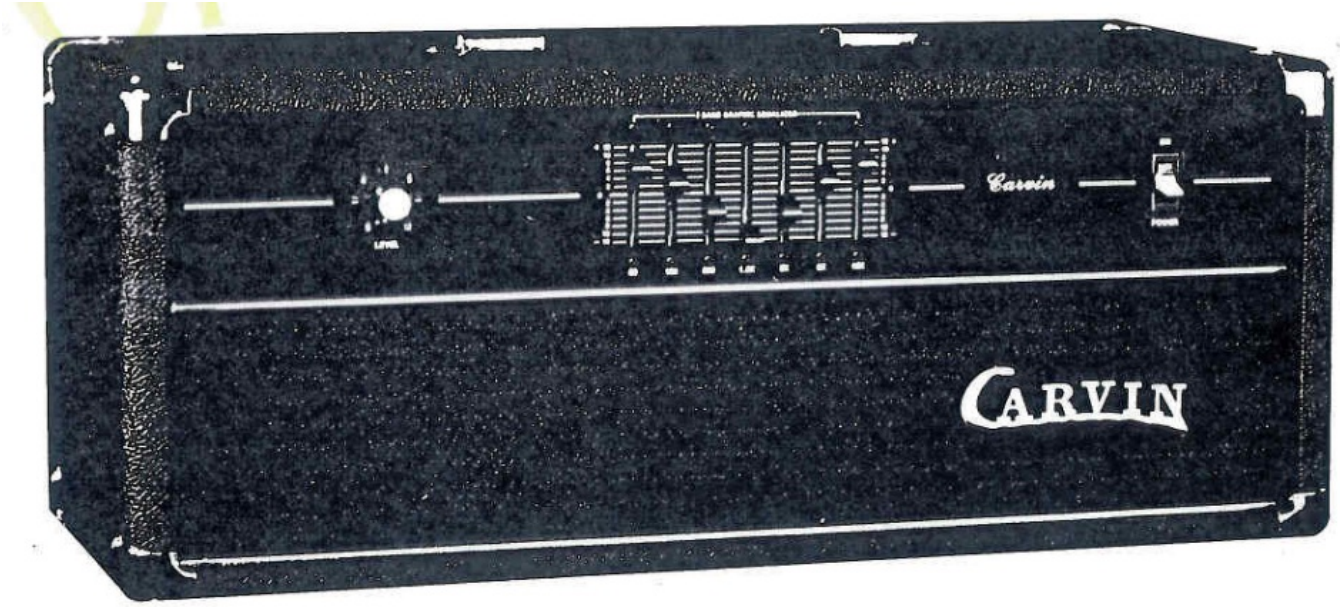
CARVIN SV Series Power Amplifiers User Manual

