This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT! FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:

WATER AND MOISTURE: Appliance should not be used near water (near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

POWER SOURCES: The product should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

GROUNDING OR POLARIZATION: Precautions should be taken so that the grounding or polarization is not defeated.

POWER CORD PROTECTION: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

SERVICING: The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

FUSING: If your unit is equipped with a fuse receptacle, replace only with the same type fuse. Refer to replacement text on the unit for correct fuse type.

SAFETY INSTRUCTIONS (EUROPEAN)

The conductors in the AC power cord are colored in accordance with the following code.

GREEN & YELLOW—Earth BLUE—Neutral BROWN—Live

U.K. MAIN PLUG WARNING: Amolded main plug that has been cut off from the cord is unsafe. NEVER UNDER ANYCIRCUMSTANCES SHOULD YOU INSERTA DAMAGED OR CUTMAIN PLUG INTO APOWER SOCKET.

LIMITED WARRANTY

Your Carvin product is guaranteed against failure for 1 YEAR unless otherwise stated. Carvin will service and supply all parts at no charge to the customer providing the unit is under warranty. Shipping costs are the responsibility of the customer. CARVIN DOES NOT PAY FOR PARTS OR SERVICING OTHER THAN OUR OWN. A COPY OF THE ORIGINAL INVOICE IS REQUIRED TO VERIFY YOUR WARRANTY. Carvin assumes no responsibility for horn drivers or speakers damaged by this unit. This warranty does not cover, and no liability is assumed, for damage due to: natural disasters, accidents, abuse, loss of parts, lack of reasonable care, incorrect use, or failure to follow instructions. This warranty is in lieu of all other warranties, expressed or implied. No representative or person is authorized to represent or assume for Carvin any liability in connection with the sale or servicing of Carvin products. CARVIN SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

When RETURNING merchandise to the factory, you may call for a return authorization number. Describe in writing each problem. If your unit is out of warranty, you will be charged the current FLAT RATE for parts and labor to bring your unit up to factory specifications.

MAINTAINING YOUR EQUIPMENT

Avoid spilling liquids or allowing any other foreign matter inside the unit. The panel of your unit can be wiped from time to time with a dry or slightly damp cloth in order to remove dust and bring back the new look. As with all pro gear, avoid prolonged use in caustic environments (salt air). When used in such an environment, be sure the amplifier is adequately protected by rack, covers, etc..

REPLACEMENT PARTS LIST FOR R600

CAUTION

RISK OF ELECTRIC SHOCK

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL! THIS UNIT CONTAINS HIGH VOLTAGE INSIDE!

