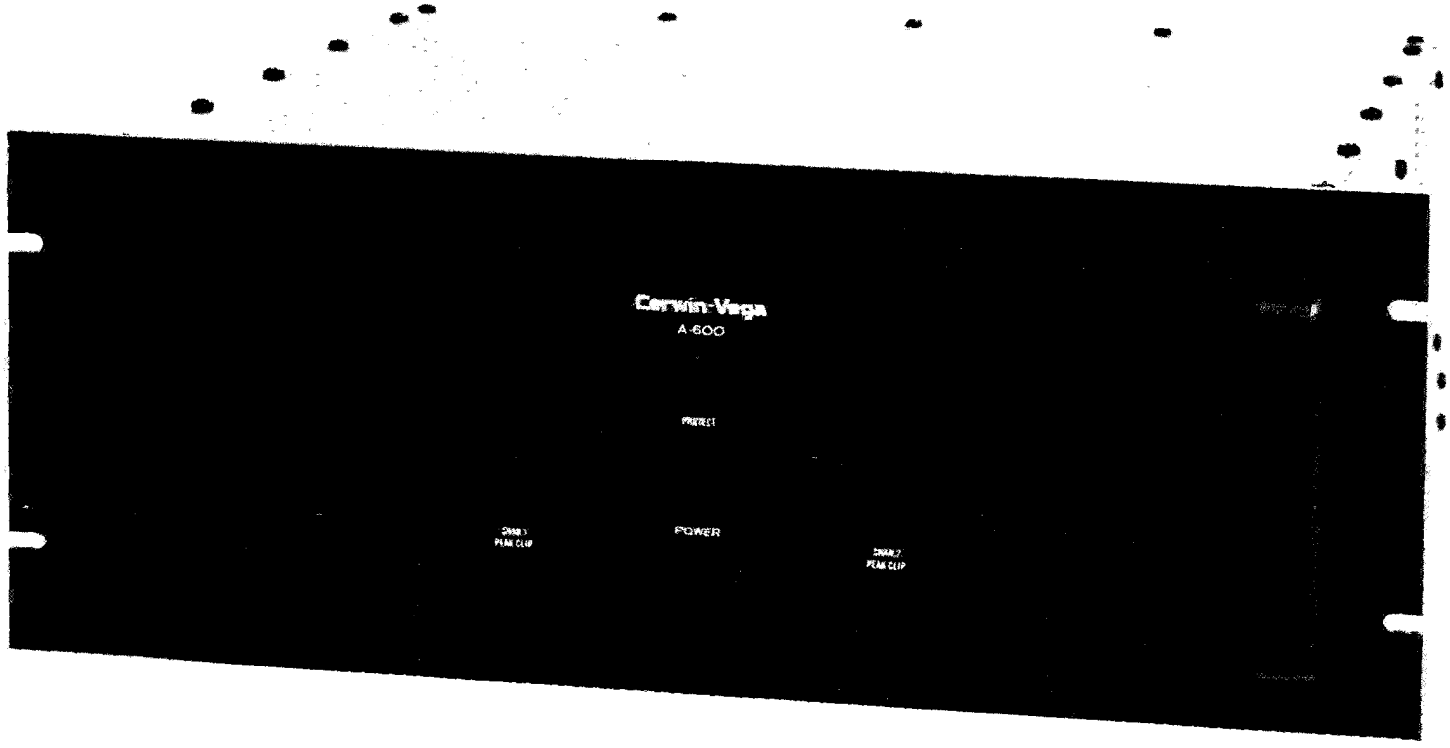
Cerwin-Vega!

MODEL A-600 POWER AMPLIFIER



SERVICE MANUAL

TABLE OF CONTENTS

A-600 SPECIFICATIONS

Minimum continuous power output per channel 20Hz-20kHz, 8Ω , both channels driven.	350w
Minimum continuous power output per channel 20Hz-20kHz at 4Ω , both channels driven.	600w
THD 20Hz-20kHz between 0.25w and full power, 8Ω	.03%
THD 20Hz-20kHz between 0.25w and full power, 4Ω	.05%
IM distortion, (SMPTE) from 0.25w to full power, 8Ω	.03%
Signal to noise (ref. rated output, "A" weighting).	115dB
IHF noise. (ref. OdBW, "A" weighting)	-90dB
Power bandwidth (IHF)	7Hz-100kHz
Slew rate v/usec	80
Damping factor ref. 50Hz, 8Ω	250
Input impedance	10k Ω
Input sensitivity (ref. full output)	1.4v
IHF sensitivity (ref. OdBW)	.075v
Input connection	phono (RCA) or 1/4" phone
Output connection	Dual binding post (5-way)
Fan cooling	yes/2-speed
Power requirements idle/ full power	150w/1800w
Weight (net)	70 lbs./32kg
Dimensions (W,H,D,)	19" x 7" x 16" 48.2cm x 17.8cm x 40.6cm

The above specifications are subject to change without prior notice.

Required Test Equipment

BEFORE STARTING . . . .

Cerwin-Vega amps are professional, high power amplifiers that absolutely require proper test equipment and qualified service personnel. In order to perform basic amplifier testing and repair you must have the following equipment:

1. Digital multimeter or VTVM
2. Oscilloscope, preferrably with dual trace.
3. AC current meter
   DC current meter
   0-15 amp range
4. AC variac 20 amp, 0-120% output
5. High power (250w) load resistors which can provide the following precision, noninductive load resistances.
   2 Ω , 1kW min.
   4 Ω , 1kW min.
   8 Ω , 500W min.
6. Signal generator with 10v sine wave output or, if distortion measurements are to be made, a high quality distortion analyzer with very low residual distortion (.002%) is required (such as the Sound Technology 1700 Series).

NOTE

Read the product owner's manual thoroughly if in doubt about operation.

This service manual is intended as a guide, not a bible. We have made every effort to insure its accuracy, however, an error in the manual or a change in the amplifier assembly is always possible. If you feel you are fighting an impossible problem or have a question, call Cerwin-Vega's Technical Services Department.

Note to Reading Schematics -

All voltages are DC, no load, no signal, unless otherwise specified.
When replacing transistors, be sure to match the beta codes.
Resistors are 1/2w, 5% carbon film unless otherwise specified.
Cap values are in uf, unless otherwise specified.
Capacitor tolerance coding on parts list is as follows:

J = 5%

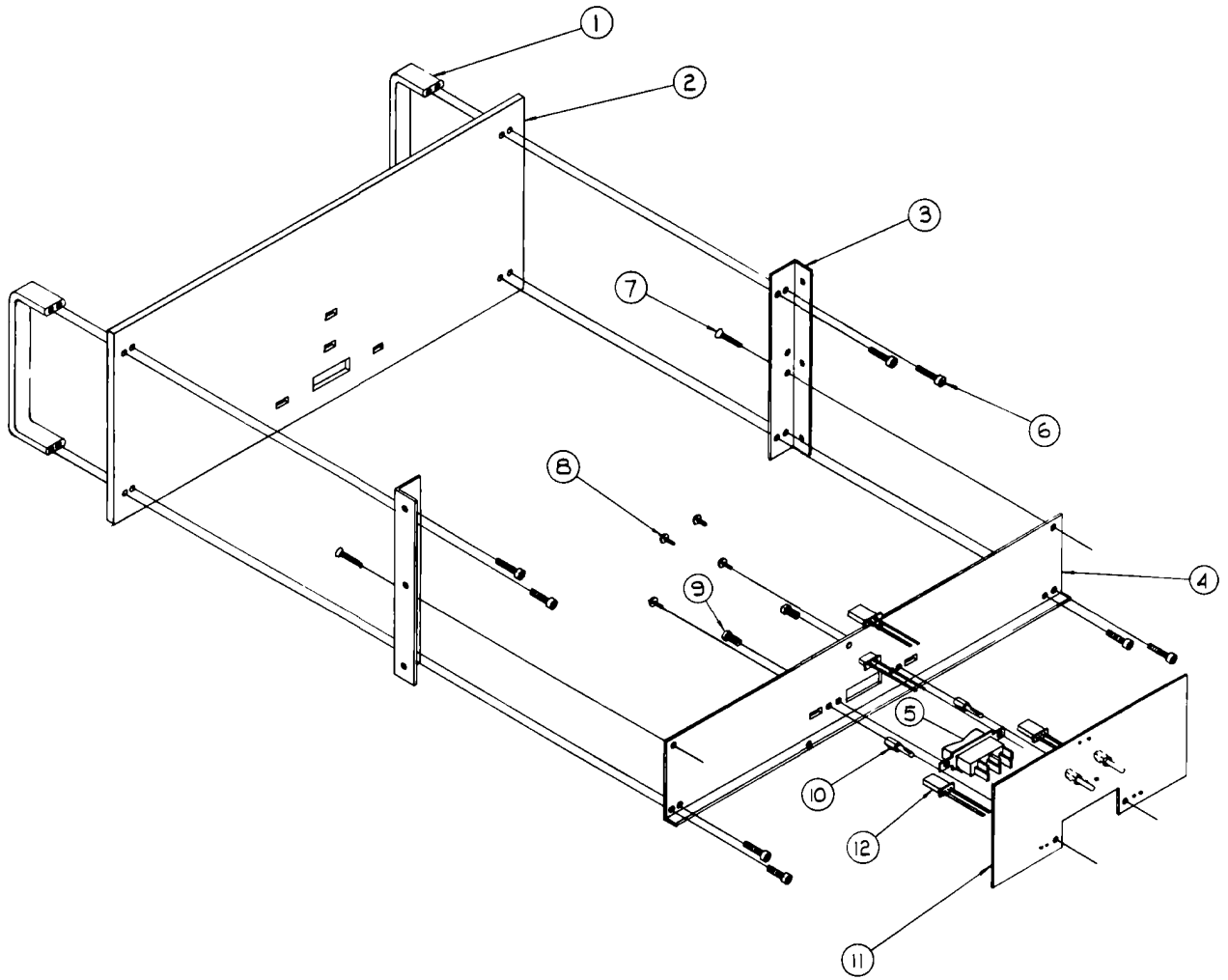
K = 10%

M = 20%

P = Guaranteed minimum value

Z = +80%, -20%

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



Nº	Qty	DESCRIPTION
12	4	LED INDICATORS SPEC 8651
11	1	L E D P.C.B ASSY SPEC 7008
10	4	STANDOFF NYLON 1/4" SPEC 7087
9	2	SCREW M4 x 0.7 x 8mm PH PHIL BLK
8	4	SCREW 6-32 x 1/4 P.H. PHIL BLK
7	2	SCREW 6-32 x 3/8 ZINC F.H. PH
6	8	SCREW 8-32 x 3/8 ALLEN BLK
5	1	SWITCH POWER SPEC 1122B
4	1	SUB PANEL SPEC 7028
3	2	BRACKET PANEL SPEC 7020
2	1	FRONT PANEL SPEC 7029
1	2	FRONT HANDLE SPEC 7038