SV SERIES
POWER AMPLIFIERS
MANUAL OPERATING/ SERVICING

Contents

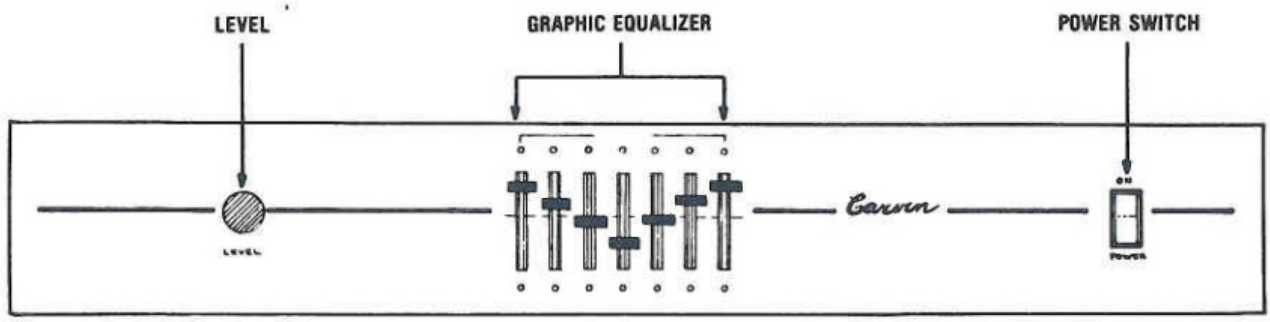
SV Series Power Amplifiers

The SV Series amplifiers are high power units designed to provide extended rellability under the stress of commerical sound reinforcement conditions. Actual performance standards are excellent (see specifications) making the SV ideally suited for disco or studio applications as well.
Seven band graphic equalization has been included to provide the flexibility and control needed in critical monitoring situations.
Two models are available, both housed in a heavy tolex-covered cabinet. The SV125 delivers a minimum of 125 Watts RMS into 4 Ohms. The SV250 will produce 250 Watts RMS, and may be loaded down to 2 Ohms for professional sound reiniorcement applications.



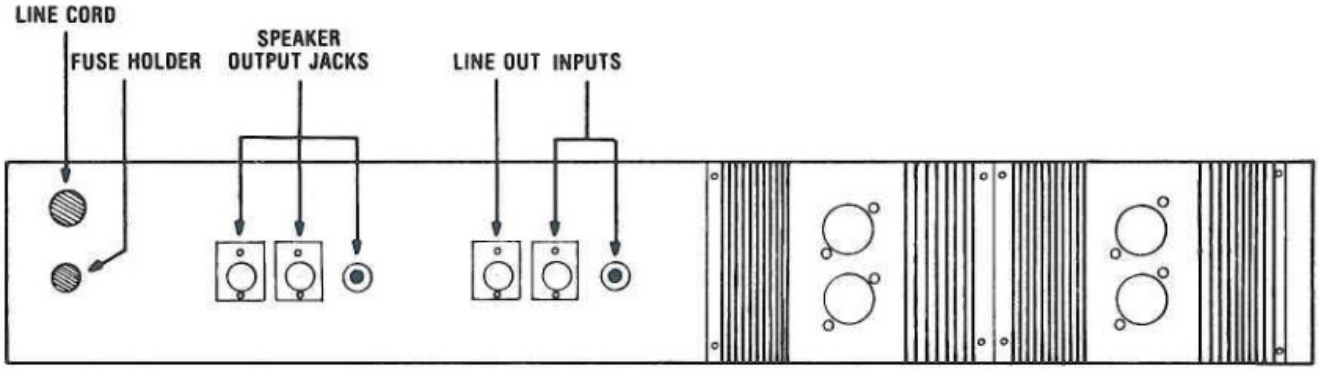
The manual contains specifications, front and rear panel descriptions and practical operating notes.
Please Note: An amplifier's rated output is specified at some low value of distortion. By overdriving the amplifier, substantially higher wattages are produced and caution must be exercised to prevent damage to speaker systems.

PANEL DESCRIPTIONS



FRONT PANEL

LEVEL
This control regulates the output level (volume) of the amplifier.
SEVEN BAND GRAPHIC EQUALIZER
When all slider knobs are centered along the "zero line", the equalizer has no effect. By raising any slider, a certain portion of the audio spectrum is boosted. Lowering the slider reduces the power in that particular band. The left hand sliders control the lower (bass) frequencies and the right hand slider control the higher (treble) frequencies. The middle sliders control the mid-frequencies.
The graphics may be used as basic "tone controls" to compensate for deficiencies in speaker systems or room accuustics. They are also helpful in reducing feedback problems, especially important in monitor applications.
POWER SWITCH
An illuminated power switch is provided on the front panel. A small delay in the indicator lamp is normal.



LINE CORD

AII Carvin Equipment is supplied with 3-conductor line cords ending in grounding-type plugs. This arrangement will greatly reduce the possibility of electrical shock, provided these outlets have been properly wired. If, at any time, electrical shock is experienced, disconnect the amplifier and have a qualified technician correct the trouble. Carvin does not recommend the use of the older, 2-conductor non-grounding type of outlets, as there is an increased danger of electrical shock.