80-40628 R600 Driver & Output

PCB REF	DESCRIPTION	PART #
A1	5532 Op Amp	60-55320
A2	5532 Op Amp	60-55320
A3	4558 Op Amp	60-45580
A5	4558 Op Amp	60-45580
A6	4558 Op Amp	60-45580
A7	4558 Op Amp	60-45580
A8	4558 Op Amp	60-45580
A9	4558 Op Amp	60-45580
A10	4558 Op Amp	60-45580
A11	4558 Op Amp	60-45580
A12	4558 Op Amp	60-45580
A13	5532 Op Amp	60-55320
A14	4558 Op Amp	60-45580
A15	4558 Op Amp	60-45580
A16	4558 Op Amp	60-45580
A200	5532 Op Amp	60-55320
A300	4558 Op Amp	60-45580
A301	4558 Op Amp	60-45580
A302	4558 Op Amp	60-45580
A400	5532 Op Amp	60-55320
BR1	Diode Bridge Rectifier	60-35041
C1	Capacitor, Mylar, 0.0068µF, 100V	46-68212
C2	Capacitor, Ceramic, 120pF, 500V	45-12152
C3	Capacitor, Ceramic, 120pF, 500V	45-12152
C4	Capacitor, Mylar, 0.1µF, 100V	46-10412
C5	Capacitor, Electrolytic, 10µF, 63V	47-10061
C6	Capacitor, Ceramic, 39pF, 500V	45-39052
C7	Capacitor, Mylar, 0.047µF, 100V	46-47312
C8	Capacitor, Ceramic, 560pF, 500V	45-56152
C9	Capacitor, Mylar, 0.1µF, 100V	46-10412
C10	Capacitor, Electrolytic, 10µF, 63V	47-10061
C11	Capacitor, Ceramic, 560pF, 500V	45-56152
C12	Capacitor, Electrolytic, 10µF, 63V	47-10061
C13	Capacitor, Mylar, 0.0022µF, 100V	46-22212
C14	Capacitor, Electrolytic, 10µF, 63V	47-10061
C15	Capacitor, Mylar, 0.047µF, 100V	46-47312
C16	Capacitor, Mylar, 0.0033µF, 100V	46-33212
C17	Capacitor, Mylar, 0.0033µF, 100V	46-33212
C18	Capacitor, Ceramic, 39pF, 500V	45-39052
C19	Capacitor, Ceramic, 120pF, 500V	45-12152
C23	Capacitor, Electrolytic, 10µF, 63V	47-10061
C27	Capacitor, Ceramic, 39pF, 500V	45-39052
C28	Capacitor, Mylar, 0.022µF, 100V	46-22312
C29	Capacitor, Mylar, 0.022µF, 100V	46-22312
C30	Capacitor, Electrolytic, 10µF, 63V	47-10061
C31	Capacitor, Mylar, 0.047µF, 100V	46-47312
C32	Capacitor, Ceramic, 120pF, 500V	45-12152
C33	Capacitor, Mylar, 0.01µF, 100V	46-10312
C34	Capacitor, Mylar, 0.01µF, 100V	46-10312
C35	Capacitor, Mylar, 0.001µF, 100V	46-10212
C37	Capacitor, Tant, 1µF, 35V	48-01031
C38	Capacitor, Mylar, 0.022µF, 100V	46-22312
C39	Capacitor, Tant, 1µF, 35V	48-01031
C40	Capacitor, Mylar, 0.01µF, 100V	46-10312
C41	Capacitor, Mylar, 0.22µF, 100V	41-22412
C42	Capacitor, Mylar, 0.01µF, 100V	46-10312
C43	Capacitor, Mylar, 0.1µF, 100V	46-10412
C44	Capacitor, Mylar, 0.0068µF, 100V	46-68212
C45	Capacitor, Mylar, 0.068µF, 100V	46-68312
C46	Capacitor, Mylar, 0.0033µF, 100V	46-33212
C47	Capacitor, Mylar, 0.033µF, 100V	46-33312
C48	Capacitor, Mylar, 0.0022µF, 100V	46-22212
C49	Capacitor, Mylar, 0.022µF, 100V	46-22312
C50	Capacitor, Mylar, 0.001µF, 100V	46-10212
C51	Capacitor, Mylar, 0.01µF, 100V	46-10312
C52	Capacitor, Ceramic, 680pF, 500V	45-68152
C53	Capacitor, Mylar, 0.0068µF, 100V	46-68212
C54	Capacitor, Ceramic, 560pF, 500V	45-56152
C55	Capacitor, Ceramic, 56pF, 500V	45-56052
C57	Capacitor, Mylar, 0.01µF, 100V	46-10312
C58	Capacitor, Mylar, 0.01µF, 100V	46-10312
C59	Capacitor, Electrolytic, 10µF, 63V	47-10061
C60	Capacitor, Mylar, 0.022µF, 100V	46-22312
C61	Capacitor, Mylar, 0.022µF, 100V	46-22312
C62	Capacitor, Ceramic, 120pF, 500V	45-12152
C64	Capacitor, Ceramic, 39pF, 500V	45-39052
C67	Capacitor, Mylar, 0.033µF, 100V	46-33312
C68	Capacitor, Mylar, 0.01µF, 100V	46-10312
C69	Capacitor, Mylar, 0.1µF, 100V	46-10412
C73	Capacitor, Electrolytic, 10µF, 63V	47-10061
C74	Capacitor, Electrolytic, 10µF, 63V	47-10061
C75	Capacitor, Electrolytic, 10µF, 63V	47-10061
C76	Capacitor, Electrolytic, 10µF, 63V	47-10061
C77	Capacitor, Electrolytic, 10µF, 63V	47-10061
C79	Capacitor, Electrolytic, 10µF, 63V	47-10061
C83	Capacitor, Mylar, 0.0022µF, 100V	46-22212
C84	Capacitor, Ceramic, 680pF, 500V	45-68152
C85	Capacitor, Electrolytic, 10µF, 63V	47-10061
C88	Capacitor, Electrolytic, 10µF, 63V	47-10061
C89	Capacitor, Electrolytic, 10µF, 63V	47-10061
C121	Capacitor, Mylar, 0.068µF, 100V	46-68312
C215	Capacitor, Ceramic, 27pF, 500V	45-27052
C216	Capacitor, Ceramic, 56pF, 500V	45-56052
C217	Capacitor, Ceramic, 250pF, 500V	45-25152
C218	Capacitor, Electrolytic, 10µF, 63V	47-10061
C219	Capacitor, Mylar, 0.01µF, 100V	46-10312
C220	Capacitor, Mylar, 0.001µF, 100V	46-10212
C221	Capacitor, Mylar, 0.068µF, 100V	46-68312
C310	Capacitor, Mylar, 0.047µF, 100V	46-47312
C312	Capacitor, Mylar, 0.047µF, 100V	46-47312
C313	Capacitor, Electrolytic, 10µF, 63V	47-10061
C315	Capacitor, Mylar, 0.047µF, 100V	46-47312
C316	Capacitor, Mylar, 0.047µF, 100V	46-47312
C317	Capacitor, Mylar, 0.047µF, 100V	46-47312
C318	Capacitor, Electrolytic, 470µF 25V	47-47125
C415	Capacitor, Ceramic, 27pF, 500V	45-27052
C416	Capacitor, Ceramic, 56pF, 500V	45-56052
C417	Capacitor, Mylar, 250pF, 500V	45-25152
C418	Capacitor, Electrolytic, 10µF, 63V	47-10061
C419	Capacitor, Mylar, 0.01µF, 100V	46-10312
C420	Capacitor, Mylar, 0.001µF, 100V	46-10212
C501	Capacitor, Electrolytic, 10,000µF, 63V	42-10363
C502	Capacitor, Electrolytic, 10,000µF, 63V	42-10363
C503	Capacitor, Electrolytic, 1000µF 35V	47-10235
C504	Capacitor, Electrolytic, 1000µF 35V	47-10235
C505	Capacitor, Mylar, 0.047µF, 100V	46-47312
C506	Capacitor, Mylar, 0.047µF, 100V	46-47312
C507	Capacitor, Electrolytic, 220µF, 50V	47-22151
C517	Capacitor, Electrolytic, 470F, 25V	47-47125
C520	Capacitor, Electrolytic, 220pF, 50V	47-22151
C572	Capacitor, Electrolytic , 47µF, 63V	47-47061
D1	LED, small Red	60-75320
D2	Diode, 1N914, HI Speed	61-19140
D3	LED, small Green	60-75330
D4	LED, small Red	60-75320
D5	LED, small Yellow	60-75340
D9	Diode, 1N914, HI Speed	61-19140
D10	LED, small Red	60-75320
D11	LED, small Red	60-75320
D12	Diode, 1N914, HI Speed	61-19140
D13	Diode, 1N914, HI Speed	61-19140
D14	Diode, 1N914, HI Speed	61-19140
D103	LED, small Red	60-75320
D106	Diode, 1N4003, 1A 200V	61-40030
D107	Diode, 1N4003, 1A 200V	61-40030
D108	Diode, 1N4003, 1A 200V	61-40030
D203	LED, small Red	60-75320
D204	LED, small Red	60-75320
D205	Diode, 1N4003, 1A 200V	61-40030
D206	Diode, 1N4003, 1A 200V	61-40030
D207	Diode, 1N4003, 1A 200V	61-40030
D208	Diode, 1N4003, 1A 200V	61-40030
D209	Diode, 1N4003, 1A 200V	61-40030
D214	Diode, 1N4003, 1A 200V	61-40030
D310	Diode, 1N4003, 1A 200V	61-40030
D311	Diode, 1N4003, 1A 200V	61-40030
D312	Diode, 1N4003, 1A 200V	61-40030
D404	LED, small Red	60-75320
D409	Diode, 1N4003, 1A 200V	61-40030
D414	Diode, 1N4003, 1A 200V	61-40030
D501	Diode, 1N4003, 1A 200V	61-40030
D502	Diode, 1N4003, 1A 200V	61-40030
D503	Diode, 1N4003, 1A 200V	61-40030
D504	Diode, 1N4003, 1A 200V	61-40030
D505	Diode, 1N4003, 1A 200V	61-40030
D506	Diode, 1N4003, 1A 200V	61-40030
D520	Diode, 1N4003, 1A 200V	61-40030
H1A	Header, 4 Pin AMP	23-08604
H1B	Header, 4 Pin AMP	23-08604
