

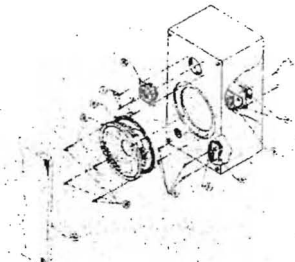
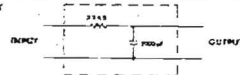
SECRET

**WARNING**  
 THIS SECTION OF THE MANUAL  
 CONTAINS SERVICE INSTRUCTIONS  
 FOR USE BY QUALIFIED SERVICE  
 PERSONNEL ONLY

**RECOMMENDED TEST EQUIPMENT**

Instrument Type	Required Characteristic	Recommended Instrument
Distortion Analyzer	Measurement to 100 Hz	Sound Technology Model 100
Output Load Resistor	12.5 W, 8Ω, non-inductive type 1%	Duke Mini-12.5
Resistor Decade Box	1Ω, 1-Ω-mic, EIA Standard	
Variable Autotransformer	Capable of supplying 25 W over a range of 90-135 V 1. If autotransformer does not have an AC voltmeter, measure the output voltage with either the multimeter indicated below or an AC voltmeter with a range of 90-135 V AC 2. If the autotransformer does not have a wattmeter, a wattmeter capable of indicating 25 watts will be required	GenRad WDMT 2A-V
Multimeter	Accuracy = 0.1% reading + 1 count DC Range = 199.9 mV to ± 1199.0 V AC Range = 0.2 V AC to 1200 V AC Input Resistance = 10 MΩ	

20 kHz Equivalent Bandwidth Filter



Item	JBL Part No.	Qty.	Description
1	51517	4	6 x 3 x 1 oval head, crossed-recessed sheet metal screw
2	52014	4	8-32 x 1 1/2 flat head, crossed-recessed machine screw
3	58397	4	10 x 1 x 1/2 flat head, crossed-recessed sheet metal screw
4	57307	4	No. 10 speednut
5	6001	1	amplifier
6	3103	1	crossover network
7	52192	1	knob
8	116A	1	
9	52671	1	rear gasket
10	33841	4	10-32 x 1 flat head, crossed-recessed machine screw
11	LE 25-2	1	
12	58355	1	grille assembly



**Professional Division**

James B. Lansing Sound, Inc., 8500 Balboa Boulevard, Northridge, California 91329 U.S.A.

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# JBL 4301E INSTALLATION AND SERVICE MANUAL

The JBL 4301E is a self-contained amplifier/monitor loudspeaker system compact in size and designed for mobile recording, broadcasting, studio applications or wherever SDR 2-S-4 Drive Unit



**Loudspeaker Specifications**

Frequency Response 65 Hz to 16 kHz ± 3 dB  
Sensitivity (1 W/1 m)

Power Output 100 W (continuous sine wave), 150 W (peak)

THD (1 W/1 m) 0.2% or less

SWR & Filter Output 20 dB to 15 kHz ± 0.5 dB

Frequency Response 20 Hz to 20 kHz

Power Output 25 W (1 m)

THD (1 m) 0.2% or less

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**Connecting the System**

Loudspeaker connectors are made at the two screw terminals located on the back of the enclosure. Mating pins from polarity when wiring. See the 2-pin SDR 2-S-4 Drive Unit.

**CAUTION:** The amplifier power is not to be exceeded or exceeded in working state. Do not connect the system to a line or other equipment without the amplifier and loudspeaker.

**Adjusting the System**

A continuously variable high frequency equalizer adjusts the output of the high frequency amplifier to compensate for room acoustics. The control knob is turned until a satisfactory uniform response is obtained. A high frequency equalizer control knob (not shown) is used when needed.

HIGH FREQUENCY LEVEL



**Maintenance**

The grille is secured to the enclosure by corner pins located near the corners of the enclosure. To remove the grille, grasp it by the top and bottom corners of the enclosure and pull gently to release it. Reposition it on the drive unit and press firmly.

The grille cloth is a double-knit polyester fabric selected for accurate transparency, heavy strength, colorfastness and soil resistance. It can be cleaned by gentle washing in warm water with a mild detergent. Do not use harsh cleaning agents such as bleach, K2P, GARDOL, GRY-CLEEN, or Fern-Clean. CHECK IN ENZY according to the manufacturer's directions.

**CAUTION:** The use of cleaning liquids or other solvents will result in permanent discoloration of the grille fabric. Occasional dusting with a clean, soft cloth will maintain the finish of the enclosure. Because the oil and dirt on the grille is moisture resistant, a damp cloth will remove most stains. Conventional furniture wax or polishes should not be used on the enclosure as they will be scratched and a high gloss finish will appear to dry out. The oil penetrates deeper into the veneer. Many woods are more resistant to the effects of the sun. Many woods are more resistant to the effects of the sun. Many woods are more resistant to the effects of the sun.