FUSE HOLDER

Access to the fuse can be gained by pushing the fuse-holder inwards, then turning counterclockwise. The type of fuse to be used is printed just below the fuse-holder. Should the fuse ever fail, replace it with an identical fuse. If the second fuse fails, then a problem is indicated, and the amp tubes should be checked. To prevent excessive damage to the amplifier, NEVER USE A FUSE WITH A HIGHER RATING.

SPEAKER OUTPUT JACKS

A standard 1/4 phone jack is provided in addition to two locking D3M connectors. All three connectors are wired in parallel, with D3M pins #2 & #3 both wired to the “hot” line of the amplifier. Pin #1 is Ground.

LINE OUT

This D3M connector is wired in parallel with the D3F INPUT connector. It may be used to drive an additional power amplifier from one source (mixer, preamp, etc.) without using “Y” cords.

INPUTS

The SV amplifier features fully-balanced differential-input circuitry utilizing a D3F connector. In addition, a 1/4″ phone plug is provided for common (single-ended) sources.

OPERATING NOTES

The SV-series amplifiers are power amplifiers designed to accept “line-level” signals such as preamplifiers, mixers or any sources capable of producing 0.5 VRMS or more. Guitar, microphones, etc. are lower-level and generally higher impedance sources, and must be preamped.

The input of the SV amplifiers features balanced differential circuitry, and balanced sources should be plugged into the D3F INPUT jack. Normal single-ended sources should be plugged into the %” phone jack.

The output volume is adjusted by the LEVEL control.

The seven band graphic equalizer provides tonal control. When all sliders are set at mid-position (“flat”) the amplifier will reproduce the original signal without coloration. By raising or lowering individual slides, the character at the output may be modified to:

1. Add power and depth to the music.
2. Compensate for deficiencies in the speaker system or room accoustics.
3. Reduce feedback problems, allowing higher volumes without squealing or howling.

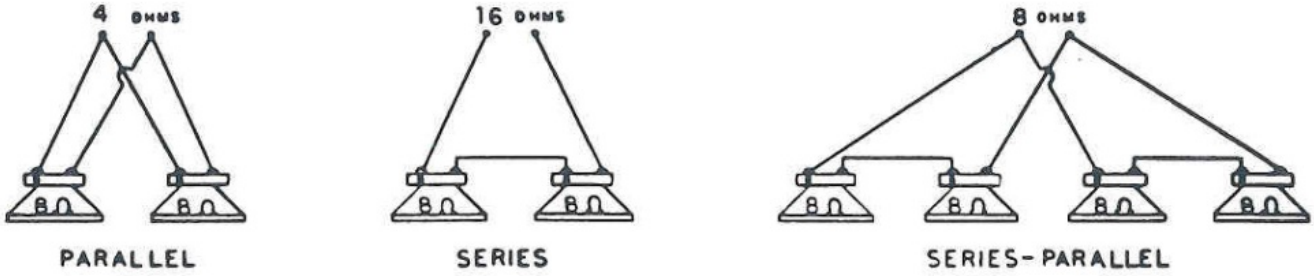
Speaker systems may be plugged into either the %” phone plug or the locking D3M connectors. When using the D3M connectors, wire the mating connector (A3F) with pins #2 & #3 going to one (“hot”) terminal of the speaker system and pin #1 to the other (“ground”) side. WARNING: Speaker wires should not be run in a snake containing input (microphone) cables. Such operation will promote oscillation, ground problems and may lead to damage of the amplifier.

The $V250 delivers maximum power into 2 Ohms. Higher impedance speaker systems result in a slightly lower power output. The SV125 is designed to drive 4 Ohms for maximum power output, but may be loaded to 2 Ohms if necessary. Impedances lower than 2 Ohms will activate the Short-Circuit Protection Network, resulting in distortion and lower power.

HOW TO DETERMINE SPEAKER IMPEDANCE

Single speakers and speaker systems are always rated by the manufacturer. Common impedances are two, four, eight and sixteen Ohms, although other values are sometimes used.

When more than one speaker or speaker system is combined, however, the impedance changes, The three basic interconnecting methods are shown below, with the changes in impedance each method causes. Although the draw ing shows single speakers, the same is true of speaker systems.



