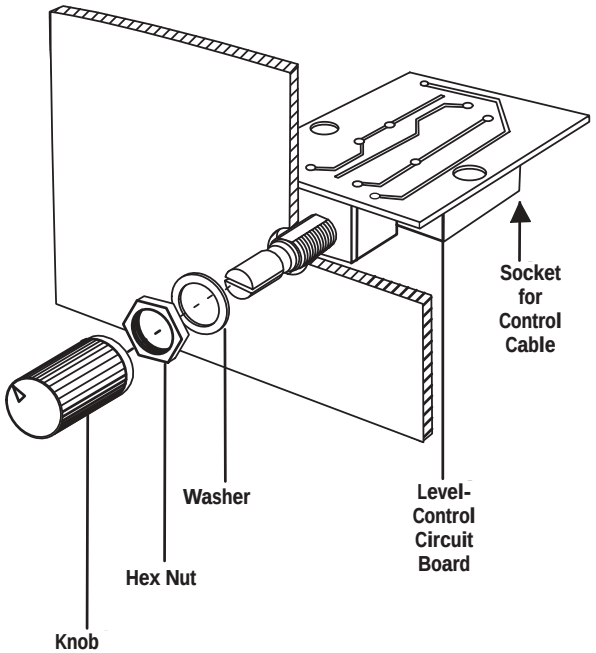


Figure 5. In-dash mounting of the Subwoofer Level Control.

CONNECTING THE SUBWOOFER LEVEL CONTROL TO BASSPRO

Route the cable behind the dash or other interior panels and under the carpet. Do not route the cable outside the vehicle. Connect the RJ11 cable between the RJ11 receptacle on the BassPro and the receptacle on the Subwoofer Level Control (**Figure 6**).