TOLERANCES UNLESS OTHERWISE SPECIFIED			
FRACTIONS	DEC	ANGLES	
±	±	±	
APPROVALS	DATE	FRONT PANEL SUB ASSY A-600	
DRAWN JDR			
CHECKED		SCALE	SIZE D DRAWING NO 7107
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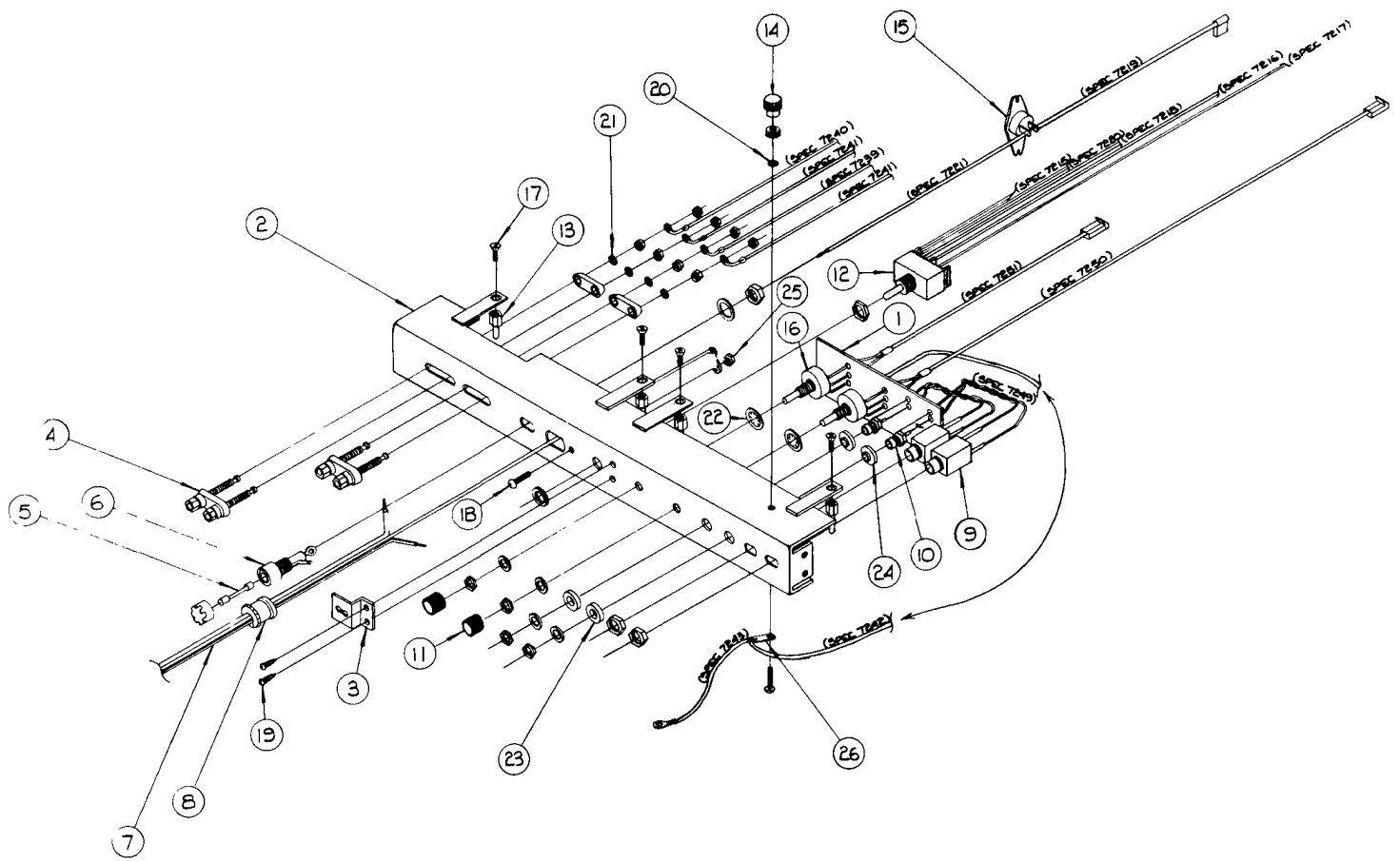

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

N°	QTY	DESCRIPTION
26	1	SOLDER LUG #8 I T L SPEC 7279
25	1	NUT 6-32 x 1/4 HEX ZINC
24	2	WASHER SHOUL PHEN SPEC 2605
23	2	WASHER FLAT PHEN. SPEC 2689
22	2	WASHER 3/8 I/D INT TOOTH LOCK
21	4	WASHER #10 INT TOOTH LOCK
20	1	WASHER #8 INT. TOOTH LOCK
19	2	SCREW SHT #6-1/4 P.H BLK PHIL
18	1	SCREW 6-32 x 1/2 P.H. BLK PHIL.
17	4	SCREW 6-32 x 1/4 F.H BLK PHIL.
16	2	GAIN POTS. SPEC. 11203
15	1	THERMAL BREAKER SPEC. 2655
14	1	BINDING POST (GRD) SPEC 8257
13	4	STANDOFF 3/8" NYLON SPEC 11223
12	1	TAP CHANGE SWITCH SPEC 8254
11	2	KNOB SPEC. 11275
10	2	PHONO JACK SPEC 2616
9	2	PHONE JACK SPEC 11205
8	1	STRAIN RELIEF SPEC 7286
7	1	POWER CORD SPEC 7222
6	1	FUSE HOLDER SPEC 7900
5	1	FUSE 3AG 15A
4	2	BINDING POST 5 WAY SPEC. 2607
3	1	SWITCH GUARD SPEC. 7030
2	1	CONNECTOR PANEL SPEC. 7016-1
1	1	INPUT RELAY ASSY SPEC. 7015

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC ANGLES
± ± ±

APPROVALS DATE
DRAWN
CHECKED

REAR CONNECTOR PANEL ASSY. A-600

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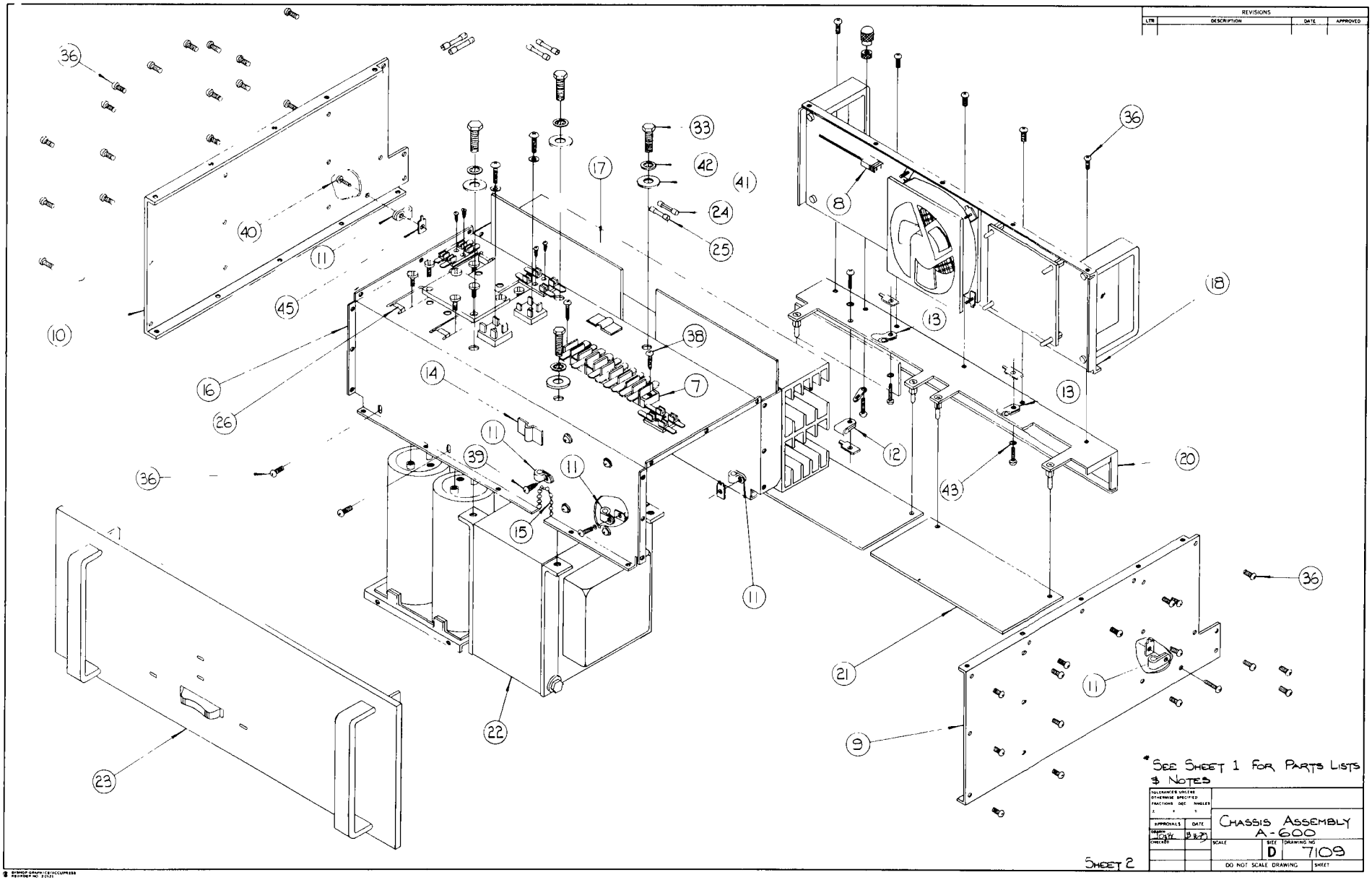

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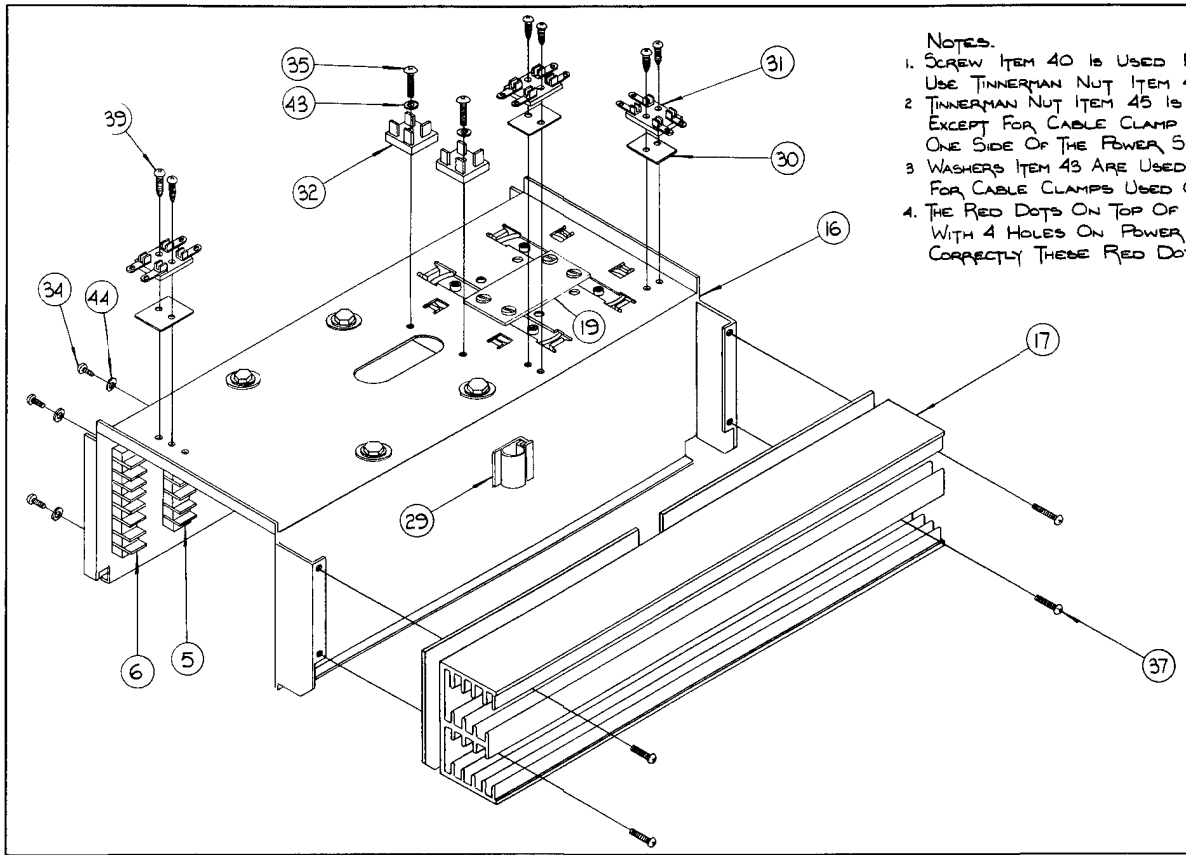
LTR	DESCRIPTION	DATE	APPROVED