H2-A	Header, 10 Pin SHS Vert	23-11010
H2-B	Header, 10 Pin SHS Vert	23-11010
H2A	Header, 4 Pin SHS Vert	23-11004
H2B	Header, 4 Pin SHS Vert	23-11004
H3-B	Header, 10 Pin SHS Vert	23-11010
H3A	Header, 10 Pin SHS Vert	23-11010
H4-A	Header, 8 Pin SHS Vert	23-11008
H4-B	Header, 8 Pin SHS Vert	23-11008
H5	Header, 2 Pin Panduit Vert	23-10002
H5-A	Header, 4 Pin SHS Vert	23-11004
H5-B	Header, 4 Pin SHS Vert	23-11004
H6-A	Header, 4 Pin SHS Vert	23-11004
H6-B	Header, 4 Pin SHS Vert	23-11004
H6A	Header, 4 Pin Vert	23-08604
H6B	Header, 4 Pin Vert	23-08604
H7	Header, AMP 9 Pin	23-08609
H8	Header, 2 Pin Panduit Vert	23-10002
H9	Header, 2 Pin Panduit Vert	23-10002
H10	Not Used	
J1	Mono Jack, 1/4”, 3 Pin Plastic, 24mm	21-06453
J2	Mono Jack, 1/4”, 3 Pin Plastic, 24mm	21-06453
J3	Stereo Jack, 1/4”, 7 Pin Plastic, 24mm	21-06457
J4	Mono Jack, 1/4”, 3Pin Rean, 24mm	21-50345
J5	Mono Jack, 1/4”, 3Pin Rean, 24mm	21-50345
J6	Mono Jack, 1/4”, 3Pin Rean, 24mm	21-50345
J7	Mono Jack, 1/4”, 3Pin Rean, 24mm	21-50345
J8	Mono Jack, 1/4”, 3Pin Rean, 24mm	21-50345
J9	Mono Jack, 1/4”, 3Pin Rean, 24mm	21-50345
J10	Jack XLR Male, Neutr	21-40001
J11	Mono Jack, 1/4”, 3Pin Rean, 24mm	21-50345
J12	Mono Jack, 1/4”, 3Pin Rean, 24mm	21-50345
J13	Stereo Jack, 1/4”, 5Pin Rean, 24mm	21-50545
J102	Mono Jack, 1/4”, 3Pin Rean, 24mm	21-50345
J202	Mono Jack, 1/4”, 3Pin Rean, 24mm	21-50345
K100	Relay 24V12A SPDT	70-05712
K200	Relay 24V12A SPDT	70-05712
L100	Inductor, 3.3µH, Air Core	15-00165
L200	Inductor, 3.3µH, Air Core	15-00165
OP1	Opto Isolator, VTL5C2	60-50253
P1	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P2	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P3	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P4	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P5	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P6	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P7	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P8	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P9	Pot, 16, 15C50Kx2, D-shaft, Vert. 15mm	72-16503
P10	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P11	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P12	Pot, 16, B50K, D-shaft, Vert. 15mm	71-16501
P13	Fader B10K C30m15	71-10331
P14	Fader B10K C30m15	71-10331
P15	Fader B10K C30m15	71-10331
P16	Fader B10K C30m15	71-10331
P17	Fader B10K C30m15	71-10331
P18	Fader B10K C30m15	71-10331
P19	Fader B10K C30m15	71-10331
P20	Fader B10K C30m15	71-10331
P21	Fader B10K C30m15	71-10331
P23	Pot, 16, 15C50Kx2, D-shaft, Vert. 15mm	72-16503
P101	Pot, Trimmer 500Ω, Vert	71-24500
P201	Pot, Trimmer 500Ω, Vert	71-24500
Q1	Transistor, Darlington NPN, MPSA14	60-00014
Q2	J175, TO-92, JFETP-Channel	60-17500
Q3	J175, TO-92, JFETP-Channel	60-17500
Q4	J175, TO-92, JFETP-Channel	60-17500
Q5	J175, TO-92, JFETP-Channel	60-17500
Q7	Transistor, Darlington NPN, MPSA14	60-00014
Q8	Transistor, Darlington NPN, MPSA14	60-00014
Q101	Transistor, TIP31C NPN, 3A 100V	60-31000
Q102	Transistor, MPSW42 NPN, HV 1.0W	60-00042
Q103	Transistor, CENW92, HV PNP, 1.0W	60-00092
Q104	Transistor, MJE15033 PNP, 3A 100V	60-15033
Q105	Transistor, MJE15032 NPN, 3A 100V	60-15032
Q106	Transistor, TIP31C NPN, 3A 100V	60-31000
Q107	Transistor, MJL21194 NPN, 200W	60-21194
Q108	Transistor, MJL21194 NPN, 200W	60-21194
Q109	N/U	
Q110	Transistor, MJL21193 PNP, 200W	60-21193
Q111	Transistor, MJL21193 PNP, 200W	60-21193
Q112	N/U	
Q114	Transistor, 2N5400 PNP	60-54000
Q202	Transistor, MPSW42 NPN, HV 1.0W	60-00042
Q203	Transistor, CENW92, HV PNP, 1.0W	60-00092
Q204	Transistor, MJE15033 PNP, 3A 100V	60-15033
Q205	Transistor, MJE15032 NPN, 3A 100V	60-15032
Q206	Transistor, TIP31C NPN, 3A 100V	60-31000
Q207	Transistor, MJL21194 NPN, 200W	60-21194
Q208	Transistor, MJL21194 NPN, 200W	60-21194
Q209	N/U	
Q210	Transistor, MJL21193 PNP, 200W	60-21193
Q211	Transistor, MJL21193 PNP, 200W	60-21193
Q212	N/U	
Q214	Transistor, 2N5400 PNP	60-54000
Q301	Transistor, Darlington NPN, MPSA14	60-00014
Q302	Transistor, 2N5400 PNP	60-54000
Q303	Transistor, 2N5400 PNP	60-54000
R1	Resistor 1/4W, ±5%, 470K	50-47055
R2	Resistor 1/4W, ±5%, 6.8K	50-68035
R3	Resistor 1/4W, ±5%, 150K	50-15055
R4	Resistor 1/4W, ±5%, 33K	50-33045
R5	Resistor 1/4W, ±5%, 6.8K	50-68035
R6	Resistor 1/4W, ±5%, 1K	50-10035
R7	Resistor 1/4W, ±5%, 180K	50-18055
R8	Resistor 1/4W, ±5%, 100K	50-10055
R9	Resistor 1/4W, ±5%, 22K	50-22045
R10	Resistor 1/4W, ±5%, 470Ω	50-47025
R11	Resistor 1/4W, ±5%, 470Ω	50-47025
R12	Resistor 1/4W, ±5%, 2.2K	50-22035
R13	Resistor 1/4W, ±5%, 4.7K	50-47035
R14	Resistor 1/4W, ±5%, 4.7K	50-47035
R15	Resistor 1/4W, ±5%, 4.7K	50-47035
R16	Resistor 1/4W, ±5%, 4.7K	50-47035
R17	Resistor 1/4W, ±5%, 1K	50-10035
R18	Resistor 1/4W, ±5%, 15K	50-15045
R19	Resistor 1/4W, ±5%, 1M	50-10065
R20	Resistor 1/4W, ±5%, 1K	50-10035
R21	Resistor 1/4W, ±5%, 150K	50-15055
R22	Resistor 1/4W, ±5%, 47K	50-47045
R23	Resistor 1/4W, ±5%, 47K	50-47045
R24	Resistor 1/4W, ±5%, 47K	50-47045
R25	Resistor 1/4W, ±5%, 150K	50-15055
R26	Resistor 1/4W, ±5%, 47K	50-47045
R27	Resistor 1/4W, ±5%, 47K	50-47045
R28	Resistor 1/4W, ±5%, 47M	50-47065
R29	Resistor 1/4W, ±5%, 22K	50-22045
R30	Resistor 1/4W, ±5%, 10K	50-10045
R31	Resistor 1/4W, ±5%, 10K	50-10045
R32	Resistor 1/4W, ±5%, 22K	50-22045
R33	Resistor 1/4W, ±5%, 47K	50-47045
R34	Resistor 1/4W, ±5%, 100Ω	50-10025
R35	Resistor 1/4W, ±5%, 100Ω	50-10025
R36	Resistor 1/4W, ±5%, 10K	50-10045
R37	Resistor 1/4W, ±5%, 10K	50-10045
R38	Resistor 1/4W, ±5%, 10K	50-10045
R39	Resistor 1/4W, ±5%, 10K	50-10045
R40	Resistor 1/4W, ±5%, 300K	50-30055
R41	Resistor 1/4W, ±5%, 470Ω	50-47025
R42	Resistor 1/4W, ±5%, 470Ω	50-47025
R43	Resistor 1/4W, ±5%, 470Ω	50-47025
R44	Resistor 1/4W, ±5%, 470Ω	50-47025
R45	Resistor 1/4W, ±5%, 1M	50-10065
R46	Resistor 1/4W, ±5%, 100K	50-10055
R47	Resistor 1/4W, ±5%, 100K	50-10055
R48	Resistor 1/4W, ±5%, 100K	50-10055
R49	Resistor 1/4W, ±5%, 100Ω	50-10025
R50	Resistor 1/4W, ±5%, 100Ω	50-10025
R51	Resistor 1/4W, ±5%, 1M	50-10065
R53	Resistor 1/4W, ±5%, 10K	50-10045
R54	Resistor 1/4W, ±5%, 10K	50-10045
R55	Resistor 1/4W, ±5%, 10K	50-10045
R56	Resistor 1/4W, ±5%, 10K	50-10045
R57	Resistor 1/4W, ±5%, 2.2K	50-22035
R58	Resistor 1/4W, ±5%, 2.2K	50-22035
R59	Resistor 1/4W, ±5%, 100Ω	50-10025
R60	Resistor 1/4W, ±5%, 10K	50-10045
R61	Resistor 1/4W, ±5%, 33K	50-33045
R62	Resistor 1/4W, ±5%, 10K	50-10045
R63	Resistor 1/4W, ±5%, 33K	50-33045
R64	Resistor 1/4W, ±5%, 1M	50-10065
R65	Resistor 1/4W, ±5%, 1M	50-10065
R66	Resistor 1/4W, ±5%, 10K	50-10045
R67	Resistor 1/4W, ±5%, 10K	50-10045
R68	Resistor 1/4W, ±5%, 10K	50-10045