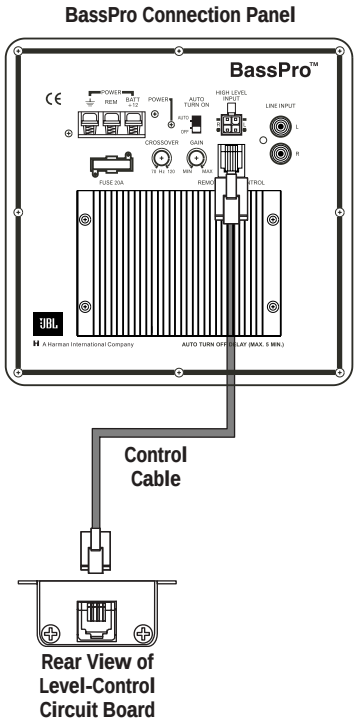
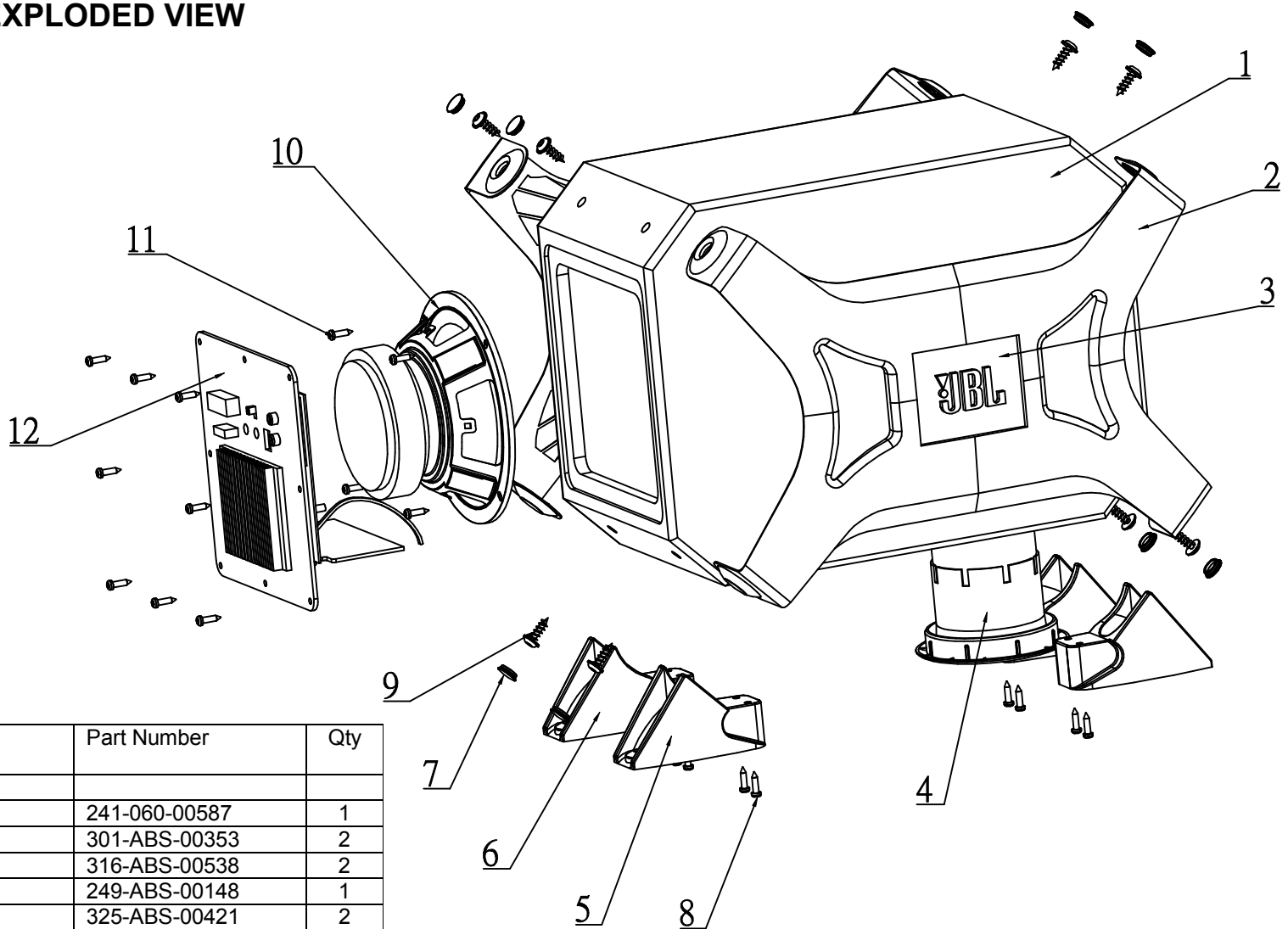


Figure 6. Subwoofer Level Control electrical connection.