*See Sheet 1 For Parts Lists & Notes

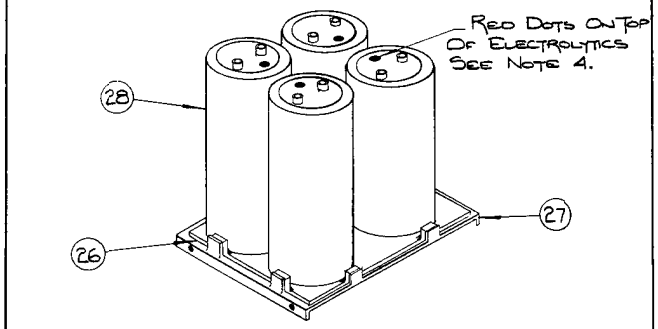
TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES		
APPROVALS	DATE	Chassis Assembly A-600
DRAWN JGH	8-8-79	
CHECKED		SIZE D DRAWING NO 7109
		SCALE DO NOT SCALE DRAWING SHEET

Sheet 2

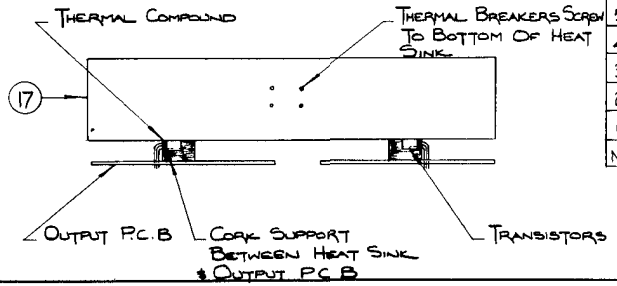


NOTES.

1. SCREW ITEM 40 IS USED FOR ALL CABLE CLAMPS THAT USE TINNERMAN NUT ITEM 45.
2. TINNERMAN NUT ITEM 45 IS USED FOR ALL CABLE CLAMPS EXCEPT FOR CABLE CLAMP ITEM 11 & SCREW ITEM 40 ON ONE SIDE OF THE POWER SUPPLY COVER ITEM 16 (SEE SHT 1)
3. WASHERS ITEM 43 ARE USED ON ALL CABLE CLAMPS EXCEPT FOR CABLE CLAMPS USED ON SIDE PANELS ITEMS 9 & 10 (SEE SHT 1)
4. THE RED DOTS ON TOP OF ELECTROLYTICS ITEM 28 SHOULD ALIGN WITH 4 HOLES ON POWER SUPPLY COVER ITEM 16. TO BE INSTALLED CORRECTLY THESE RED DOTS MUST BE SEEN THRUGH THE 4 HOLES.



BOTTOM VIEW OF HEAT SINK ASSY



Nº	QTY	DESCRIPTION	Nº	QTY	DESCRIPTION
26	1	CAPACITOR P. FOAM & TUBE SPEC 7043			
25	5	FUSE 3AG 15A			
24	1	FUSE 3AG 1A			
23	1	FRONT SUB-PANEL ASSY SPEC 7107			
22	1	XFMR ASSY. SPEC 7112			
21	2	DRIVE BOARD ASSY. SPEC 7102			
20	1	REAR CONN. PANEL ASSY SPEC 7115			
19	1	GROUND PLATE ASSY SPEC	45	7	NUT TINNERMAN #6 SPEC 8261
18	1	FAN PANEL ASSY. SPEC 7116	44	4	WASHER #6 FLAT
17	1	HEAT SINK ASSY. SPEC 7106	43	7	WASHER #6 INT. TOOTH LOCK
16	1	POWER SUPPLY COVER SPEC 7008-2	42	4	WASHER 1/4" INT. TOOTH LOCK
15	2	FLEXIBLE GROMMET SPEC 7302	41	4	WASHER FLAT 1/4"
14	3	CABLE CLAMP ADHES. SPEC 7297	40	7	SCREW 6-32 × 1/2" P.H BLK PHIL
13	3	CABLE CLAMP 1/8" SPEC 7306	39	7	SCREW SHEET #6 × 3/8 P.H. BLK. PH
12	1	CABLE CLAMP 9/16" SPEC 5236	38	2	SCREW SHEET #6 × 3/8 P.H BLK PH.
11	5	CABLE CLAMP 1/4" SPEC 7307	37	4	SCREW 8-32 × 5/8 P.H BLK PHIL
10	1	SIDE PANEL B SPEC 7017	36	41	SCREW 8-32 × 3/8 P.H BLK PHIL
9	1	SIDE PANEL A SPEC 7017	35	2	SCREW 6-32 × 3/4" TRUSS H PHL
8	1	FAN CORD FAB SPEC 7246	34	4	SCREW 6-32 × 5/8 PH BLK PHIL
7	1	TERMINAL BLOCK 3 SPEC 7266	33	4	BOLT HEX 1/4 × 20 × 1/2" LONG
6	1	TERMINAL BLOCK 2 SPEC 7205	32	2	BRIDGE RECTIFIER SPEC 2604
5	1	TERMINAL BLOCK 1 SPEC 7206	31	3	FUSE BLOCK (D) SPEC 11271
4	2	THERMISTOR SPEC 11238	30	3	NOMEX PAPER SPEC 7284
3	1	CAPACITOR SPEC 7291	29	1	WIRE RETAINER SPEC 7311
2	1	CAPACITOR SPEC 7290	28	4	ELECTROLYTIC 14000MFD SPEC 7283
1	1	RESISTOR 22Ω SPEC 7289	27	1	CAPACITOR MT. PLATE SPEC 7008

REVISIONS

LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED: FRACTIONS ±1/64, DEC ±.01, ANGLES ±1°

APPROVALS | DATE

DRAWN SEC 5-67

CHECKED

CHASSIS ASSY A-600

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DRIVE CIRCUITRY

Q202/Q203 and Q204/Q206 make up a dual differential first stage which provides the initial voltage gain. This stage operates from a ±24v supply (zeners CR205 and CR212). Q201 and Q205 act as level shifters to drive the class A stage, Q209 and Q210. Drivers Q211 and Q212 provide further current gain for the output stage.

Electronic current limiting is provided by Q213 and Q214, and associated components. When the voltage across any emitter resistors in the output stage (i.e., output current) becomes excessive, Q213 or Q214 turns on, clamping the base of the driver to the output rail, preventing further current drive.

OUTPUT STAGE

The output sections consist of parallelled output devices Q601 through Q610, which provide final output drive. Q301 and Q302, and related components form a bias compensation network. Q301, mounted behind the circuit board directly against the output heat sink, senses temperature and adjusts the idling current (back in the class A stage) accordingly. This provides optimum thermal stability and performance.

PROTECTION CIRCUIT

The protect circuitry is designed to protect the amplifier and speakers under potentially harmful conditions. These conditions and their sense mechanisms are described first:

1.) Excessive current flow, oscillations, etc., will cause

simultaneous current flow in negative and positive output legs. Q401/Q402 and Q403/Q404 form a pair of discrete "and" gates which sense this current across output emitter resistors. When either gate is turned on, level shifters Q405/Q406 or Q408/Q409 cause Q407 or Q410 to turn on. This shunts pin 2 of the 555 timer (U401) to ground, triggering it.

2.) Sustained DC voltage at the output - the output of Ch1 and Ch2 is summed and integrated by R403, R404, and C402. A positive offset will turn on Q412, a negative offset turns on the Q413/Q414 pair. Either action has the same effect on the 555 trigger, via CR404 and R444.

3.) Loss of AC power or very low line voltages are prevented from causing dangerous or annoying transients by Q411. A loss of rectified AC (via CR402) will turn on Q411, again triggering the 555, via CR404 and R444.

When the timer is triggered, pin 3 is driven high for one timing cycle, approximately seven (7) seconds. (Note that the timer will not attempt to reset until the fault condition is removed and pin 2 is high.) During this time, the protect LED is illuminated and Q415 shuts off, de-energizing K401 and K405 (output and input connections). This essentially disconnects the amplifier from all related equipment. When the fault is removed, the timer resets and the relays reconnect.

PEAK CLIP CIRCUITS

Zener CR410 provides a voltage reference approximately 10v below Vcc at the bases of Q416 and Q417. When positive peaks from either channel exceed this threshold, the transistor turns on. Note that the indicators are connected after the output relay, preventing an indication when in the protect mode.