R69	Resistor 1/4W, ±5%, 2.4K	50-24035
R70	Resistor 1/4W, ±5%, 220K	50-22055
R71	Resistor 1/4W, ±5%, 1.8K	50-18035
R72	Resistor 1/4W, ±5%, 220K	50-22055
R73	Resistor 1/4W, ±5%, 1.8K	50-18035
R74	Resistor 1/4W, ±5%, 300K	50-30055
R75	Resistor 1/4W, ±5%, 2K	50-20035
R76	Resistor 1/4W, ±5%, 300K	50-30055
R77	Resistor 1/4W, ±5%, 2.4K	50-24035
R78	Resistor 1/4W, ±5%, 300K	50-30055
R79	Resistor 1/4W, ±5%, 2K	50-20035
R80	Resistor 1/4W, ±5%, 360K	50-36055
R81	Resistor 1/4W, ±5%, 2.2K	50-22035
R82	Resistor 1/4W, ±5%, 360K	50-36055
R83	Resistor 1/4W, ±5%, 2.2K	50-22035
R84	Resistor 1/4W, ±5%, 300K	50-30055
R85	Resistor 1/4W, ±5%, 2.2K	50-22035
R86	Resistor 1/4W, ±5%, 150K	50-15055
R87	Resistor 1/4W, ±5%, 10K	50-10045
R88	Resistor 1/4W, ±5%, 10K	50-10045
R89	Resistor 1/4W, ±5%, 33K	50-33045
R90	Resistor 1/4W, ±5%, 1M	50-10065
R91	Resistor 1/4W, ±5%, 1M	50-10065
R92	Resistor 1/4W, ±5%, 33K	50-33045
R93	Resistor 1/4W, ±5%, 10K	50-10045
R94	Resistor 1/4W, ±5%, 10K	50-10045
R95	Resistor 1/4W, ±5%, 47K	50-47045
R96	Resistor 1/4W, ±5%, 47K	50-47045
R97	Resistor 1/4W, ±5%, 47K	50-47045
R98	Resistor 1/4W, ±5%, 100K	50-10055
R99	Resistor 1/4W, ±5%, 4.7K	50-47035
R100	Resistor 1/4W, ±5%, 4.7K	50-47035
R101	Resistor 1/4W, ±5%, 47K	50-47045
R102	Resistor 1/4W, ±5%, 100K	50-10055
R104	Resistor 1/4W, ±5%, 33K	50-33045
R105	Resistor 1/4W, ±5%, 150K	50-15055
R106	Resistor 1/4W, ±5%, 22K	50-22045
R107	Resistor 1/4W, ±5%, 22K	50-22045
R108	Resistor 1/4W, ±5%, 22K	50-22045
R109	Resistor 1/4W, ±5%, 22K	50-22045
R110	Resistor 1/4W, ±5%, 1K	50-10035
R111	Resistor 1/4W, ±5%, 1K	50-10035
R112	Resistor 1/4W, ±5%, 100K	50-10055
R113	Resistor 1/4W, ±5%, 10K	50-10045
R120	Resistor 1/4W, ±5%, 1M	50-10065
R121	Resistor 1/4W, ±5%, 47K	50-47045
R122	Resistor 1/4W, ±5%, 2.2K	50-22035
R123	Resistor 1/4W, ±5%, 100Ω	50-10025
R124	Resistor 1/4W, ±5%, 33K	50-33045
R125	Resistor 1/4W, ±5%, 1M	50-10065
R126	Resistor 1/4W, ±5%, 47K	50-47045
R128	Resistor 1/4W, ±5%, 5.6K	50-56035
R129	Resistor 1/4W, ±5%, 100K	50-10055
R135	Resistor 1/4W, ±5%, 10Ω	50-10015
R137	Resistor 1/4W, ±5%, 10Ω	50-10015
R138	Resistor 1/4W, ±5%, 10K	50-10045
R141	Resistor 1/4W, ±5%, 220K	50-22055
R142	Resistor 1/4W, ±5%, 33K	50-33045
R143	Resistor 1/4W, ±5%, 1K	50-10035
R144	Resistor 5W, ±5%, 5Ω	55-05025
R145	Resistor 1/4W, ±5%, 300K	50-30055
R147	Resistor 1/4W, ±5%, 47K	50-47045
R148	Resistor 1/4W, ±5%, 10K	50-10045
R150	Resistor 1/4W, ±5%, 68K	50-68045
R153	Resistor 1/4W, ±5%, 2.2K	50-22035
R158	Resistor 1/4W, ±5%, 33K	50-33045
R159	Resistor 1/4W, ±5%, 68K	50-68045
R160	Resistor 1/4W, ±5%, 68K	50-68045
R211	Resistor 1/4W, ±5%, 150Ω	50-15025
R215	Resistor 1/4W, ±5%, 22K	50-22045
R216	Resistor 1/4W, ±5%, 15K	50-15045
R217	Resistor 1/4W, ±5%, 4.7K	50-47035
R218	Resistor 1/4W, ±5%, 47K	50-47045
R219	Resistor 1/4W, ±5%, 4.7K	50-47035
R220	Resistor 1/4W, ±5%, 100Ω	50-10025
R221	Resistor 1/4W, ±5%, 100Ω	50-10025
R222	Resistor 1/4W, ±5%, 4.7K	50-47035
R223	Resistor 1/4W, ±5%, 680Ω	50-68025
R224	Resistor 1/4W, ±5%, 4.7K	50-47035
R225	Resistor 1/4W, ±5%, 2.2K	50-22035
R226	Resistor 1/4W, ±5%, 1K	50-10035
R227	Resistor 1/4W, ±5%, 680Ω	50-68025
R228	Resistor 1/4W, ±5%, 2.2K	50-22035
R229	Resistor 1/2W, ±5%, 4.7Ω	52-47005
R230	Resistor 1/4W, ±5%, 150Ω	50-15025
R231	Resistor 1/2W, ±5%, 4.7Ω	52-47005
R232	Resistor 5W, ±5%, 0.22Ω	55-02205
R233	Resistor 5W, ±5%, 0.22Ω	55-02205
R234	Resistor 5W, ±5%, 0.22Ω	55-02205
R235	Resistor 5W, ±5%, 0.22Ω	55-02205
R236	Resistor 1/4W, ±5%, 15K	50-15045
R237	Resistor 1/4W, ±5%, 10K	50-10045
R238	Resistor 1/4W, ±5%, 100K	50-10055
R239	Resistor 1/4W, ±5%, 100K	50-10055
R240	Resistor 1/4W, ±5%, 33K	50-33045
R241	N/U	
R242	N/U	
R244	Resistor 5W, ±5%, 5Ω	55-05025
R250	Resistor 2W, ±5%, 10Ω	54-10015
R305	Resistor 1/4W, ±5%, 39K	50-39045
R306	Resistor 1/4W, ±5%, 39K	50-39045
R307	Resistor 1/4W, ±5%, 470K	50-47055
R308	Resistor 1/4W, ±5%, 470K	50-47055
R309	Resistor 1/4W, ±5%, 22K	50-22045
R310	Resistor 1/4W, ±5%, 22K	50-22045
R311	Resistor 1/4W, ±5%, 20K	50-20045
R312	Resistor 1/4W, ±5%, 6.8K	50-68035
R313	Resistor 1/4W, ±5%, 2.2M	50-22065
R314	Resistor 1/4W, ±5%, 20K	50-20045
R315	Resistor 1/4W, ±5%, 10K	50-10045
R316	N/U	
R317	Resistor 1/4W, ±5%, 22K	50-22045
R318	Resistor 1/4W, ±5%, 1K	50-10035
R319	Resistor 1/4W, ±5%, 10K	50-10045
R320	Resistor 1/4W, ±5%, 10K	50-10045
R321	Resistor 1/4W, ±5%, 27K	50-27045
R322	Resistor 1/4W, ±5%, 5.6K	50-56035
R323	Resistor 1/4W, ±5%, 470K	50-47055
R324	Resistor 1/4W, ±5%, 10K	50-10045
R325	Resistor 1/4W, ±5%, 1K	50-10035
R326	Resistor 1/4W, ±5%, 4.7K	50-47035
R327	Resistor 1/4W, ±5%, 22K	50-22045
R328	Resistor 1/4W, ±5%, 220Ω	50-22025
R329	Resistor 1/4W, ±5%, 10K	50-10045
R331	Resistor 1/4W, ±5%, 100K	50-10055
R411	Resistor 1/4W, ±5%, 150Ω	50-15025
R415	Resistor 1/4W, ±5%, 22K	50-22045
R416	Resistor 1/4W, ±5%, 15K	50-15045
R417	Resistor 1/4W, ±5%, 4.7K	50-47035
R418	Resistor 1/4W, ±5%, 47K	50-47045
R419	Resistor 1/4W, ±5%, 4.7K	50-47035
R420	Resistor 1/4W, ±5%, 100Ω	50-10025
R421	Resistor 1/4W, ±5%, 100Ω	50-10025
R422	Resistor 1/4W, ±5%, 4.7K	50-47035
R423	Resistor 1/4W, ±5%, 680Ω	50-68025
R424	Resistor 1/4W, ±5%, 4.7K	50-47035
R425	Resistor 1/4W, ±5%, 2.2K	50-22035
R426	Resistor 1/4W, ±5%, 1K	50-10035
R427	Resistor 1/4W, ±5%, 680Ω	50-68025
R428	Resistor 1/4W, ±5%, 2.2K	50-22035
R429	Resistor 1/2W, ±5%, 4.7Ω	52-47005
R430	Resistor 1/4W, ±5%, 150Ω	50-15025
R431	Resistor 1/2W, ±5%, 4.7Ω	52-47005
R432	Resistor 5W, ±5%, 0.22Ω	55-02205
R433	Resistor 5W, ±5%, 0.22Ω	55-02205
R434	Resistor 5W, ±5%, 0.22Ω	55-02205
R435	Resistor 5W, ±5%, 0.22Ω	55-02205
R436	Resistor 1/4W, ±5%, 15K	50-15045
R437	Resistor 1/4W, ±5%, 10K	50-10045
R438	Resistor 1/4W, ±5%, 100K	50-10055
R439	Resistor 1/4W, ±5%, 100K	50-10055
R440	Resistor 1/4W, ±5%, 33K	50-33045
R441	N/U	
R442	N/U	
R450	Resistor 2W, ±5%, 10Ω	54-10015
R519	Resistor 5W, ±5%, 100Ω	55-10020
R528	Resistor 1/4W, ±5%, 10K	50-10045
S1	Switch, DPDT Vert	25-02201
S2	Switch, DPDT Vert	25-02201
S3	Switch, DPDT Vert	25-02201
S4	Switch, DPDT Vert	25-02201
S5	Switch, DPDT Vert	25-02201
S6	Switch, DPDT Vert	25-02201
S7	Switch, DPDT Vert	25-02201
S9	Switch, DPDT Vert	25-02201
U2	DIP IC, MC14049UBCP Hex Inverter	60-40490
V1	Tube Socket, 9 Pin, 12AX7A	23-91632
	12AX7A, Twin Triode	65-00127
VR1	Voltage Regulator, 7815 +15V	60-78150
	Heatsink T0-220, Vert	12-57462
VR2	Voltage Regulator, 7915 -15V	60-79150
	Heatsink T0-220, Vert	12-57462
VR3	Voltage Regulator, 7912 -12V	60-79120
Z1	Zener Diode, 5.1V, 1N4733A, 1W	61-04733
	FAN DC24V 80x80x25mm 42cfm	70-02408