The actual formula for calculating parallel impedances is Z parallel = $\frac{1}{Z_1} + \frac{1}{Z_2} + \frac{1}{Z_3} + \ldots \frac{1}{Zn}$

The formula for series impedance is Z series = Z + Z, + Z+ Zn

SERIES SPECIFICATIONS

SV250 Output 250W RMS at 2 Ohms–160W RMS at 4 Ohms.
SVi25 Output 125W RMS t 4 Ohms–80W RMS at 8 Ohms.
Note: High Wattage Levels at lower output
Impedances help to protect speakers.
Adding speaker components reduces total
Impedance for increased power levels.
SPEC tor Both Models
Frequency Response 20 Hz to 20K Hz ±1 d8 At Full Power.
Distortion (THD) .15% 8t Full Power.
SIN Ratlo Better than 85 dB.
Damping Factor Greater than 100.
Main Equalization One 7-Band Graphic Equalizer. ± 12 dB with
center frequencles et 60, 125, 800, 1.5K, 3K,
8K, 12K Hz. Features Gyrator simulated
Inductors for precise one-octave bands.
Level Control Controls Output Volume.
Input Sensltivlty .5 VAC for Full Output.
Inputs LR Connector and %” phone Jack accepts balanced or standard sources from 150
Ohms to 10K Ohms.
Line Output Low Impedance with XLRR connector for other monitor amp hook-ups.
Spk Outputs 2 XLR Connectors plus 1 %” phone jack.
Short-Circuit
Protection Electronic Current Limiter which automa tically engages under any adverse operating conditions.
Power Requirements 110-120 VAC 50-60 Hz Grounded (3 Wire) plug.
Construction Sol[d 3%” 7 ply marine plywood cabinet.
Black TOLEX covering with large wrap around steel corners. 16 gauge steel chassls Bleck Finished.
Dlmenslons Width 24″, Height 10″, Depth 10″.
Weight SV125: 35 lbs. SV250: 40 lbs.
WARRANTY 2Years Parts 4 Labor.

LIMITED WARRANTY

Your Carvin Instrument Amplifier is protected against failure lor 2 YEARS. The amplifier will be serviced by Carvin free of charge should anything go wrong within the warranty period (excluding tubes, it so equipped).