REVISIONS			
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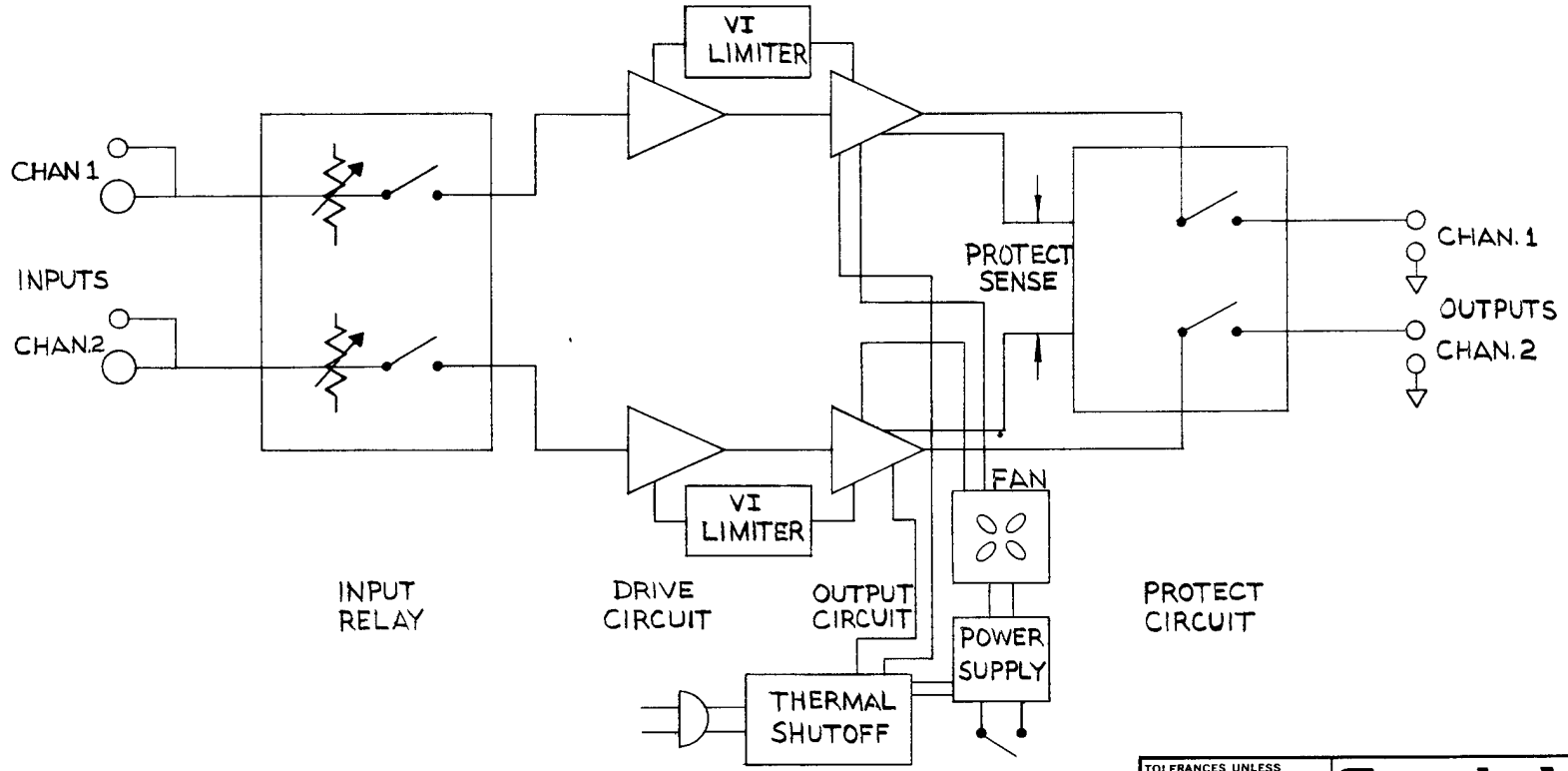
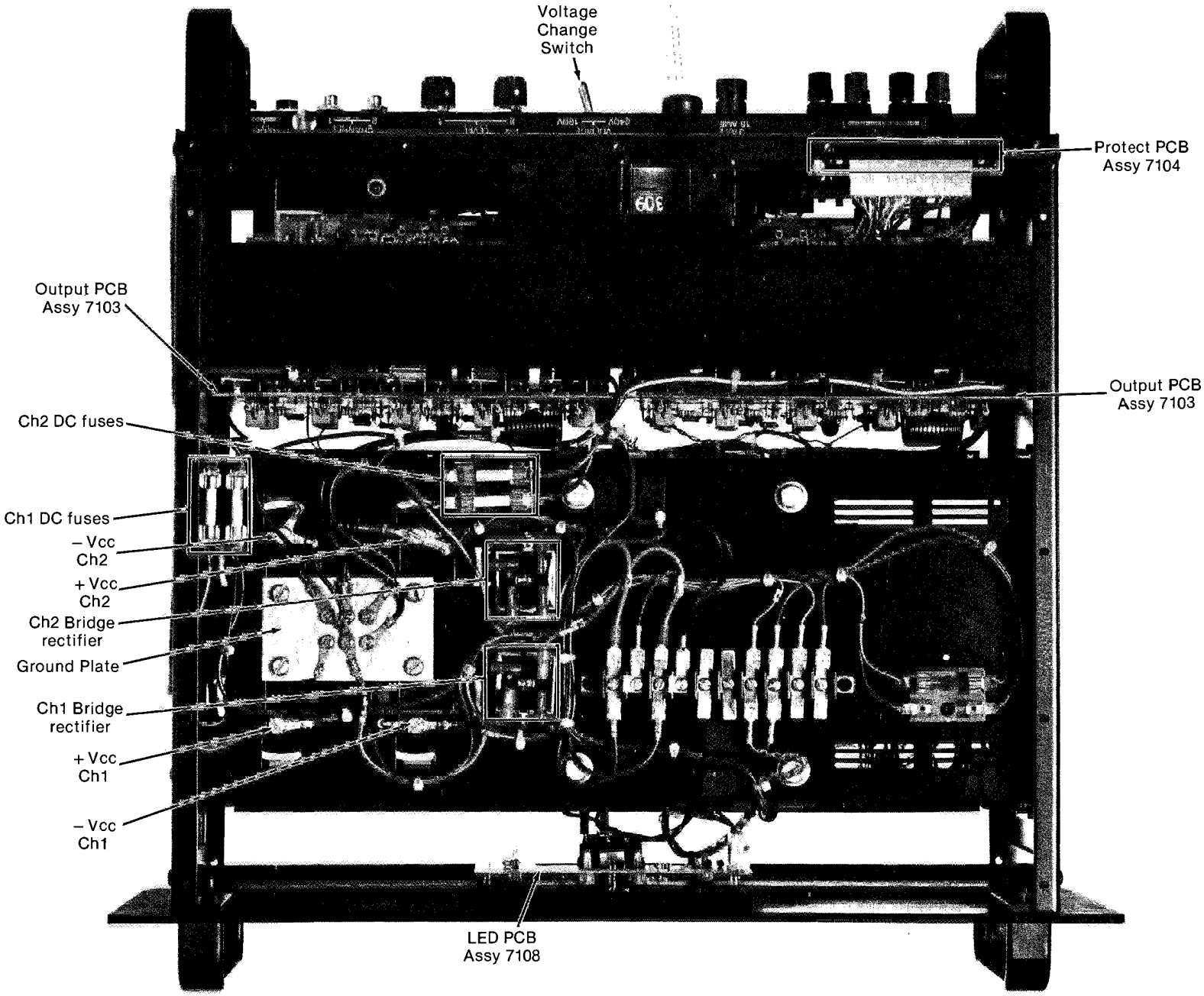
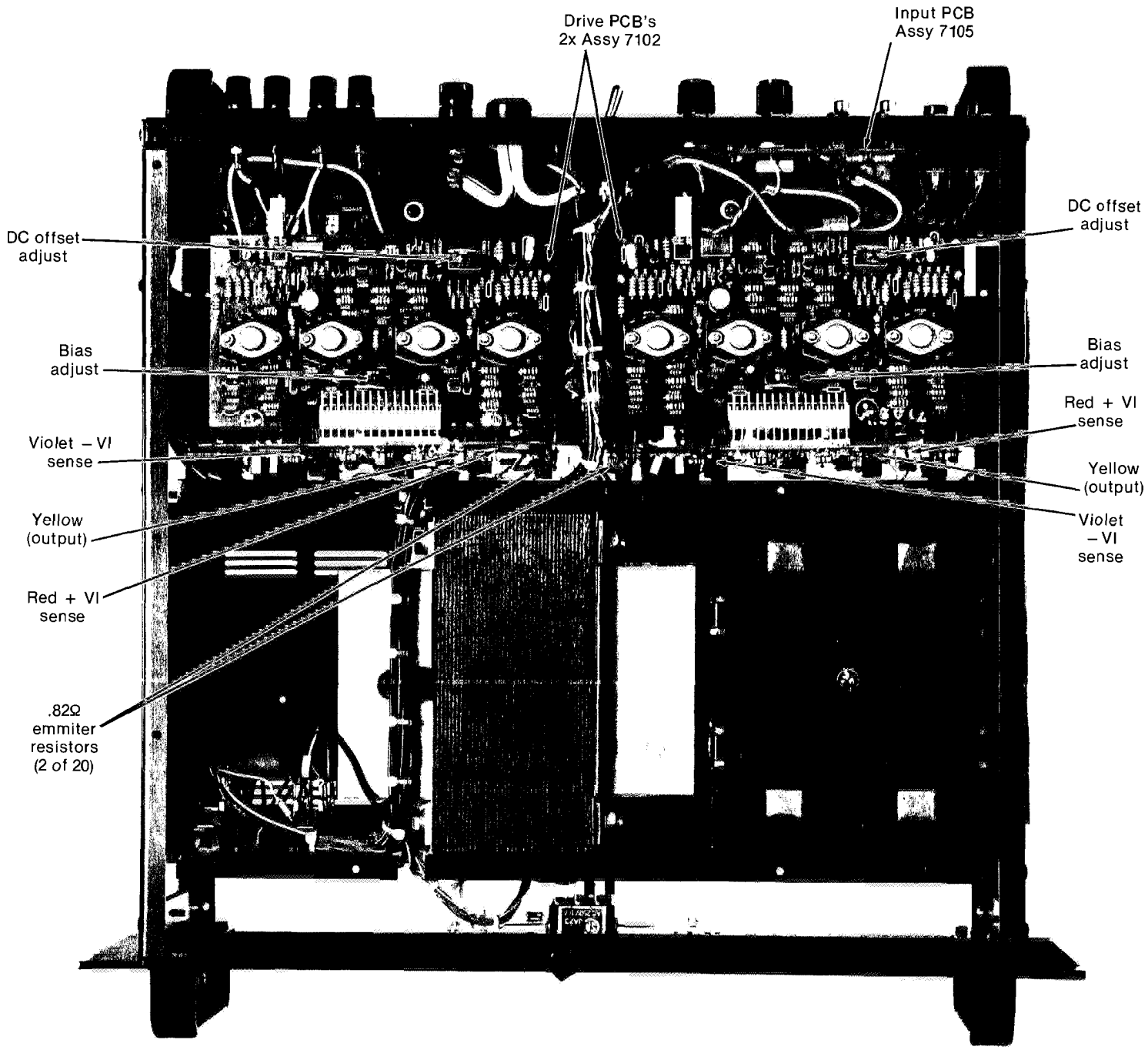


(10)

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES ± ± ±		**Cerwin-Vega, inc.**
APPROVALS	DATE	A 600 BLOCK DIAGRAM
DRAWN RAL	11-2	
CHECKED JCH	11-20-79	SCALE / SIZE B / DRAWING NO
		DO NOT SCALE DRAWING / SHEET

TOP VIEW A-600 ALIGNMENT POINTS AND PCB LOCATION





BOTTOM VIEW A-600 ALIGNMENT POINTS AND PCB LOCATION

A-600 Bias and DC Offset Adjustment

The bias and offset adjustments are preset at the factory to strict tolerances, and should not drift or require re-adjustment. However, if any transistors on the drive board have been replaced, these procedures should be followed. These measurements should be performed with no signal and no load.

Setting bias - To check the bias connect a DC voltmeter between the output and the VI sense buss. These points can be found on the yellow and red wires which exit the output board on the eyelet terminals. If necessary, adjust R246, a thumbwheel pot directly behind the 15-pin drive board connector, to obtain a reading between 41mv-51mv (.041v-.051v). Note: when the amplifier is first turned on "cold", these readings may be lower. *CAUTION: The 15-pin connector has high DC voltages on the exposed pins. Use care to avoid them.

DC offset null - To check the DC offset, connect a DC voltmeter between circuit ground and the yellow wire soldered to the bottom of the output board. If necessary, adjust R203, a thumbwheel pot at the rear left of the drive board, to obtain a reading within about 10mv of zero (-.01v-+.01v). CAUTION: The finned heat sinks on adjacent driver transistors have high voltage potentials between them.

* Before making any adjustments, let the amplifier warm up by operating it into a load at low power (1-10 watts) for a few minutes.

Operational Test Procedure - Initial "Common Sense" Trouble Shooting

A. Remove the top and bottom covers and visually inspect the unit. Look for burnt components or open internal fuses, loose wiring connectors, screw connections, etc. If an intermittent problem is suspected, remove the drive boards and protect board and carefully examine all solder connections and foil patterns for breaks.

B. Basic Voltage Checks:

Note: Unless otherwise stated, all measurements made with 120 vac line, with no signal, and no load.

1. Check the positive and negative supply voltages at the supply capacitors. The should be + and -98 vdc ±5%, and positive and negative supplies should be within 1 volt of each other.

2. Check bias and DC offset in each channel, adjust if necessary (See bias and DC offset procedures).

3. Verify VI limiter operation by connecting a 2Ω load to the output terminals. With 1kHz singal generator, slowly increase the signal until, at approximately 38 vrms out the positive and negative wave tops will clip symmetrically. Be sure that the AC line voltage is maintained at 120v. If the above description isn't observed, stop the test and repair the VI limiter circuit.

4. Verify full power output. Into 8Ω -52.9 vrms. Into 4Ω -49 vrms.

5. If a distortion analyzer is available, the distortion may also be checked.

6. Recheck the bias and offset while the unit is warm. It should remain relatively stable.

A-600 Protection Circuit Problems

Protection stays in "Protect" mode:

With the power off, remove the 2 DC fuses from channel one, turn the power on and wait about 15 seconds.