Congratulations on your decision to purchase the new Red Line Series bass amp. The Red line Series of products represent Carvin's commitment to producing the state of the art in professional bass technology. All Red Line amplifiers offer a hybrid 12AX7 tube pre-amp which gives the player a choice of a clean or vintage sound at the turn of a knob. The light-weight and compact design is complemented by heavy duty construction perfectly suited for the rigors of road use. This manual covers the R600 and R1000 head, "Cyclops" and "Red Eye" (combo) amplifiers.

GETTING STARTED QUICKLY

If you are like most players, you probably want to plug in your new amp and get started playing right away. However, with a sophisticated amp like the R600/R1000, the setup must be right or you will experience unsatisfactory results. Before you start, be sure your amp is plugged into the correct AC voltage.

1. Plug your bass guitar into the ACTIVE (bass with preamp) or PASSIVE (bass with no battery) input jack. With your bass full on and playing hard, be sure the CLIP led next to the input jacks is not flashing (very dim flashing is OK) or preamp distortion will result. Use the ACTIVE input if your instrument continues to cause clipping.

2. The INPUT GAIN control should be set at its center "0" position. The master AMP 1 & 2 and VOLUME levels should be set at their center "5" position. If these setting are too loud, then bring all three down proportionally. However, the GAIN control should be kept at "0" for the best signal to noise performance. Note, the GAIN control does not turn the guitar off.

3. Set the COMPRESSOR & GATE to their off position. Read about their function later.

4. Set the LOW, MID SWEEP and HIGH tone controls to their off center "0" position. Adjust later after you are more familiar with the amp.

5. Set the 9 EQ bands to their "0" center positions and adjust later if needed. The EQ switch can also be used to defeat the EQ.

6. Set the guitar's level about 1/2 and turn the master VOLUME OFF. Now, turn the amp ON and gradually raise the master VOLUME (set the input GAIN at "0" & the AMP 1 & 2 at "5"). Re-adjust the guitar and these masters according to the desired volume. If you require full output, then raise these master controls to 10. Never try to get full power by pushing the input GAIN control to its maximum and keeping the master AMP 1 & 2 and VOLUME below 5.