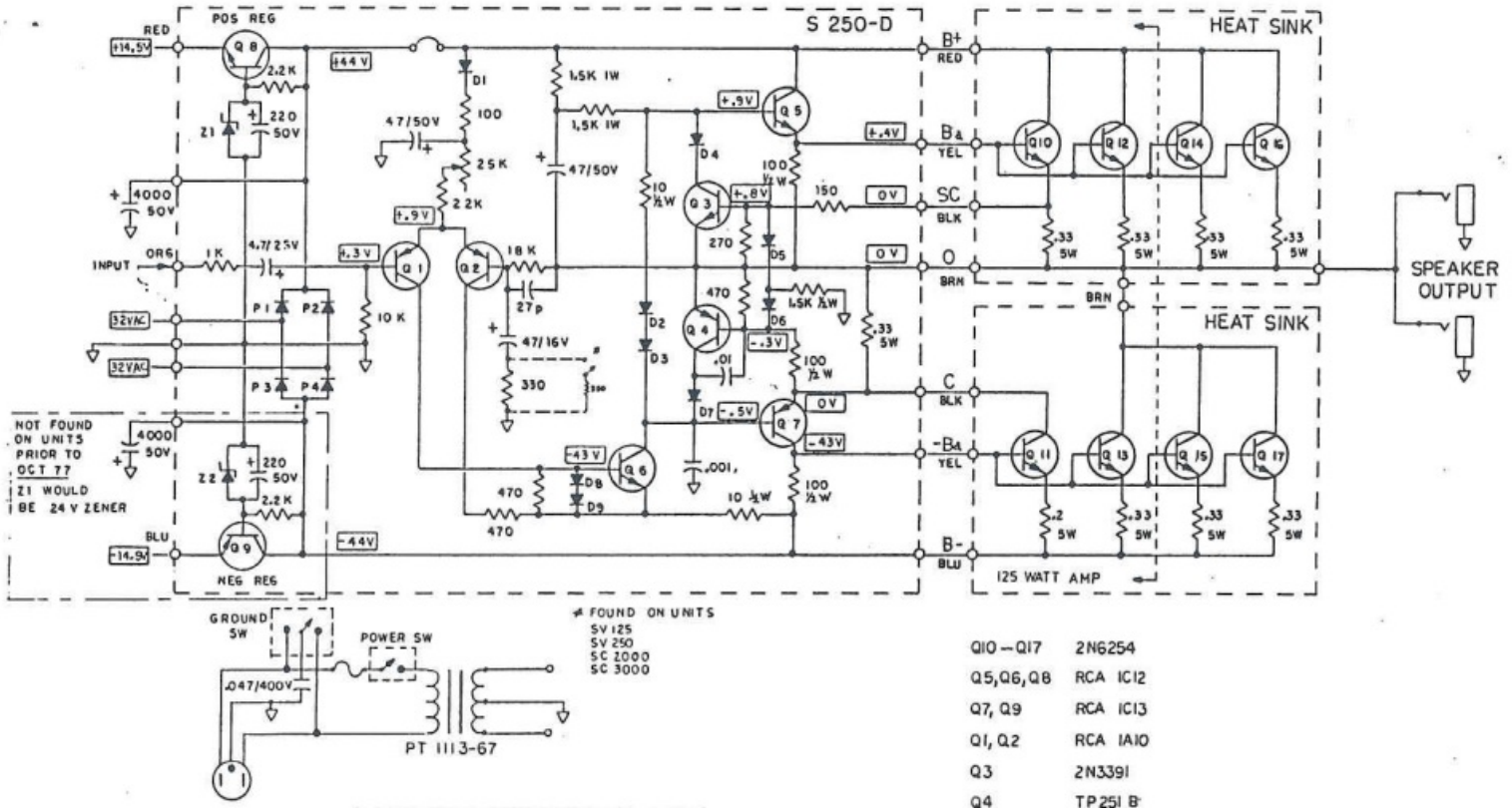
While Carvin suggests you utilize the specialized technicians of the Carvin Service Dept. Non-factory repairs will not void the warranty, although all charges for such repairs must be paid by the customer. Furthermore, Carvin will supply amp parts (at nc charge) upon receipt of detective parts. Naturally, any damages caused by improper outside repairs will not be covered by the warranty. Ail Shipping charges are to be paid by the Customer.

Carvin Speaker Systems are warrantied tor a period of 1 Year. All 4BL speakers are warrantied by 4BL for 5 Years.

Any repairs should be sent directly to 4BL Service Centers.

Speakers are not warrantied against damage caused by excessive power levels. (Open Voice Coils are not covered by warranty as they are the result ol excessive power applications). The description of an open voice coil is: A speaker that will give no sound, NOTE: An amplifier's rated output is specified at a low value of distortion. By overdriving the amp, substantially higher wattages are produced, so caution is advised to prevent damage to the speaker system.