Does the protection circuit reset?

YES — Determine the channel causing the protect mode by reconnecting the fuses. When the unit goes back into protection, check the voltages on the voilet and red wires which exit the output board on the solder eyelets (VI sense buss).

NO

Repeat the above procedure for channel two, with one channel still disconnected.

Does the protection circuit reset now?

YES — Trouble in protection circuit -- check on protection schematic.

NO

Is the voltage at pin 7 (brown wire) on the protect PCB about 71 vrms?

YES — Check the AC wiring connection back through bridge rectifier to power transformer.

NO

Between voilet and red -- about 90 mvdc (.08v-0.1v)?

YES

NO

Does bias control correct reading?

YES

NO

Set bias according to instructions.

Replace with another drive board and recheck.

DC voltage exists between yellow wire (output) and ground. If the offset adjustment does not correct it, there is probably a shorted output device(s). Refer to output stage flowchart.

Is there DC output or are DC fuses blown?

YES

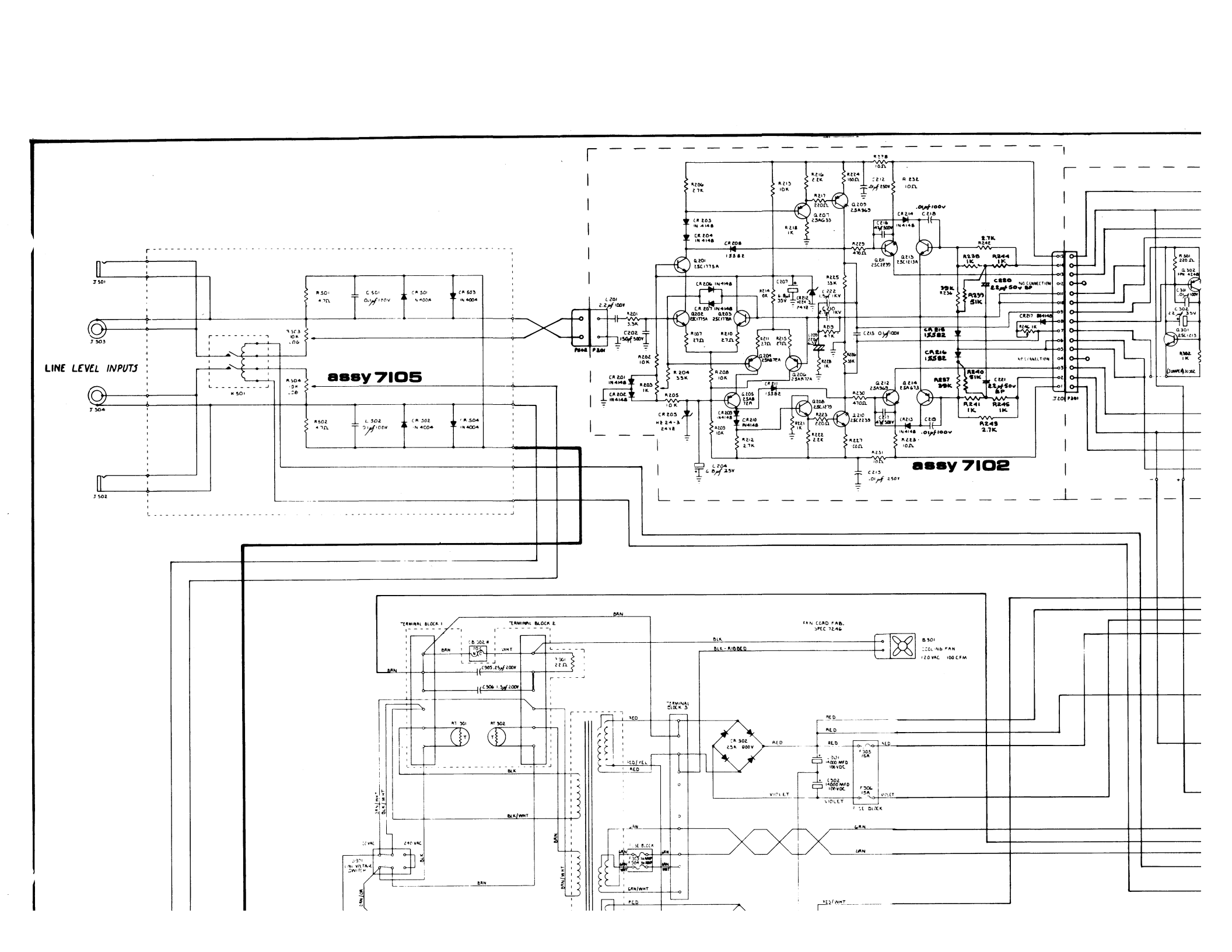
Blown DC fuses are usually caused by a short in the output stage.

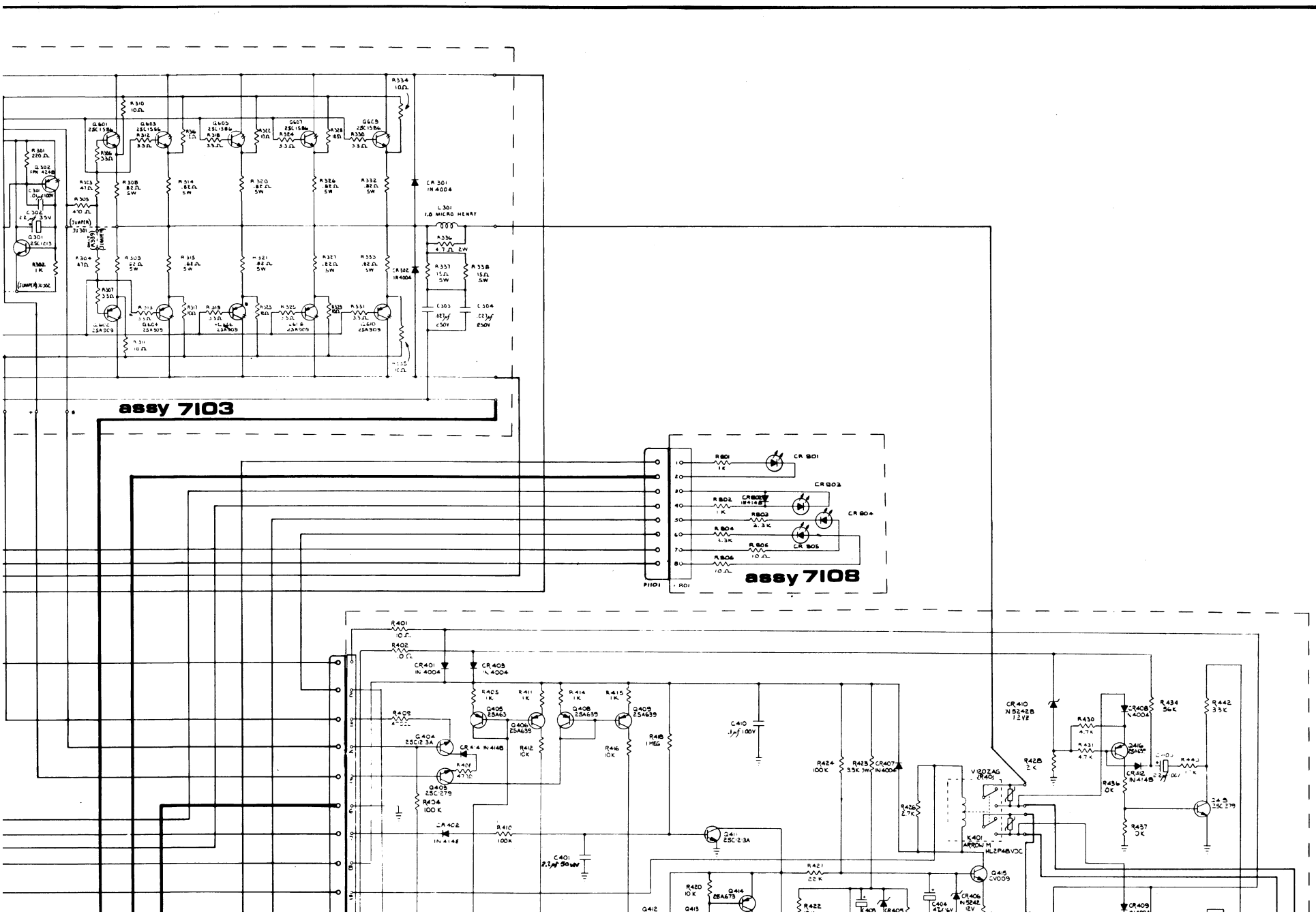
1. The output protection relay must be bypassed by moving the two outside yellow wires onto the inside terminals. These are the 4 faston connectors at the bottom of the protect board. REMEMBER TO RECONNECT THE TERMINALS TO THEIR ORIGINAL POSITIONS AFTER SERVICING!!!
2. It is also necessary to connect an eight or four ohm load resistor (1kW) to the outputs.
3. Remove the drive board from the output assembly.
4. Connect a DC current meter (0-5 amps) across the open DC fuse terminals. Turn up the variac slowly and monitor the DC current. Does it stay at zero?

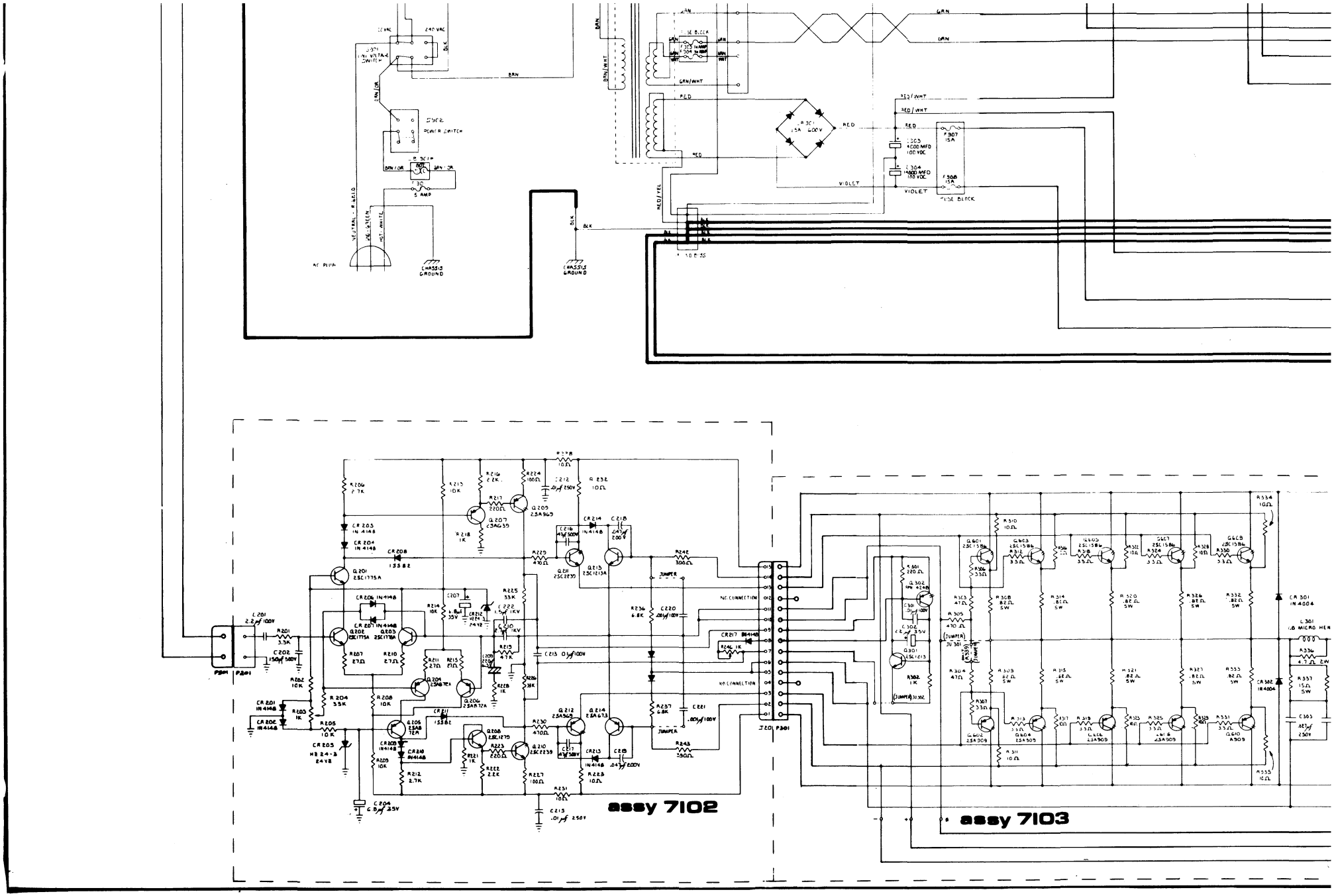
NO — Drive board or bias network (Q301, Q302, etc.) is defective. Replace board and check voltage between pins 7 and 9 -- should be approximately 2.35 volts. If bias control can not bring it into this range, try another drive board. If it doesn't work, bias network (Q203, Q301, or related components) are defective.