7. Your tone shaping should start with the PRE-SHAPE filters. You can use the tone controls and the 9-band graphic EQ as more tone variation is required. It is not recommended to add a lot of bass if the pre-shape bass filter is used especially at high levels because early clipping can occur. Use moderation when dialing in tone.

8. Use the built-in COMPRESSOR to limit peaks. This will help you to get more power from your amp.

9. Biamping the CYCLOPS combo or any large bass stacks requires careful balancing of the AMP 1 & 2 controls. These amp controls power the woofer and midrange/tweeter independently. Double check to see that the speaker's components are plugged into the correct amp jacks. If the cables are reversed (feeding the wrong speakers), or the BRIDGE switch is inadvertently pushed in, or the front BIAMP switch or X-OVER frequency is incorrectly set, your amp will not perform correctly. Carefully checking these items will help prevent service calls.

10. Need more power? Even though the R600/R1000 is a powerful amp, adding more speakers is the only way for substantially more output. Every time you double your speakers, your acoustic output goes up by a factor of four. This is far more efficient than trying to add 4 times the power especially when speakers become less efficient when driving them harder. Bridging your amp into a 4 ohm system will give you more output. However, use caution because speakers can be be damaged from its high output.

Hopefully, this will help you get started. Have fun exploring the many new features and sounds of the R600/R1000. Take your time because you're new amp has a lot of potential if properly setup!

RECEIVING INSPECTION—read before getting started

INSPECT YOUR UNIT FOR ANY DAMAGE which may have occurred during shipping. If any damage is found, please notify the shipping company and CARVIN immediately.

SAVE THE CARTON & ALL PACKING MATERIALS. In the event you have to re-ship your unit, always use the original carton and packing material. This will provide the best possible protection during shipment. CARVIN and the shipping company are not liable for any damage caused by improper packing.

SAVE YOUR INVOICE. It will be required for warranty service if needed in the future.

SHIPMENT SHORTAGE. If you find items missing, they may have been shipped separately. Please allow several days for the rest of your order to arrive before inquiring.

RECORD THE SERIAL NUMBER on the enclosed warranty card or below on this manual for your records. Keep your portion of the card and return the portion with your name and comments to us.

DESIGNED FOR TOURING

Every R600 is made from heavy-duty 16 gauge steel that is galvanized before being painted to prevent rust. All internal cabling is neatly tied and harnessed. Every circuit card is MIL SPEC, double-sided, through-hole plated, fire retardant FR-4 glass epoxy. This insures that the solder flows on the top, bottom and through each hole of every component, preventing components from shaking loose. Toroid transformers are used as they are the engineer's choice for greater power supply current while reducing weight and magnetic "hum" fields.

R600/R1000 RED LINE SPECIFICATIONS:

Output Power		**R600**	**R1000**
8Ω	THD < 1%	175/175w	225/225w
4Ω	THD < 1%	250/250w	350/350w
2Ω	THD < 1%	300/300w	500/500w
8Ω Bridged	THD < 1%	500w	700w
4Ω Bridged	THD <1%	600w	1000w
Input Impedance	(passive input)	1MΩ	
	(active input)	200k Ω	
Pre-Shape EQ.		Low Boost: +8dB @ 80Hz Mid Shift: 250 Hz or 475 Hz @-12dB Hi Boost: +7dB @ 6kHz	
Main EQ.		Low ±12dB @ 100Hz Mid Sweep ±12dB @ 200Hz-2kHz High ±12dB @ 8kHz	
Graphic EQ Freq.		50, 80, 125, 250, 500, 800, 1.3k, 2.6k, 5k	
Compressor		Variable Threshold Range (-10dB to -35dB) Variable Ratio Range (1.3 to 1) to (5 to 1)	
Noise Gate		Variable Threshold Range off to -30dB	
Crossover		12dB per Octave Sweepable 200Hz to 2kHz	
Dimensions		3 1/2" High x 19" Wide x 10" Deep	
Shipping Weight	with SV2 Duratuff II™ cabinet	R600: 30 lbs.	R1000:36 lbs
Warranty		One year parts and labor unless otherwise state	

For your records, you may wish to record the following information.

Serial No._____ Invoice Date_____

CARVIN

12340 World Trade Drive, San Diego, CA 92128
(619) 487-1600 (800) 854-2235
www.carvin.com

FRONT PANEL CONTROLS

1. INPUT GROUP

Two 1/4" phone jacks are provided to accommodate both passive and active instruments. The **PASSIVE** input is to be used with bass guitars with standard high impedance pickups. The high impedance input offers 8db more gain than the **ACTIVE** input jack. The **ACTIVE** input is to be used with instruments that contain active electronics. The **INPUT GAIN** knob is used to set the input level, and the **BLEND** knob controls how much signal is mixed through the **12AX7** vacuum tube. With your bass full on and the blend control set to the **TUBE** postition, you are able to get mild vintage tube distortion. The red **CLIP** LED indicates when the input is close to clipping. To avoid clipping, reduce the bass level, **GAIN** knob or use the **ACTIVE** input jack.

2. PRE-SHAPE EQ

The **PRE-SHAPE EQ** is useful for dialing up a certain sound quickly and easily. The **LOW BOOST** switch provides a 8dB boost at just under 80Hz. This is useful for adding some depth to the bottom end without bringing up the lower midrange. The **MID SHIFT** switch offers two different scooped mid selections. In the IN position the amp has a 12dB cut at 250Hz. Depressing this button raises the cut frequency to 475Hz. The **HI BOOST** switch offers a 6dB boost at 6kHz. This can provide good high frequency compensation when using only 15" or 18" speakers.

3. MAIN EQ TONE CONTROLS

The main EQ tone controls consists of a low shelving control, a sweep midrange control and a high shelving control. The **LOW** control provides the overall shaping of the low frequencies. The action of this control has been carefully matched to the response of the bass guitar. The **MID SWEEP** controls perform as a semiparametric EQ over the mid frequency range. The **MID GAIN** knob provides a boosting or cutting action at a relatively narrow band of frequencies. When the **EQ GAIN** knob of the **MID SWEEP** controls is set to "0" the mid sweep will have no effect. To boost or cut a specific frequency rotate the **MIDGAIN** knob clockwise (right) or counter clockwise (left) respectively. The **FREQ** control knob is used to select the center frequency where the boosting or cutting will occur. The best way to become familiar with the **MID SWEEP** control is to set the **MID GAIN** knob at either full cut or full boost and rotate the **FREQ** knob over its range of frequencies. Listen to the results and experiment with different levels. The **MID SWEEP EQ** is a powerful sound shaping tool which usually requires some practice to get the best results. The **HIGH** control knob is designed to cut or boost the high frequencies of the bass guitar. Boosting with this control is useful for bringing up the very highest harmonics of the bass, which is especially useful when slapping or popping. Note: boosting the high frequencies can result in increased hiss, especially when using tweeters. This is normal.