TROUBLESHOOTING

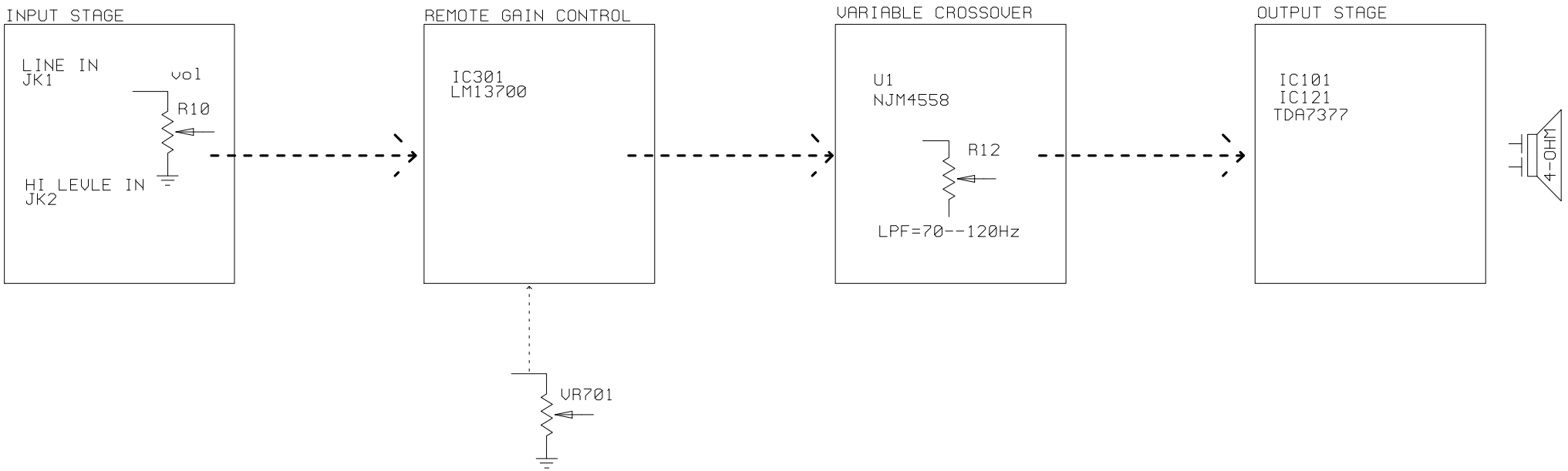
PROBLEM	CAUSES AND SOLUTIONS
POWER LED not lit.	1. Fuse is blown and needs replacement. 2. Head unit not functioning properly. 3. Check remote turn-on, power and ground connections.
POWER LED is lit but there is no bass.	1. Inputs are not connected. Check connections. 2. Head-unit fader controls are not set properly. Adjust head-unit controls to feed audio signals to BassPro. 3. Incorrect GAIN control setting.
Output sounds muddy or distorted.	1. GAIN is set too high. 2. Bass level is set too high on head unit. 3. Head unit output is distorted or blown. See your authorized JBL car audio dealer.
Output gets louder when the head-unit balance is adjusted to L or R.	Using speaker-level connection: one of the speaker connections is reversed (+/–). Reverse one channel.
POWER LED remains ON after system is turned off.	Speaker-level connections have a five-minute turn-off delay. Check the unit at a later time.