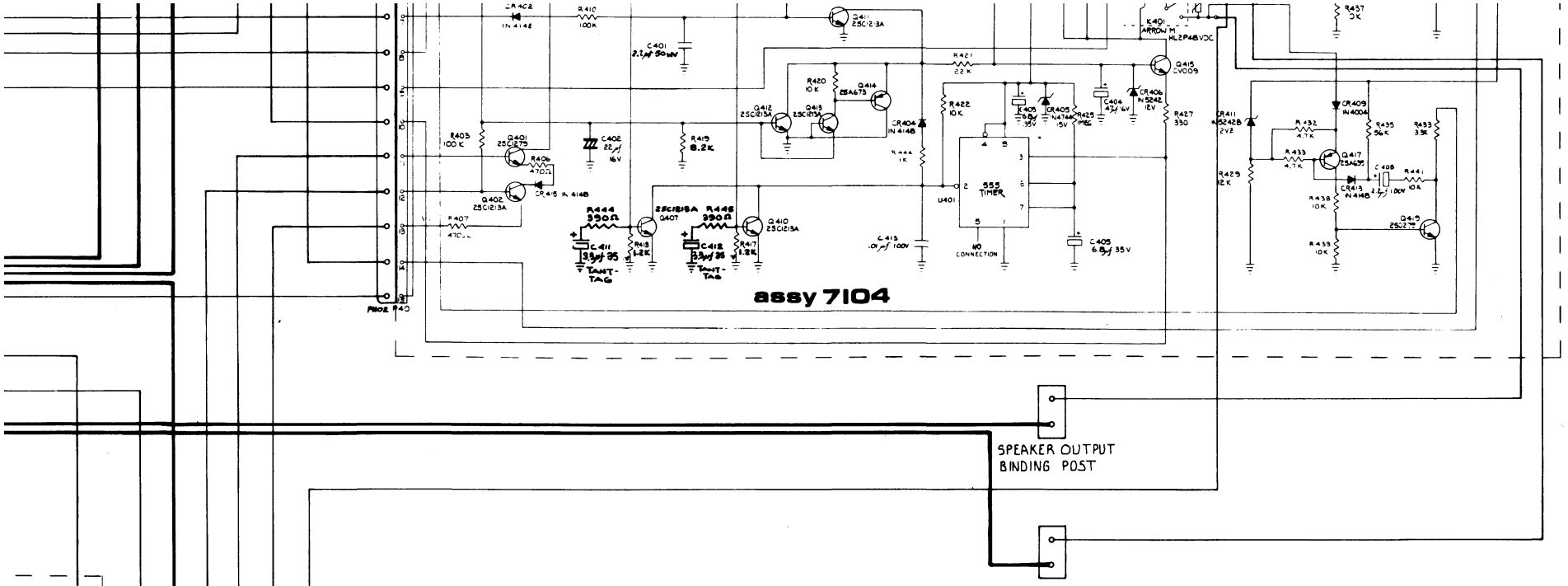
YES — Check voltages across .82Ω emitter resistors -- any reading indicates a bad output device in the positive or negative legs. Remove any devices which show emitter current.

Defective devices should be replaced with ones of the same beta grade code. Before replacing the drive board, a quick check with an ohm meter should be made for a shorted driver or predriver. Check the 2SA969's and 2SC2239's between emitter, base, and collector. If they're o.k., replace the drive board, and slowly power up the unit.


LINE LEVEL INPUTS
J 501
J 503
J 504
J 502
assy 7105
assy 7102
TERMINAL BLOCK 1
TERMINAL BLOCK 2
TERMINAL BLOCK 3
FAN CORD FAB. SPEC 72.46
B 501 COOLING FAN 120 VAC 100 CFM
CR 902 25A 600V
F 501 15A
F 502 15A
FUSE BLOCK
C 901 14000 MFD 100 VDC
C 902 14000 MFD 100 VDC
RT 501
RT 502
S 901 POWER SWITCH
120 VAC
240 VAC
BRN
BLK
BLK-RIBBED
VHT
RED
RED/YEL
VIOLET
GRN
GRN/WHT
BLK/WHT
BRN/WHT
RED/WHT


assy 7103
assy 7108


assy 7102
assy 7103



TRANSISTOR GRADING

ASSY 7102

REFERENCE NO.	PART NO.	GRADE
Q201 Q202 Q203	2SC1775	E
Q204 Q205 Q206	2SA872A	E
Q207	2SA639	O OR D
Q208	2SC1279	F OR E
Q209 Q212	2SA969	Y
Q210 Q211	2SC2239	Y
Q213	2SC1213A	C OR D
Q214	2SA673A	C OR D

2SA639 GRADE Q PARTS MUST BE PAIRED WITH 2SC1279 GRADE F
2SA639 GRADE P PARTS MUST BE PAIRED WITH 2SC1279 GRADE E
THERE ARE NO EXCEPTIONS

ASSY 7103

Q301	2SC1213	C OR D
Q302	FPN4248	NA
Q601 Q603 Q605 Q607 Q609	2SC1586	O OR Y
Q602 Q604 Q606 Q608 Q610	2SA909	O OR Y

Q601 - Q610 ARE MOUNTED ON HEAT SINK ASSY. 7106 BUT ARE SHOWN HERE TO CLARIFY THE CIRCUIT CONFIGURATION

ASSY 7104

Q402 Q404 Q407 Q410 Q412 Q413	2SC1213A	C OR D
Q401 Q403 Q418 Q419	2SC1279	F OR E
Q405 Q406 Q408 Q409 Q416 Q417	2SA639	Q OR P
Q414	2SA673	D
FOR ALL ASSY. Q415	CV009	NA

ALL RESISTOR 1/2W 5% UNLESS SPECIFIED OTHERWISE ALL RESISTANCES IN OHMS

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±

APPROVALS	DATE
DRAWN [illegible]	3-21-79
CHECKED [illegible]	3-23-79
[illegible]	3-23-79

Cerwin-Vega, Inc.

COMPOSITE SCHEMATIC DIAGRAM

A 600

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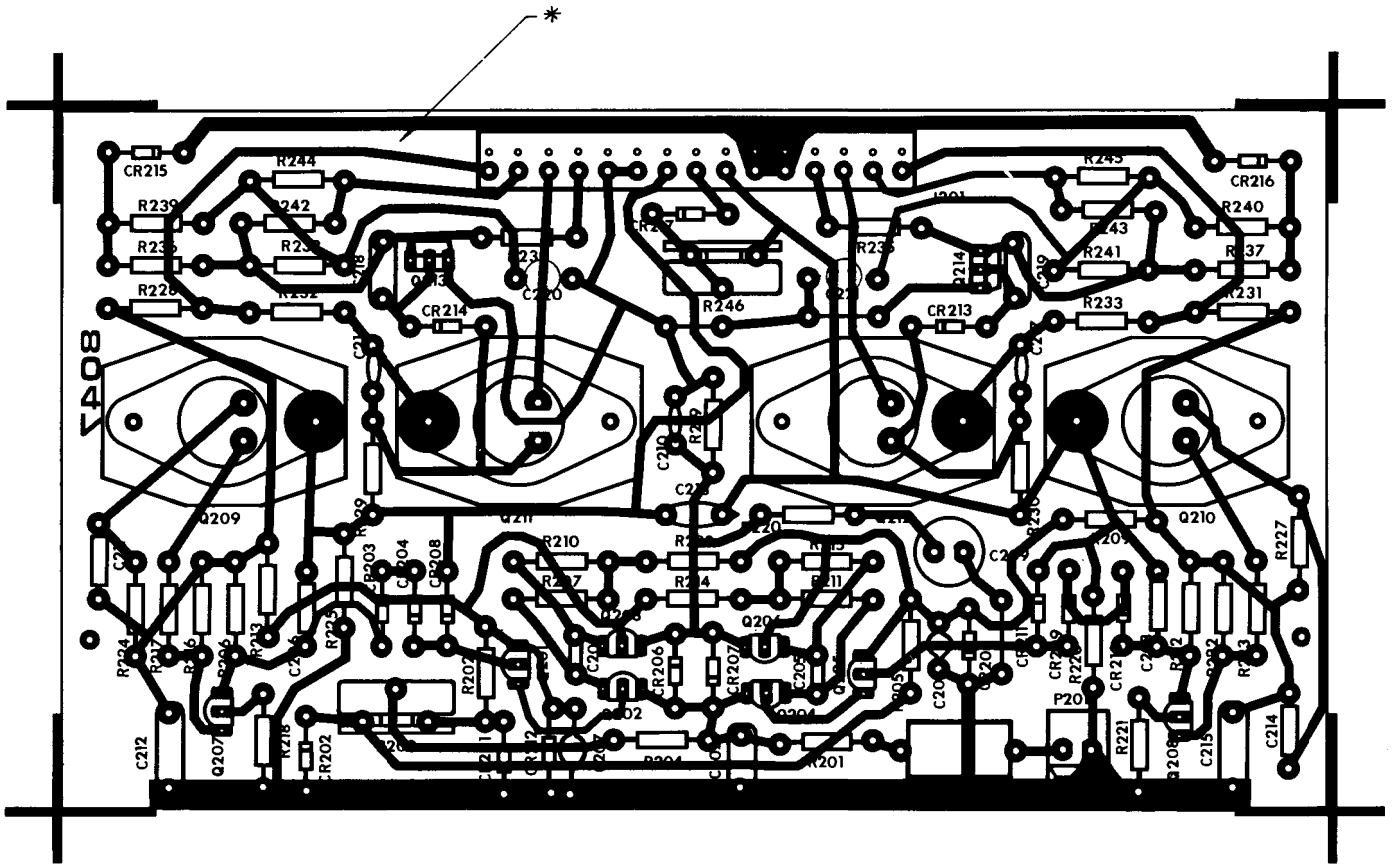
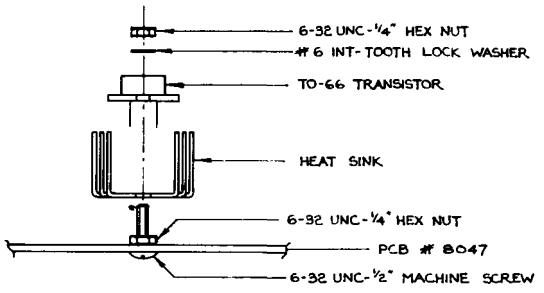
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