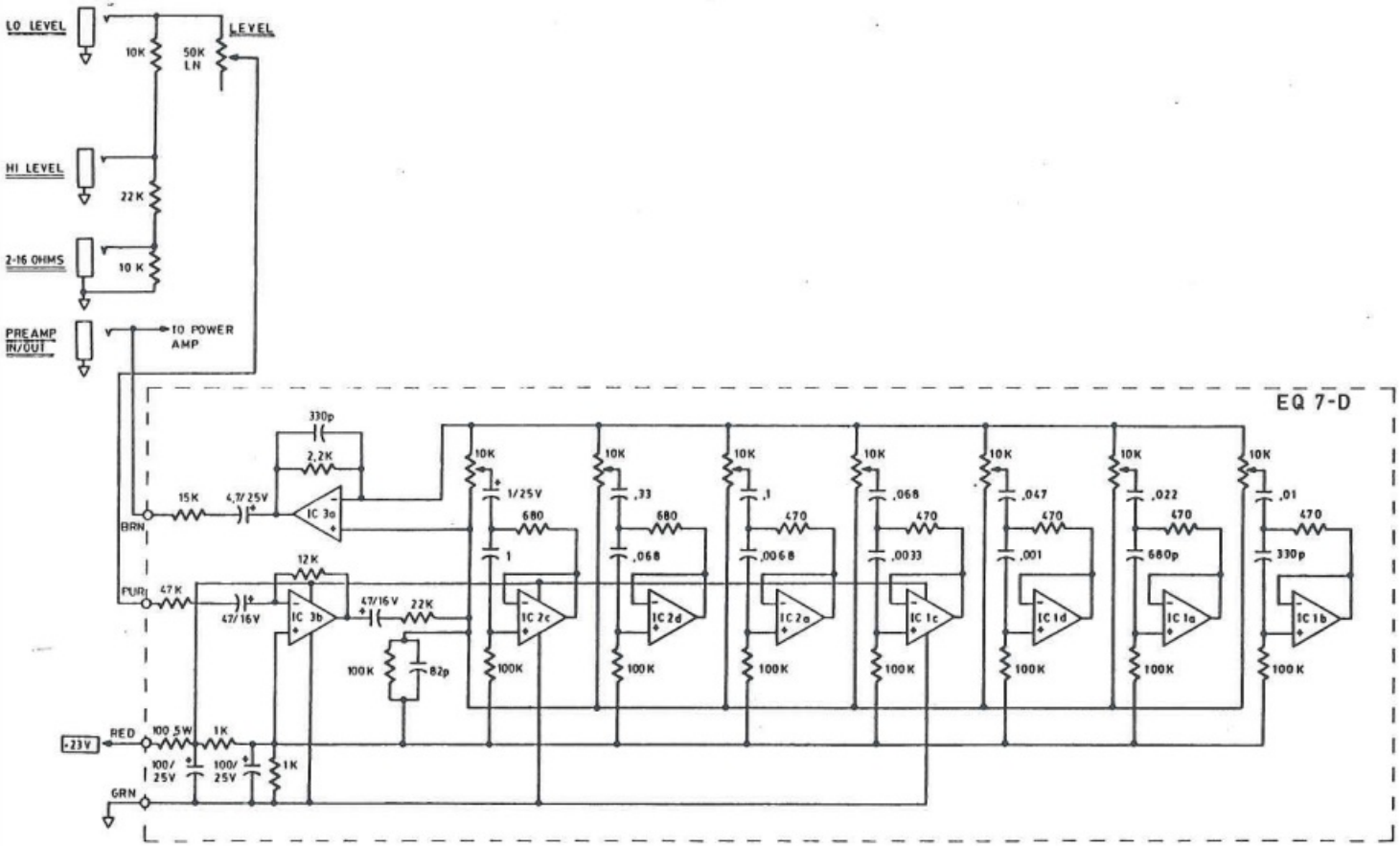
All above warranties are extended to the Original Purchaser Only, by the Carvin Co., and do not cover failures caused by misuse or natural disasters.



125 WATT AMP	250 WATT AMP
Q10 — Q13	Q10 — Q17
P1-P4 CR3 020	P1-P4 MR 752
PT 1150-64	PT 1113-67

Q10 — Q17	2N6254
Q5, Q6, Q8	RCA IC12
Q7, Q9	RCA IC13
Q1, Q2	RCA IA10
Q3	2N3391
Q4	TP251 B
Z1, Z2	C 1Z 15B
P1—P4	CR3 020 or MR 752
D1—D9	IN5392