4. COMPRESSOR

The **COMPRESSOR** of the Red Line Series amps is designed to limit the peaks so the volume level is more constant. This allows greater power to your speakers preventing the power amps from clipping. The R600/R1000 two knob compressor with **THRESHOLD** and **RATIO** controls is more flexible and precise than a single control unit. The user can dial up the exact amount of compression desired and at what level they want the compression to begin. The **THRESHOLD** control knob sets the point where the compressor kicks in. In the **OFF** position the compressor has no effect on the sound. Rotating this control in the clockwise direction lowers the level where the compressor turns on. The compressor indicator LED shows when this threshold is obtained, thus showing when the compressor is on. The **RATIO** knob is used to set the amount of compression once the threshold has been reached. When this knob is swept all the way counter clockwise (left) the unit is set for a mild compression. As the knob is rotated clockwise (right) the compression ratio increases. The range of available compression ratios is 1.3 to 1 in the full counter clockwise position and 5 to 1 in the full clockwise position. The compressor is interactive with the input gain knob and the volume knobs on the bass guitar itself. Lowering the volume feeding the compressor will reduce the amount of compression and raising it will result in more compression. To get a tight limiting sound which is often nice for slap style playing, set the **RATIO** control to the full clockwise position and bring up the **THRESHOLD** knob until the desired reduction is realized.

5. NOISE GATE

The noise **GATE** reduces the noise caused by the bass pickups. To use the **GATE,** mute the strings with your hand and raise the **THRESHOLD** control knob until the amp's noise is turned off and the red LED illuminates. The **GATE** will turn the amp on as the bass is played. The noise gate senses the guitar. This alllows the **INPUT GAIN** and **MASTER VOLUMES** to be adjusted independently of the gate setting. Only your guitar affects the setting.

6. ELECTRONIC X-OVER

The electronic **X-OVER** is used to set the amp for a bi-amped configuration. When the **BI-AMP / FULL RANGE** selector switch is in the OUT position, the amp is in the bi-amp mode. To select the crossover frequency, rotate the **FREQ** control knob until the desired frequency is obtained (800 Hz is recomended). A bi-amped system allows the user greater control over the high and low frequencies of their stage rig. This allows speakers designed for specific frequencies to be utilized to their fullest potential.

7. GRAPHIC EQ / EFFECTS LOOP

The nine band graphic EQ has been designed with the center frequencies most requested by professional bass players. This EQ can be used to fine tune the tonal content of the amps output. Since the graphic EQ is controllable with either the optional **FS22** footswitch or the **EQ** switch on the front panel, it can be used to develop a second sound from the amp. Musicians that play more than one bass on stage will find this useful to get the sounds they desire out of each of their instruments. The footswitch selectable graphic EQ can also be useful during passages of a song when the bass needs to punch through the mix. A green LED indicator located along side of the EQ signifies when the graphic EQ is working in the amp.

The yellow effect loop LED labeled **EFF LOOP** indicates when the effects loop is turned on. Note: the **EQ** switch on the front panel overrides the **SELECT** switch on the footswitch. So when the graphic EQ is off on the front panel it cannot be turned on with the footswitch.

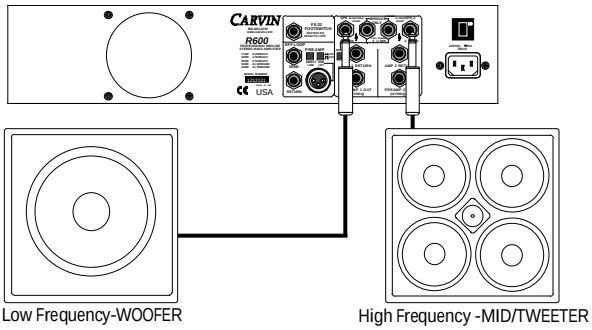
8. OUTPUT GROUP (AMP CONTROLS, BIAMPING & JACKS)

The output group determines how the Red Line amplifier interfaces with other gear and speakers. The master **VOLUME** control sets the overall volume level of the amp. The **POWER AMP CONTROL 1 & 2** knobs control the final volume to the individual amps. These are used to balance the low and high cabinets when bi-amping or stereo signals. To set the balance in a bi-amped rig, bring up the **AMP 1 (LOW FREQ)** knob until the desired volume level is reached. Now bring up the **AMP 2 (HIGH FREQ)** knob until the desired balance between the lows and highs is met. If the **VOLUME** control is at its maximum position and more volume is needed,

SPEAKER CONNECTIONS

R600/R1000 BI-AMP HOOK UP

The R600/R1000 bass amp contains two separate (stereo) power amplifiers. This makes it possible to run a full Bi-amped rig directly off of your R600/R1000. The **AMP 1 (LOW FREQ)** 1/4" output jack should be connected to a low frequency speaker cabinet, usually a 15" or 18" speaker. The **AMP 2 (HIGH FREQ)** 1/4" output jack should be connected to a set of mid/high frequency drivers, often a 4x10 box with a tweeter. The crossover selector switch must be set to the **BI-AMP** (out) position in order to engage the internal electronic crossover. The crossover frequency is set by rotating the **X-OVER** knob on the front panel, 800 Hz is recommended. The mix of the low and high frequency volume levels are set with the **AMP 1** and **AMP 2 POWER AMP CONTROL** knobs.

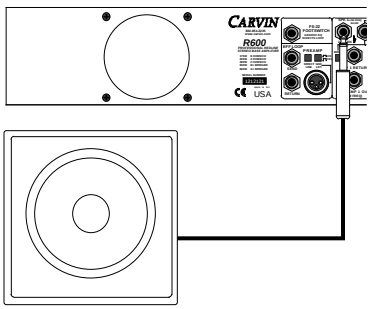


Low Frequency-WOOFER

High Frequency -MID/TWEETER

FULL RANGE MODE:

If only one speaker is being used (or multiple full range speakers), connect it to the **AMP 1** or the **AMP 2** output jacks. The internal crossover switch should be set to the **FULL RANGE** mode (IN), since it will not be used in this application.



increase both **POWER AMP CONTROL 1 & 2** knobs by the same amount, so that the mix is unchanged. These knobs can also be used to set the level of two full range speakers. So one speaker can be used as a monitor for the guitar player or drummer and the other speaker as the main bass cabinet. A front panel mounted **PHONES** jack is provided for practicing or as a place to hook up a tuner. Use high quality headphones with an impedance greater than 100Ω when connecting to this jack. The phones jack does not interrupt the amplifiers output so a tuner can be left plugged into this jack while playing. When using a Tip / Sleeve (mono) cable to attach gear such as a tuner to the phones jack, insert the cable to the first click of the jack.

9. POWER / PROTECT RESET

ON / OFF switch and power indicator LED. Push the upper portion of the power switch to turn the amplifier on. If the power indicator LED is on but no sound is coming out of the speakers, the amp may have gone into one of its protection modes. To reset the amp, turn the power off for one minute and then turn the amp back on. If the problem persists check for a bad speaker cable, damaged speaker or blocked rear fan intake.

REAR PANEL CONTROLS

10. COOLING VENTS

These vents are for cooling the internal power amplifiers. Provide a minimum of 3" of clearance for adequate ventilation. Blocking the air flow through these vents will cause the amp to thermally protect and turn the speaker relays off. If this happens clear the obstruction first, keep the power on and turn the guitar volume down allowing the amp to cool. The amp will engage the speaker relays when cooling conditions return to normal.

11. EFFECTS LOOP

The **EFF LOOP** send and return jacks are used to connect external effects into the Red Line's signal chain. The loop is located after the main EQ, compressor and noise gate and before the graphic EQ. To use the effects loop, connect the **"SND"** jack to the input of the effects unit and connect the **"RTN"** jack to the output of the effects unit. The effects loop can be turned on and off by using the **FS22** footswitch. When the footswitch is not connected, the loop will default to the ON position. The status of the effects loop is indicated on the front panel by a yellow LED marked **"EFF LOOP"** .