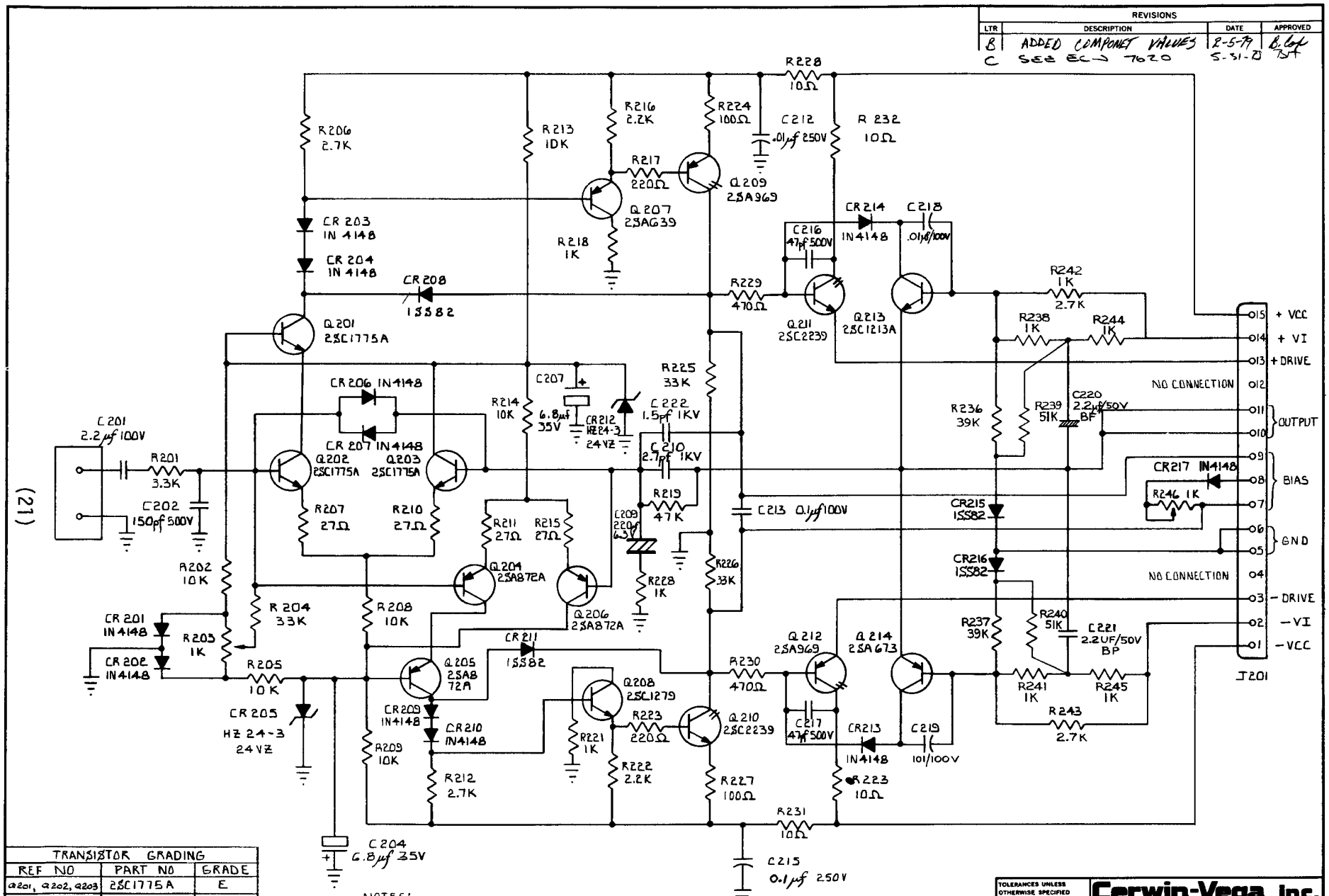


NOTES UNLESS OTHERWISE STATED.

1. IDENTIFY ASSEMBLY IN THIS AREA * ON COMPONENT SIDE OF PCB USING NON-CONDUCTIVE STICKER.
2. MOUNT FOUR (4) TO-66 TRANSISTORS AS SHOWN IN DETAIL VIEW.



TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC ± ANGLES ±		Cerwin-Vega, inc.	
APPROVALS	DATE	DRIVE PCB ASSEMBLY	
DRAWN J. Davies	8.23.78		
CHECKED	8-24-78	SCALE	SIZE C / DRAWING NO. 8102
		DO NOT SCALE DRAWING	SHEET 1 of 1



TRANSISTOR GRADING		
REF NO	PART NO	GRADE
Q201, Q202, Q203	2SC1775A	E
Q204 Q205 Q206	2SA 872A	E
Q207	2SA 639	Q or P
Q208	2SC 1279	F or E
Q209 Q212	2SA 969	Y
Q210 Q211	2SC 2239	Y
Q213	2SC 1213A	C or D
Q214	2SA 673A	C or D

NOTES:
1. ALL RESISTORS 1/2W 5% UNLESS OTHERWISE SPECIFIED.
2 ALL RESISTORS EXPRESSED IN OHMS.
3 2SA639 GRADE Q MUST BE PAIRED WITH 2SC1279 GRADE F
2SA639 GRADE P MUST BE PAIRED WITH 2SC1279 GRADE E
THERE ARE NO EXCEPTIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC ANGLES
± ± ±

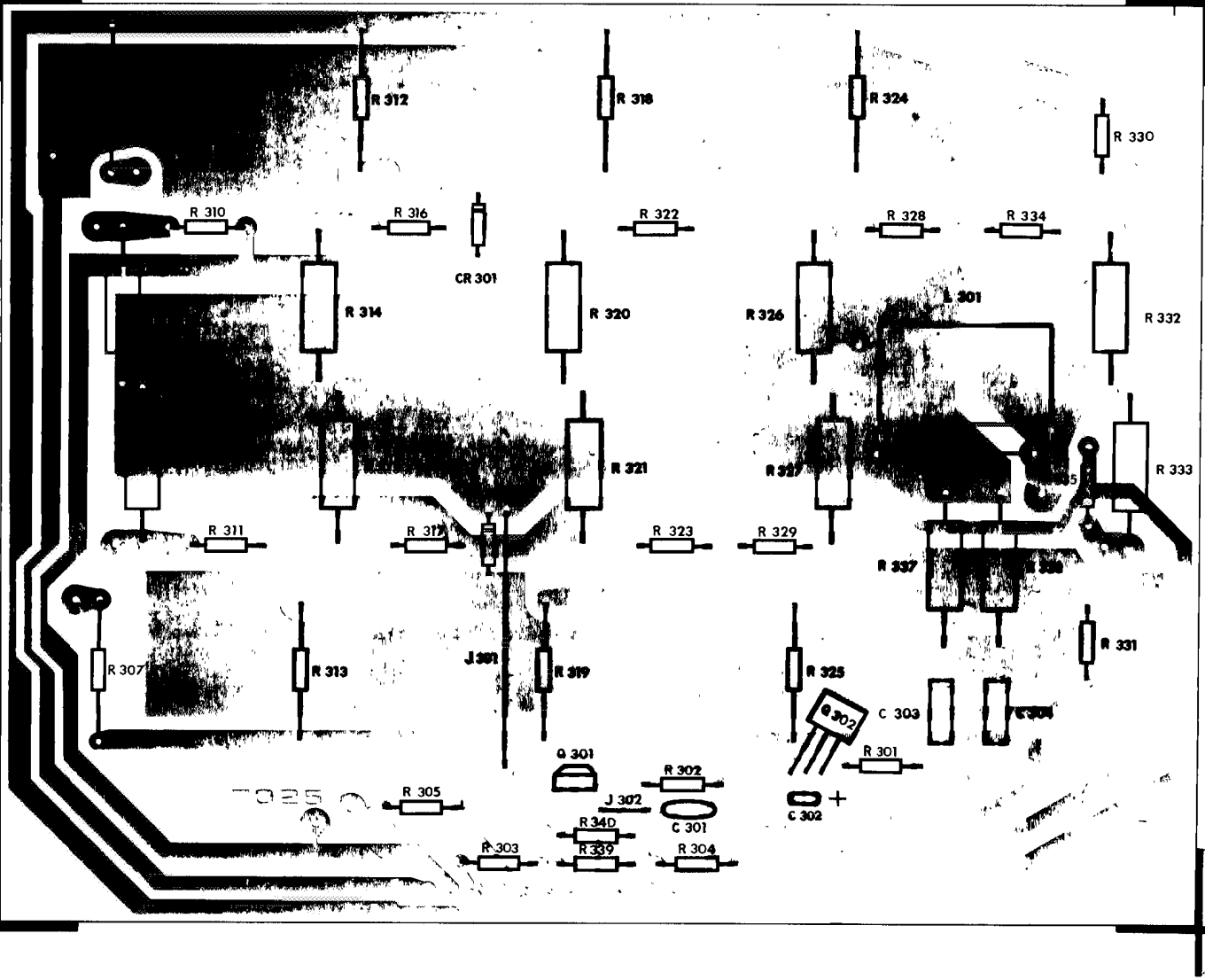
APPROVALS	DATE
DRAWN	2-5-79
CHECKED	3-5-79
	3.15.79

Cerwin-Vega, Inc.

SCHEMATIC ASSY 7102
A-600 DRIVE BOARD

SCALE | SIZE C | DRAWING NO 7311
DO NOT SCALE DRAWING | SHEET

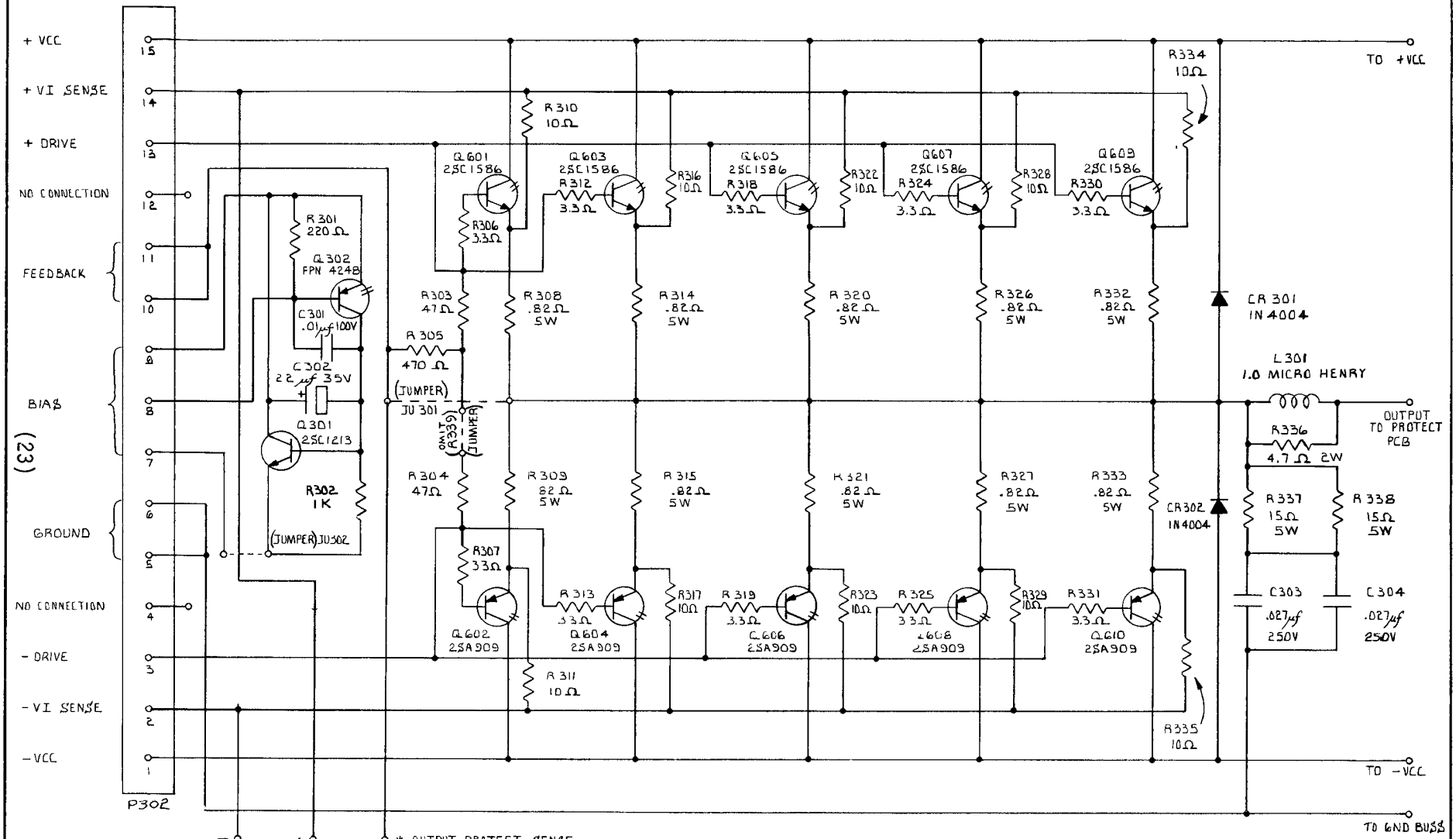
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