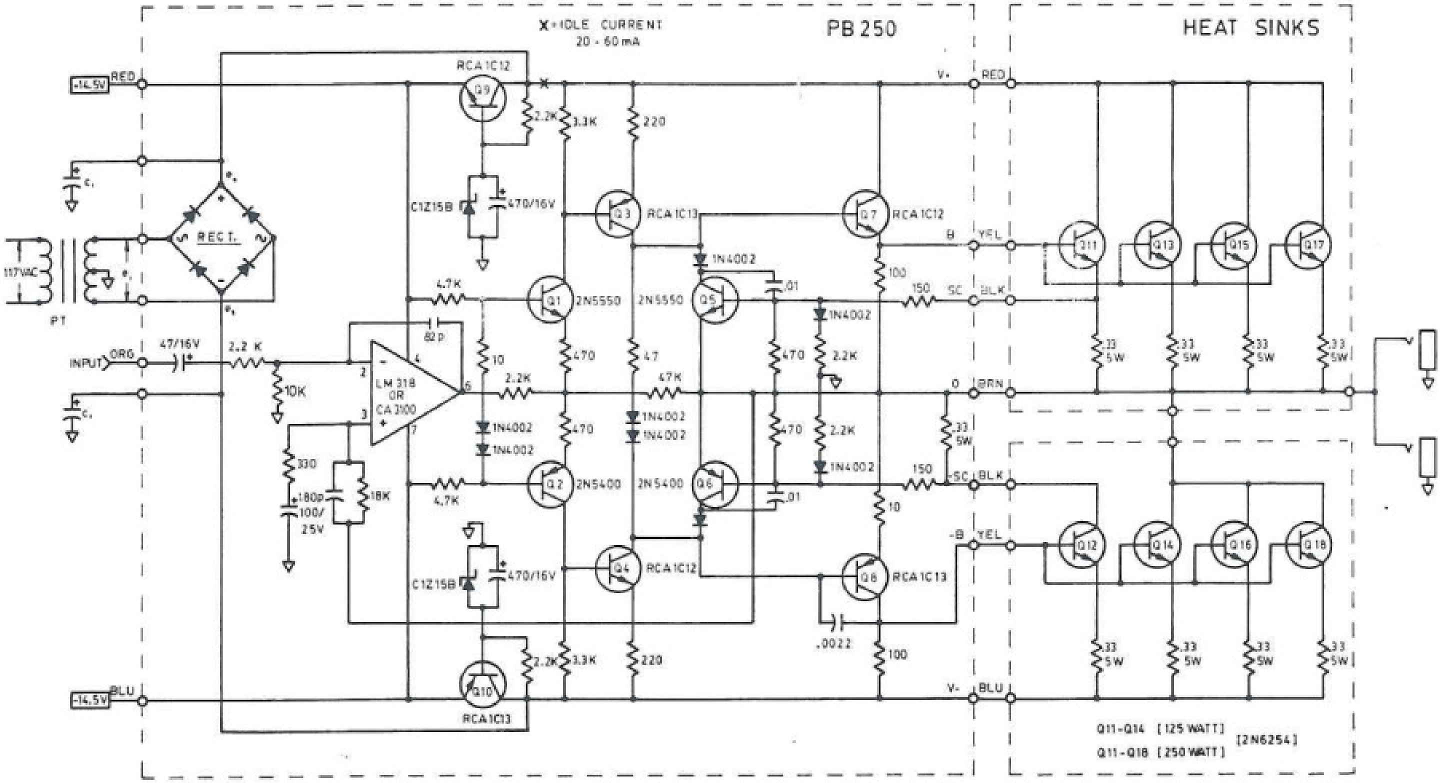
REVISIONS	DATE	CARVIN MUSIC CO
	8-24-77	
	DRAWN BY	POWER AMPLIFIER
	W. Flaherty	DRIVER BOARD S 250-D HEAT SINKS