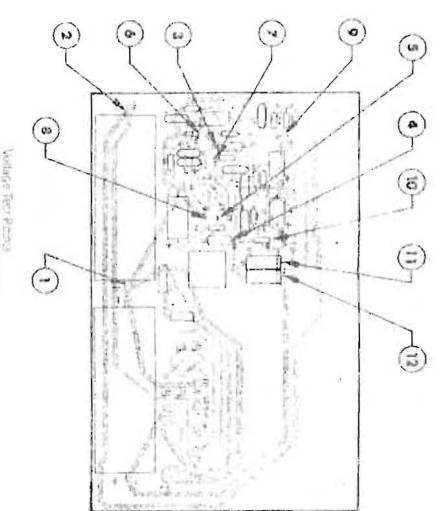
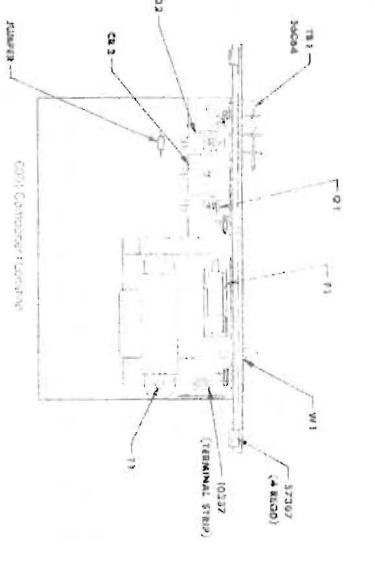
To re-polish the enclosure, use any of several clear oil finishing preparations available at furniture or hardware stores. Apply a liberal amount of the oil over the entire surface of the veneer. After 15 minutes, wipe the surface with a clean, soft, dry cloth.

Small surface scratches can usually be removed by gently rubbing them out with a #4/0 steel wool and applying oil to the rubbed area. When using steel wool, never use it in the direction of the grain. Deep scratches or serious damage should be repaired only by a qualified furniture restorer.

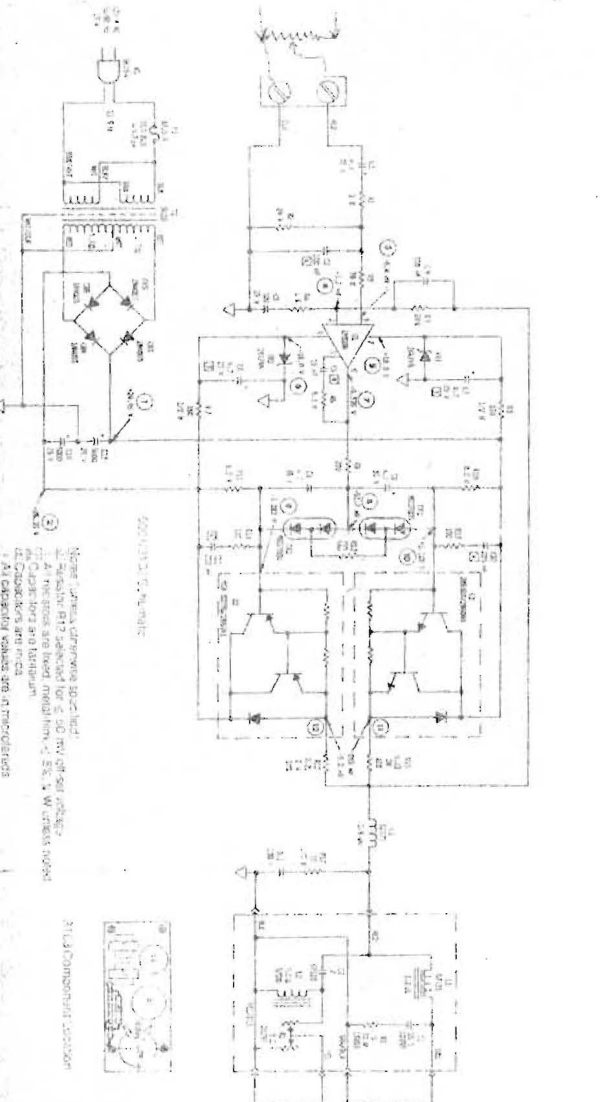
**WARNING**

DO NOT OPEN THE ENCLOSURE. THE ENCLOSURE IS NOT TO BE OPENED OR REPAIRED BY THE USER. THE ENCLOSURE IS NOT TO BE OPENED OR REPAIRED BY THE USER.

JBL 213-892-8411



Voltage Test Points and Component Locations for the Drive Circuit Board



Note: Unless otherwise specified, all components are standard values. All resistors are 1/2 watt, 5% tolerance. All capacitors are electrolytic, 50V, 5% tolerance. All diodes are 1N4148, 50V, 100mA. All transistors are 2N3055, 50V, 1A. All other values are as indicated.



311.3 Common Rail Connection