BASS PRO EXPLODED VIEW

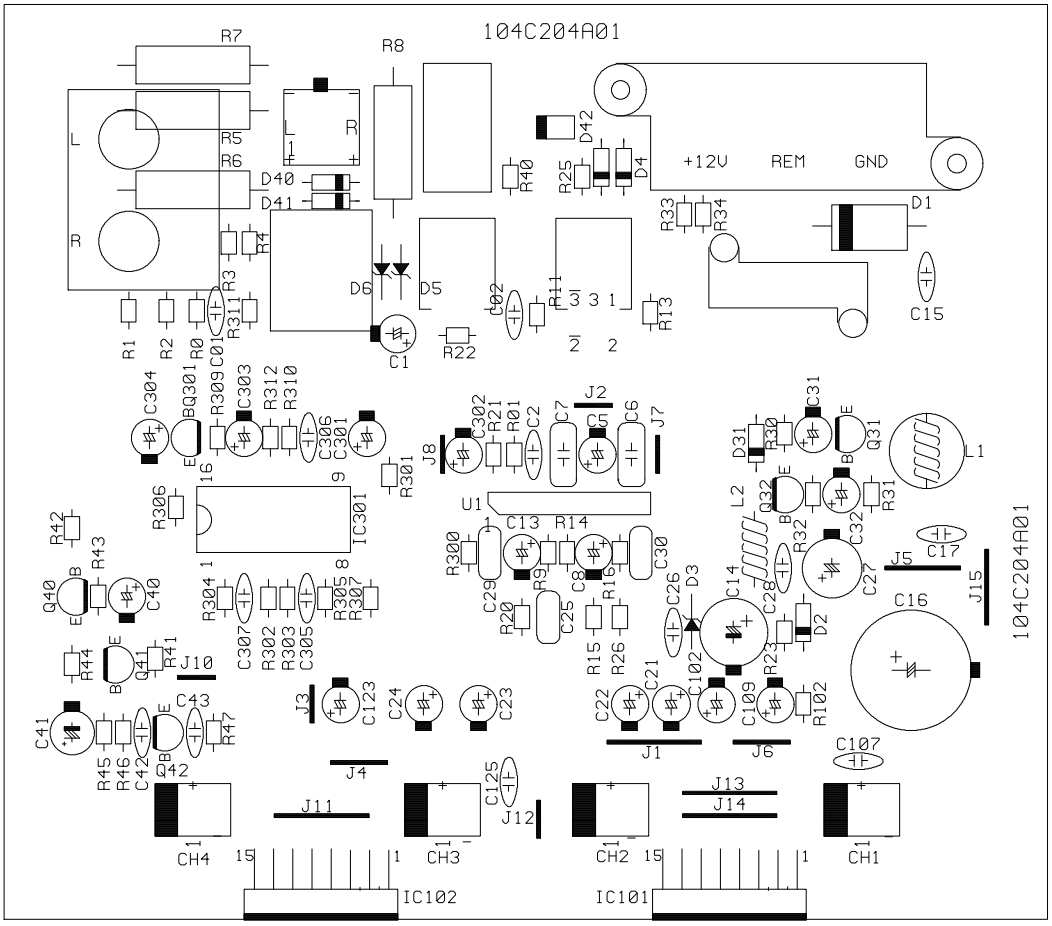


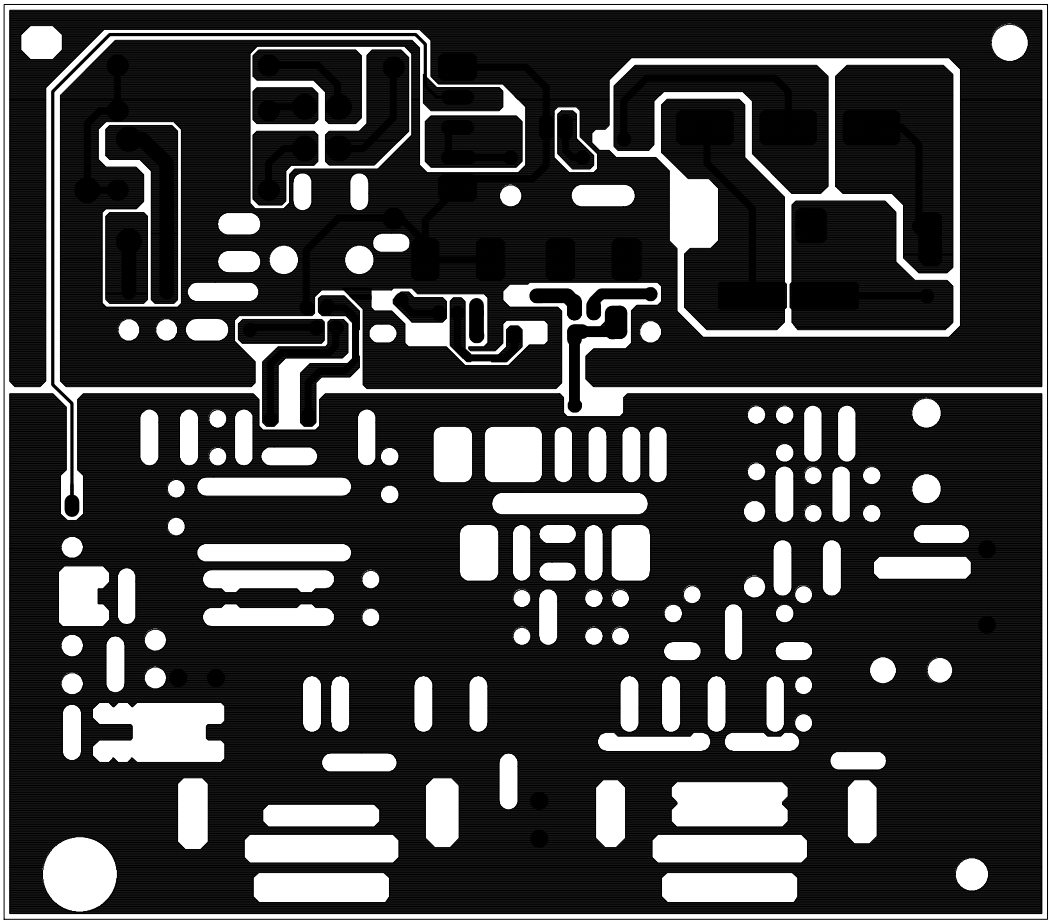
Ref. #	Description	Part Number	Qty
1	Enclosure	241-060-00587	1
2	Side Baffles	301-ABS-00353	2
3	Logo	316-ABS-00538	2
4	Port Tube	249-ABS-00148	1
5	Right Bracket	325-ABS-00421	2
6	Left Bracket	325-ABS-00420	2
7	Plug (Screw Cap)	338-ABS-00126	8
8	Screw	351-FM04039A572	8
9	Screw	352-HM04014D611	8
10	Woofer (DCR = 3.6Ω x 4)	16PF11BZW-AW01	1
11	Screw	325-FM04018A576	4
12	Amplifier	Not For Sale	1
13	Screw	352-FM04019D470	8