IC1, IC2 4136
IC3 1458

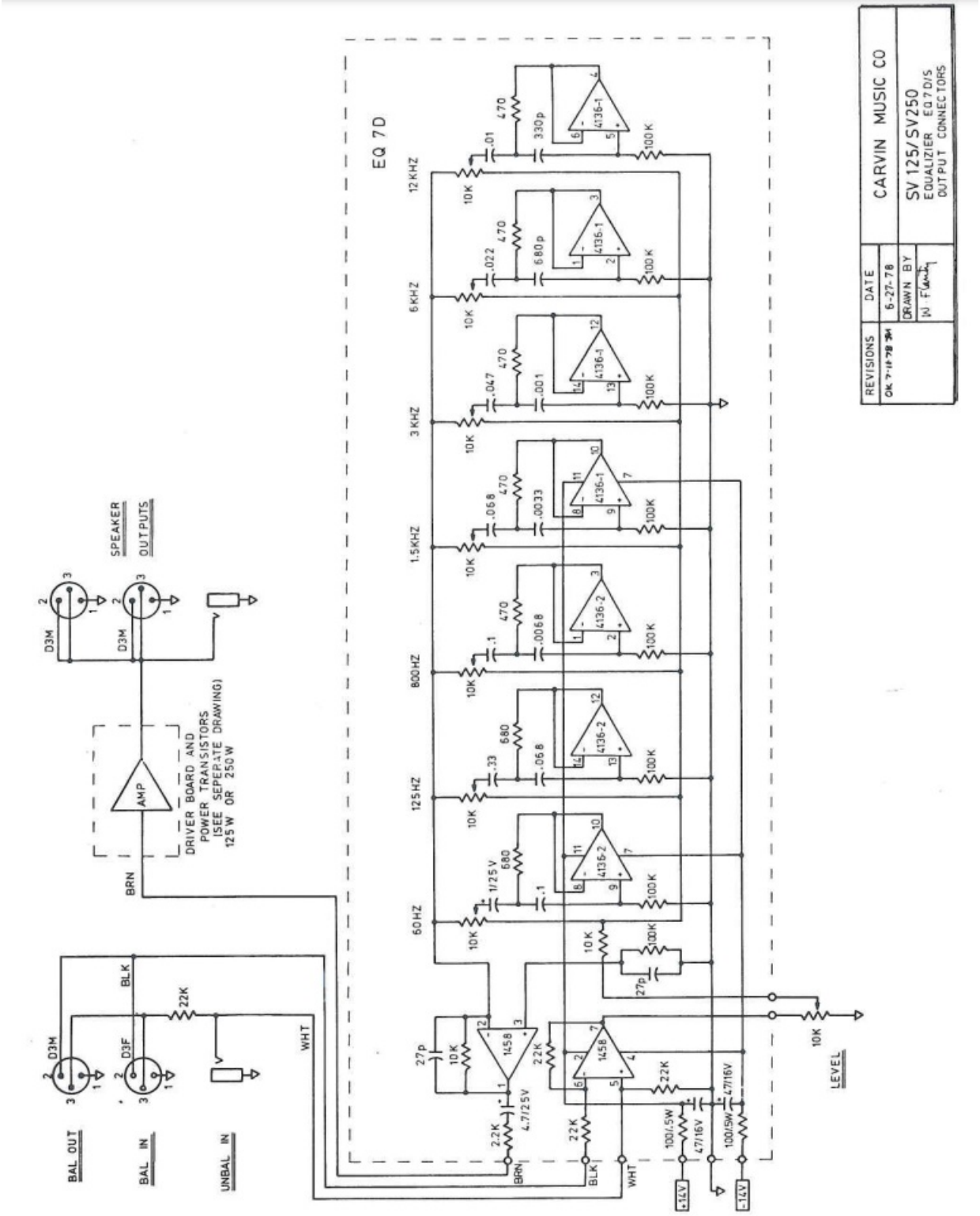
SV125 - SV250 Sold from
Jan-76 to March, 77

REVISIONS	DATE	CARVIN MUSIC CO
	9/13/77	
	DRAWN BY	SV 125/ SV250
	W. Flaudy	EQUALIZER EQ 7-D



MODEL	PT	C_1	E_+	E_-
125W RMS	PT1150 64	4,000/50V	+44 VDC	-44 VDC
250W RMS	PT1113 67	4,000/50V	+48 VDC	-48 VDC
ASG 500	PT2138A	10,000/60V	+49 VDC	-49 VDC

REVISIONS	DATE	CARVIN MUSIC CO
7/27/78 W. Flaity OK 7/31/78 S. 10/26/78	1-4-78	POWER AMP PB 250
	DRAWN BY W. Flaity	



Documents / Resources

[CARVIN SV Series Power Amplifiers] [pdf] User Manual
SV Series Power Amplifiers, SV Series, Power Amplifiers, Amplifiers

References

- User Manual