12. PREAMP / DIRECT OUT XLR

The **PREAMP** XLR is a balanced output that can be configured in a number of different ways. The **LINE / DIR** switch is used to select a pre or post pre amp feed. In the **"LINE"** position, the feed is post the preamp section of the Red Line amp and contains all of the signal processing and effects that are being used. The **"DIR"** position is a direct feed off of the bass guitar and is similar to using a D.I. box at the input jack. A ground lift switch is also available on the preamp out XLR jack. Set this switch for the lowest noise when using this output. When the **GND / LIFT** switch is depressed, the signal ground is lifted from this jack thus eliminating any ground loops between the Red Line preamp out and the gear it is feeding.

13. PREAMP OUT JACKS (HI FREQ & LOW FREQ)

The **PREAMP 1 & 2 OUT** jacks add a lot of interconnection flexibility to the Red Line bass amp. These jacks can be used to drive additional power amplifiers or to drive stereo or frequency selective effects. When the amp is operating in Bi-amp mode, the **LOW FREQ** jack contains only the low frequency material and the **HI FREQ** jack contains only the high frequency material, as determined by the **X-OVER FREQ** selector knob on the front panel. When the amp is operating in full range mode, both output jacks contain the same full range signal. Use the front **AMP 1 & 2** controls for level adjustments.

14. STEREO RETURN JACKS

The **STEREO RETURN** jacks are to be used as stereo effects returns or as an AMP PATCHjack. These jacks can be used to patch external gear to the internal power amps of the Red Line amps. These jacks can also be utilized in conjunction with the pre-amp out jacks as a full stereo effects loop.

15. FOOTSWITCH

Connect the optional **FS22** footswitch to remotely control the nine band graphic EQ and the effects loop. The first button on the **FS22** marked **SELECT** turns the graphic EQ on and off, and the second button marked **REVERB / EFFECTS** turns the effects loop on and off. Any standard footswitch with a stereo plug will work.

16. SPEAKER OUTPUTS

The R600/R1000 amp contains two 1/4" speaker output connectors, one for each amp. The **AMP 1 (LOW FREQ)** jack corresponds to the **AMP 1 (LOW FREQ)** knob on the front panel. The **AMP 2 (HIGH FREQ)** jack corresponds to the **AMP 2 (HIGH FREQ)** knob on the front panel. Multiple speakers can be attached to each of the speaker output jacks so long as the total impedance is not below 2Ω per jack.

17. BRIDGE SPEAKER OUTPUTS

The R600 produces 600 watts (bridged mono) into a 4Ω load or 500 watts into an 8Ω load. The R1000 produces 1000 watts (bridged mono) into a 4Ω load or 700 watts into an 8Ω load. To activate, push the **BRIDGE** switch in and plug the speakers into the **BRIDGE ONLY** jacks.

18. AC CIRCUIT BREAKER

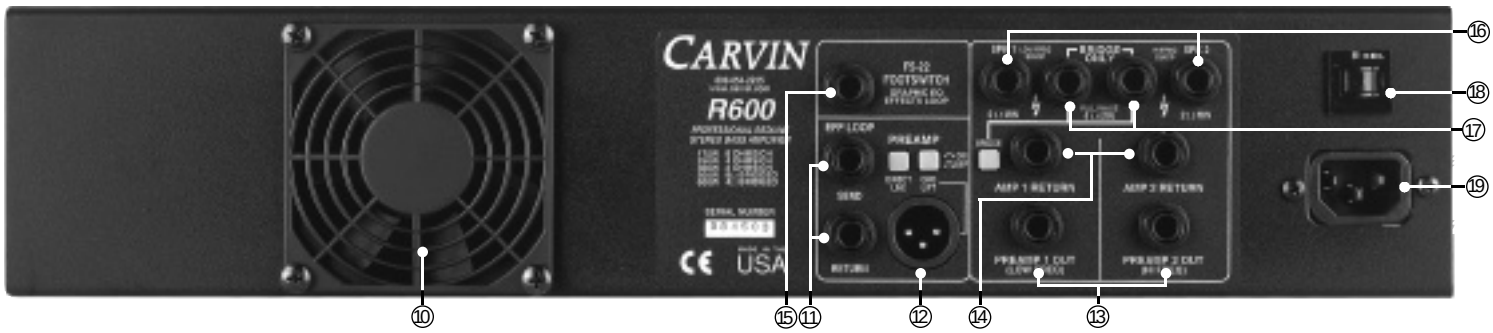
A circuit breaker is provided so that you will never have to replace the fuse. Occasionally the circuit breaker on your amp may have to be reset if high AC voltage surges are present or if the amp is used with excessive loads. Simply push the button to reset.

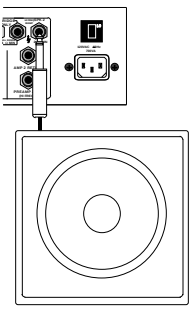
19. AC LINE CORD

All Red Line Series bass amplifiers are supplied with detachable three conductor line cords. Make sure the cord is securely inserted into the back of the unit. Never defeat the grounding pin of the AC line cord as it is there for your own protection. If you must plug into a two prong outlet use a quality 3 to 2 prong grounded adapter.

20. SPEAKER SYSTEM / TWEETERS

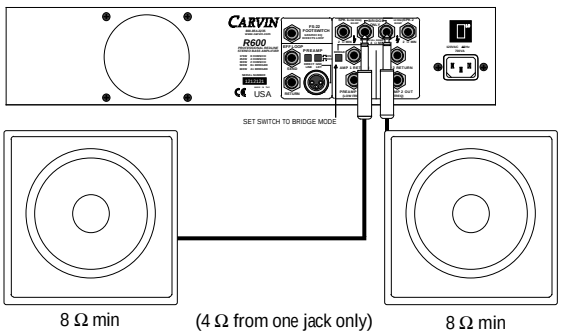
Speaker systems such as the RL410T or RL210T that have tweeters with L-Pad controls should be adjusted correctly. Be conservative or excess noise will result.





BRIDGED MODE

Bridge the two power amps by pushing in the **BRIDGE** switch. Use the **BRIDGE ONLY** output jacks to connect your speakers. Caution must be used or damage could result to your speakers because of excess power. The minimum impedance from these two jacks are 8Ω from each jack or 4Ω from one jack. Lower impedance will cause the amp to go into protect mode. Reset by turning amp off for 1 minute and on again.



HELPFUL HINTS

1) POOR BIAMP SOUND: The speaker cables from AMP 1 (woofers) and AMP2 (tweeters) have been reversed or AMP 1 and 2 level controls are not balanced or the X-OVER has been set at an incorrect frequency (set at 800 Hz).
2) NO SOUND FROM AMPS 1 & 2: The rear BRIDGE switch has been inadvertently pushed in or speakers plugged into wrong jacks.
3) NO HIGH FREQUENCIES: Tweeters or midrange drivers have been damaged or blown from overpowering.
4) WEAK BASS: The speaker systems could be wired out of phase to each other. To correct, reverse the wires on one speaker connector only and your bass response will improve.
5) DIR XLR HUM: Try switching the GND LIFT switch IN or OUT (depending on your use). If hum is not eliminated, then use a 600Ω line input transformer cutting the input ground on the connectors (Pin 3). This isolates the input ground from the AC power ground eliminating a system ground loop.
6) REAR CIRCUIT BREAKER TRIPS: High AC voltage surges may be present. Reset the breaker by pushing the protruding button.