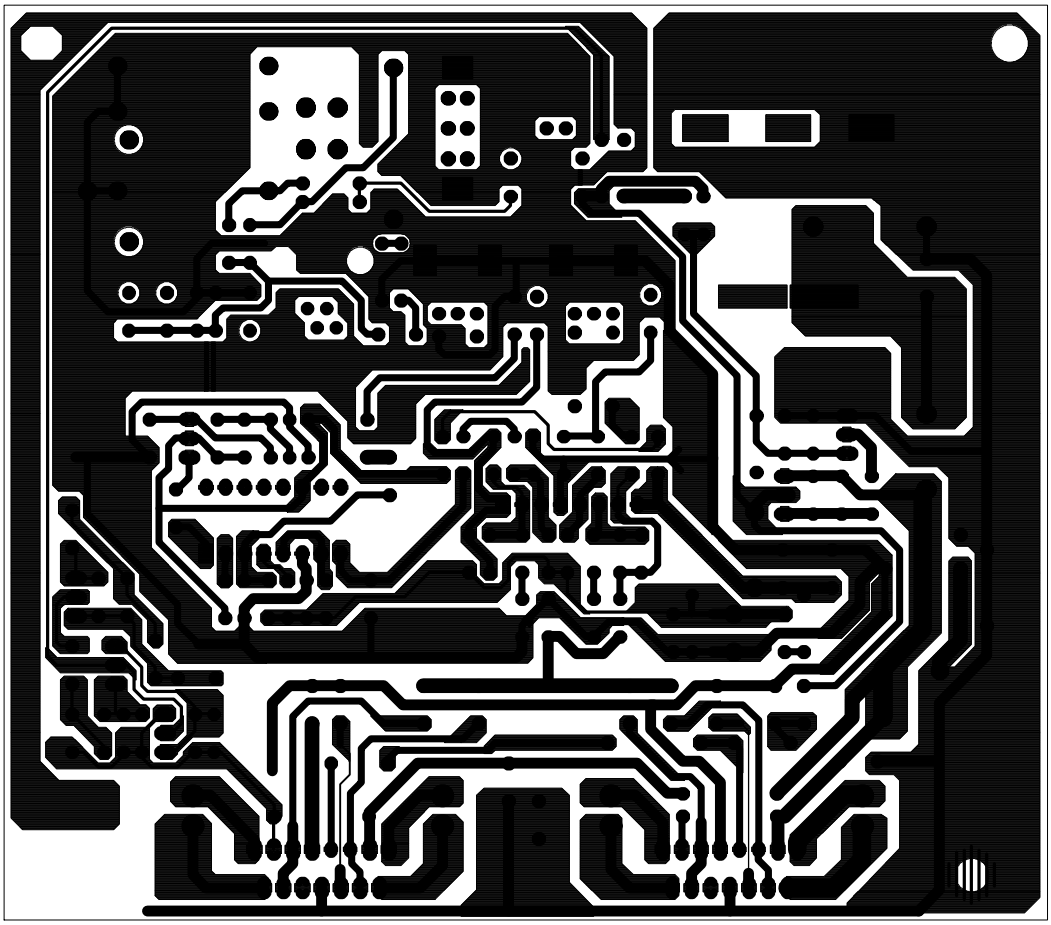
BASSPRO CIRCUIT DIAGRAM



INDICATE NEED SOLDER ON COMPONENT SIDE.
DOUBLE SIDE PCB NO NEED THROUGH HOLES PROCESS.





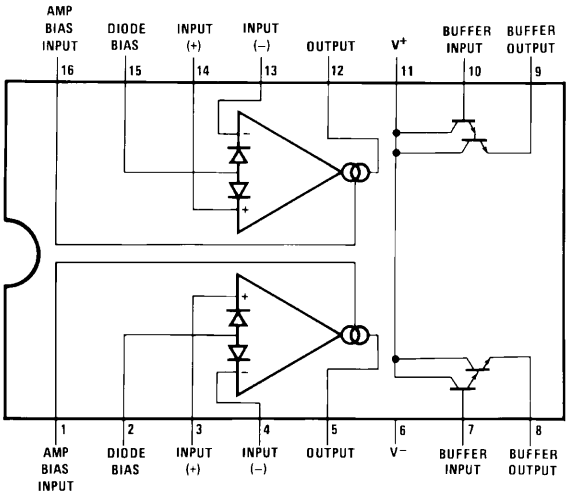


BassPro Electrical Parts List			
PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATOR
Semiconductors			
190-06m4558l	I.C. NJRC NJM4558L Dual Op-Amp	1	U1
190-14m13700n	I.C. NS LM13700 Dual Op-Amp	1	IC301
190-16a73770	I.C. TDA7377 Power Amp	2	IC101,121
192-027c1815gr	Transistor 2SC1815GR NPN	3	Q31,40,301
192-028a1015gr	Transistor 2SA1015GR PNP	3	Q32,41,42
195-10204hd	LED RED 3mm	1	PWR
197-101n5402	Diode 1N5402	1	D1
197-131n4148	Diode 1N4148	5	D2,4,40,41,42
199-15000515	Zener Diode 5.1V 1/2W 52mm	2	D5,D6
199-15000625	Zener Diode 6.2V 1/2W	1	D3
Resistors			
110-16102j26	Resistor 1K 1/6W ±5% CF	4	R01,25,32,40
110-16103j26	Resistor 10K 1/6W ±5% CF	8	R11,13,20,44,102,305,307,312
110-16105j26	Resistor 1M 1/6W ±5% CF	1	R45
110-16151j26	Resistor 150Ω 1/6W ±5% CF	1	R311
110-16153j26	Resistor 15K 1/6W ±5% CF	2	R304,309
110-16154j26	Resistor 150K 1/6W ±5% CF	2	R42,310
110-16224j26	Resistor 220K 1/6W ±5% CF	1	R14
110-16273j26	Resistor 27K 1/6W ±5% CF	1	R16
110-16275j26	Resistor 2.7M 1/6W ±5% CF	1	R46
110-16303j26	Resistor 30K 1/6W ±5% CF	1	R306
110-16332j26	Resistor 3.3K 1/6W ±5% CF	1	R26
110-16333j26	Resistor 33K 1/6W ±5% CF	1	R21
110-16393j26	Resistor 39K 1/6W ±5% CF	1	R15
110-16472j26	Resistor 4.7K 1/6W ±5% CF	1	R31
110-16473j26	Resistor 47K 1/6W ±5% CF	1	R33
110-16474j26	Resistor 470K 1/6W ±5% CF	2	R43,34
110-16511j26	Resistor 510Ω 1/6W ±5% CF	2	R302,303
110-16513j26	Resistor 51K 1/6W ±5% CF	1	R0
110-16514j26	Resistor 510K 1/6W ±5% CF	1	R47
110-16681j26	Resistor 680Ω 1/6W ±5% CF	1	R23
110-16682j26	Resistor 6.8K 1/6W ±5% CF	2	R1,2
110-16822j26	Resistor 8.2K 1/6W ±5% CF	2	R30,301
110-16913j26	Resistor 91K 1/6W ±5% CF	2	R3,4
110-20101j20	Resistor100Ω 2W ±5% 20mm	4	R5,6,7,8
115-v203b101	Variable Resistor R0901N-JMD1-B20K	1	R10
115-v203b202	Variable Resistor R0901G-2KDQ-B20K	1	R12
116-161101f26	Resistor 1.1K 1/6W ±1% MF	1	R22
Capacitors			
130-2b102k503	Disc Cap. 1000P 50V ±10%	5	C2,01,02,42,43
130-2f104z503	Disc Cap. 0.1U 50V +80/-20%	8	C15,17,26,28,107,125,306,307
132-103j503	Mylar Cap. 0.01U 50V ±5%	2	C29,30
132-104j503	Mylar Cap. 0.1U 50V ±5%	3	C6,7,25
135-3105m50	Electrolytic Cap. 1U 50V ±20%	7	C5,21,22,23,24,40,303
135-3106m50	Electrolytic Cap. 10U 50V ±20%	5	C1,8,13,109,301
135-3108m16	Electrolytic Cap. 1000U 16V ±20%	1	C14
135-3227m16	Electrolytic Cap. 220U 16V ±20%	1	C27

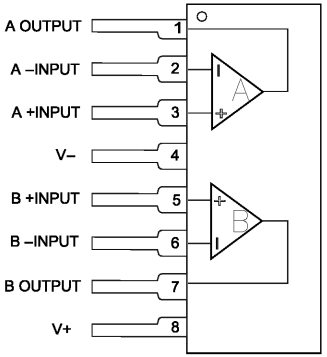
PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATOR
135-3475m50	Electrolytic Cap. 4.7U 50V ±20%	1	C304
135-3476m50	Electrolytic Cap. 47U 50V ±20%	3	C41,102,123
135-4338m25	Electrolytic Cap. 3300U 25V ±20%	1	C16
Miscellaneous			
120-12101k3	Inductor 100UH 1/2W	1	L2
122-14050k4160	Inductor Ferrite 5uH 15A CR630*5R0KUM	1	L1
154-k020a800	Fuse 20A 32V ATC UL/CSA	1	F1
155-9f30240	Fuse Holder F30240100P	1	F1
162-a040d001	SPEAKER WIRE #1015 400mm	4	
162-a5000001	4C WIRE 5M BLK	1	
174-0rcb202ha	JACK 2PIN RCB-202HAG INPUT	1	JK1
174-5te112j	DC JACK TE1-12J POWER	1	JK3
174-9mjd0604	M/JACK D/S 6P4C	1	M104
175-1d02v01	Wire connector 2PIN pitch=3.96mm	4	CH1,2,3,4
175-9h04v01	Wire connector 4PIN pitch=4.2mm	1	JK2
180-p752209	SWITCH SSP752209-25JJ1 AUTO-ON	1	SW40
LEVEL CONTROL ASSY			
015-AA00-00110	LEVEL CONTROL ASSY (COMPLETE)	1	
311-ABS-00237	KNOB	1	
115-h203a203	POTENTIOMETER	1	
166-AL035081	CONTROL CABLE	1	

BassPro Semiconductor Pinouts

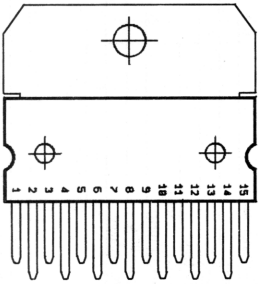
LM13700 DUAL OP-AMP
IC301



NJM4558L DUAL OP-AMP
U1

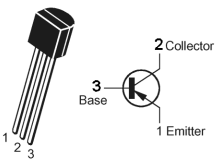


TDA7377
IC101, 121

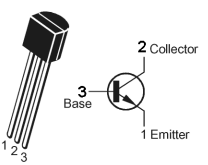


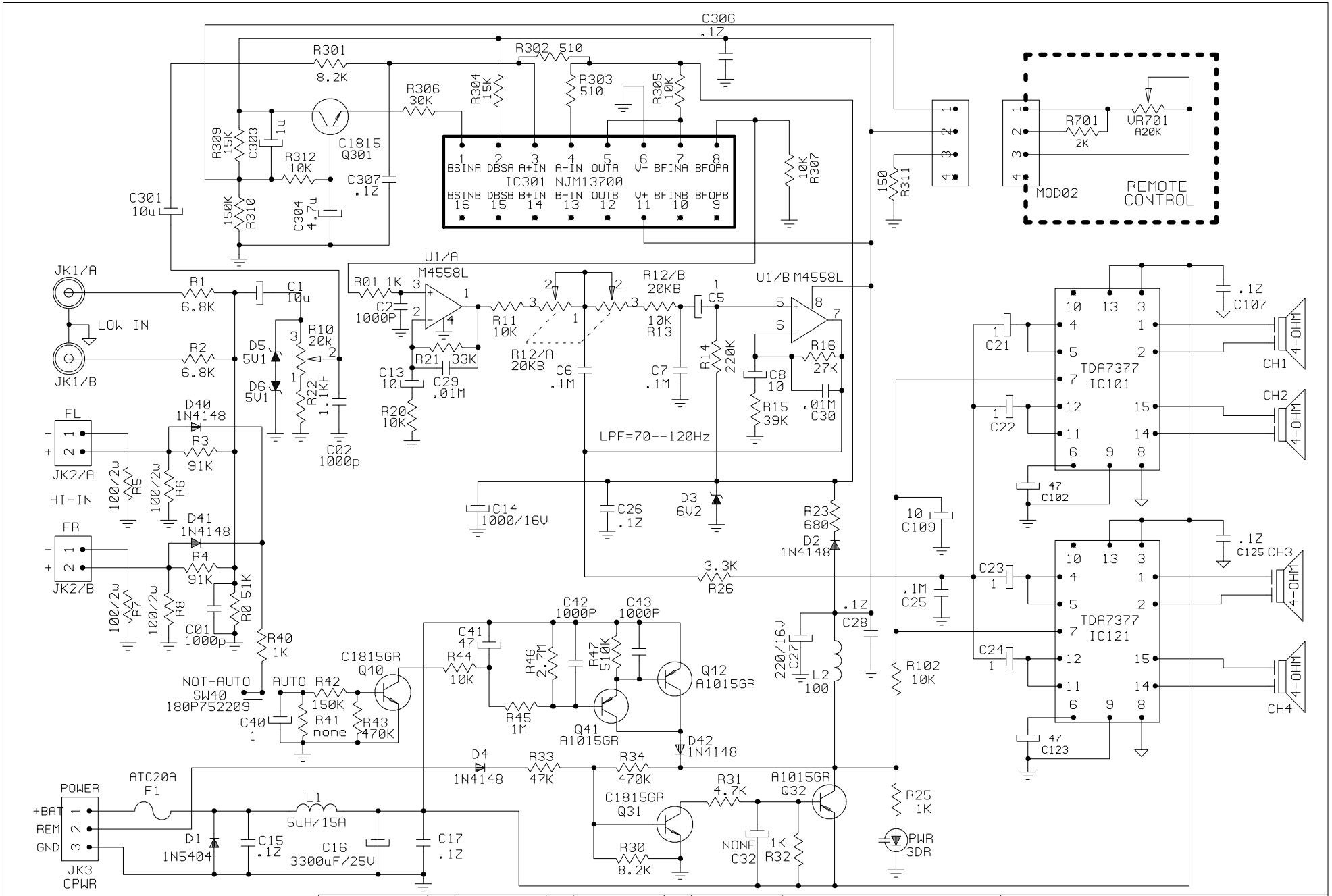
1	OUT 1
2	OUT 2
3	VCC
4	IN 1
5	IN 2
6	SUR
7	STANDBY
8	PWR-GRND
9	SIG-GRND
10	DIAGNOSTIC
11	IN 4
12	IN 3
13	VCC
14	OUT 4
15	OUT 3

2SA1015GR
Q32,41,42



2SC1815GR
Q31,40,301





DRAW.	DSGN.	APVD.	

FILENAME : BassPro.sch		REVISION : 1	
MODEL NO.011-AA08-00268		1	Remote Turn-off level
DWN BY : C.S.WANG		2	
DATE : 2003-03-20		3	

BassPro PACKAGE