(22)

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES ± . ±	**Cerwin-Vega, Inc.**	
APPROVALS	DATE	OUTPUT PCB ASSY.
DRAWN J Davies	11.2 78	
CHECKED	11-10-78	SCALE / SIZE C / DRAWING NO 7103
		DO NOT SCALE DRAWING / SHEET

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



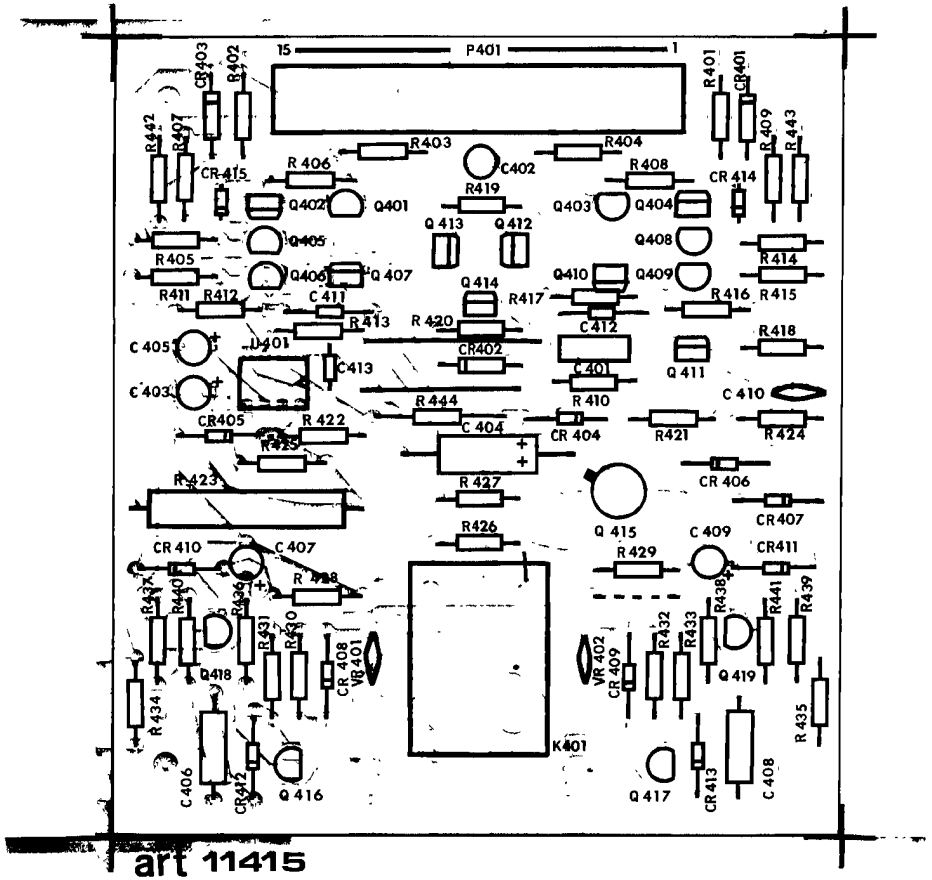
TRANSISTOR GRADING		
REF. NO.	PART NO.	GRADE
Q301	2SC1213	C or D
Q302	FPN 4248	NA
Q601, Q603 Q605, Q607, Q609	2SC 1586	D or Y
Q602 Q604 Q606 Q608 Q610	2SA 909	O OR Y

NOTES:

1. ALL RESISTORS 1/2 W 5% UNLESS OTHERWISE SPECIFIED.
2. ALL RESISTORS EXPRESSED IN OHMS.
3. * THESE CONNECTIONS ARE OUTPUTS TO PROTECT PCB VIA WIRING HARNESS.
4. Q601 - Q610 ARE MOUNTED ON HEAT SINK ASSY 7106 BUT ARE SHOWN HERE TO CLARIFY THE CIRCUIT CONFIGURATION

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES ± ± ±		Cerwin-Vega, Inc.	
APPROVALS	DATE	A&LL OUTPUT SCHEMATIC BOARD ASSY 7103	
DRAWN Bob Cox	12-17-78		
CHECKED	3.15.79	SCALE	SIZE C
		DRAWING NO 7301	
		DO NOT SCALE DRAWING	SHEET

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



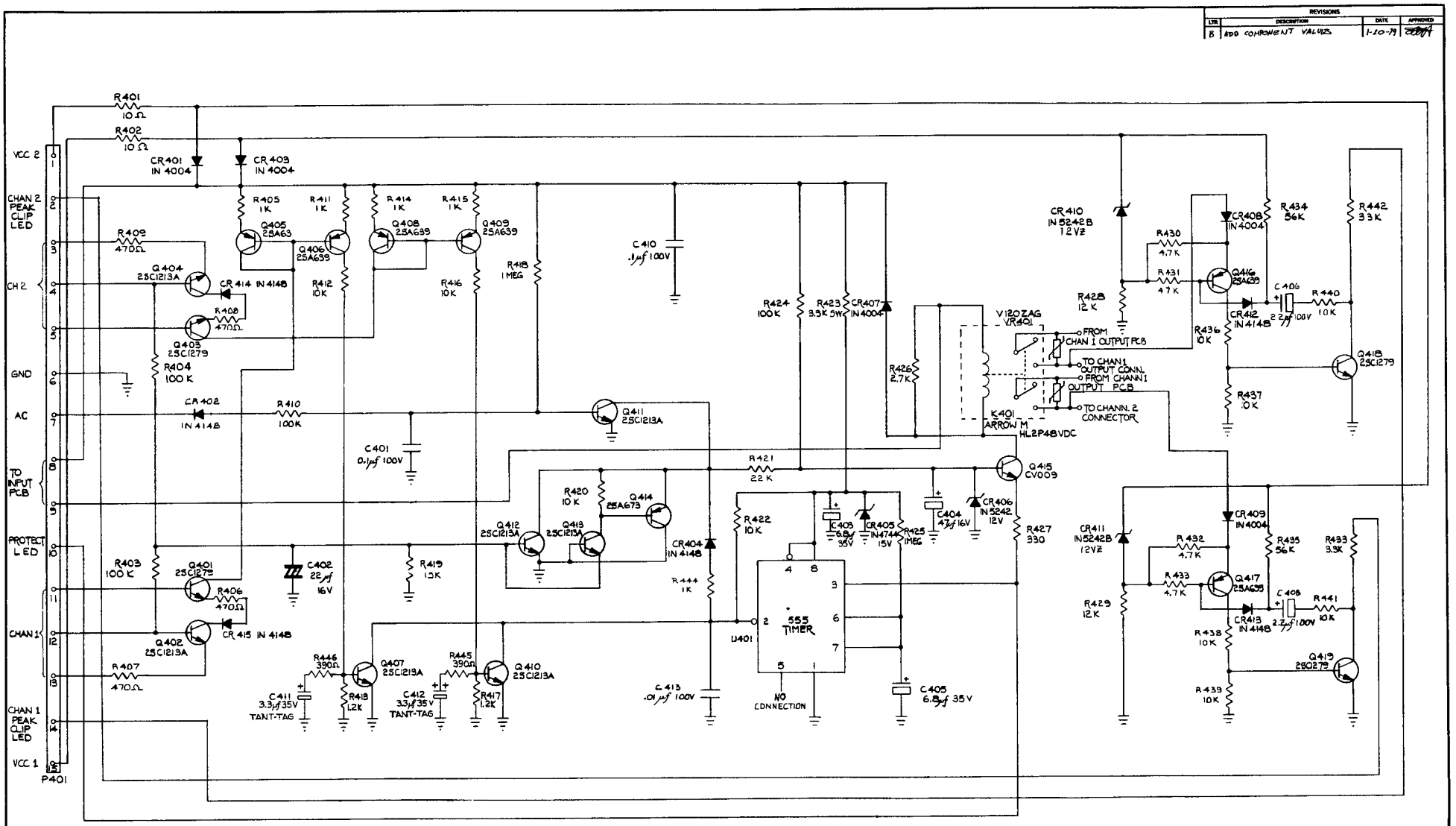
art 11415

(24)

NOTE 1: Some componets are omitted from both the A-400 and A-600.

NOTE 2: Parts lists for Assembly 11104 and Assembly 7104 should be used depending upon which board is being Assembled.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES ± ± ±		Cerwin-Vega, inc.	
APPROVALS	DATE	PROTECT PCB ASSEMBLY A400 A600	
DRAWN BOB COX	4-11-79	SCALE	SIZE C / DRAWING NO 11104
CHECKED		DO NOT SCALE BRAWING	SHEET



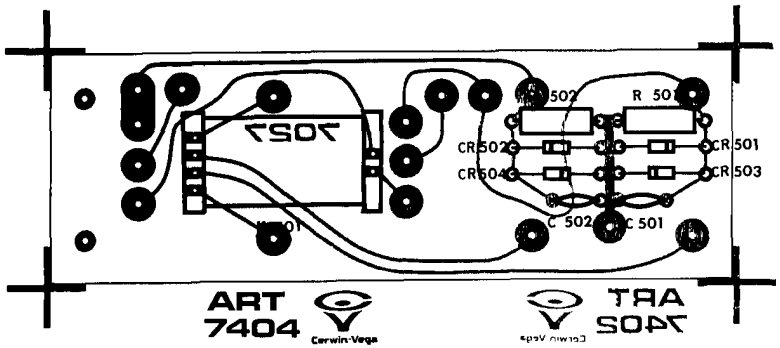
TRANSISTOR GRADING		
REF NO	PART NO	GRADE
Q402, Q404, Q407, Q410, Q413	2SC1213A	C or D
Q401, Q403, Q411, Q412, Q418	2SC1279	F or E
Q405, Q406, Q408, Q409, Q416, Q417, Q419	2SA639	O or P
Q414	2SA673	D
Q415	CV009	NA

NOTES: ALL RESISTORS 1/2 W 5% UNLESS OTHERWISE STATED.
ALL RESISTORS EXPRESSED IN OHMS

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
B	ADD COMPONENT VALUES	1-20-79	[illegible]

Cerwin-Vega, Inc.
PROTECT SCHEMATIC
BOARD ASSY 11104
SIZE D
730E
DO NOT SCALE DRAWING

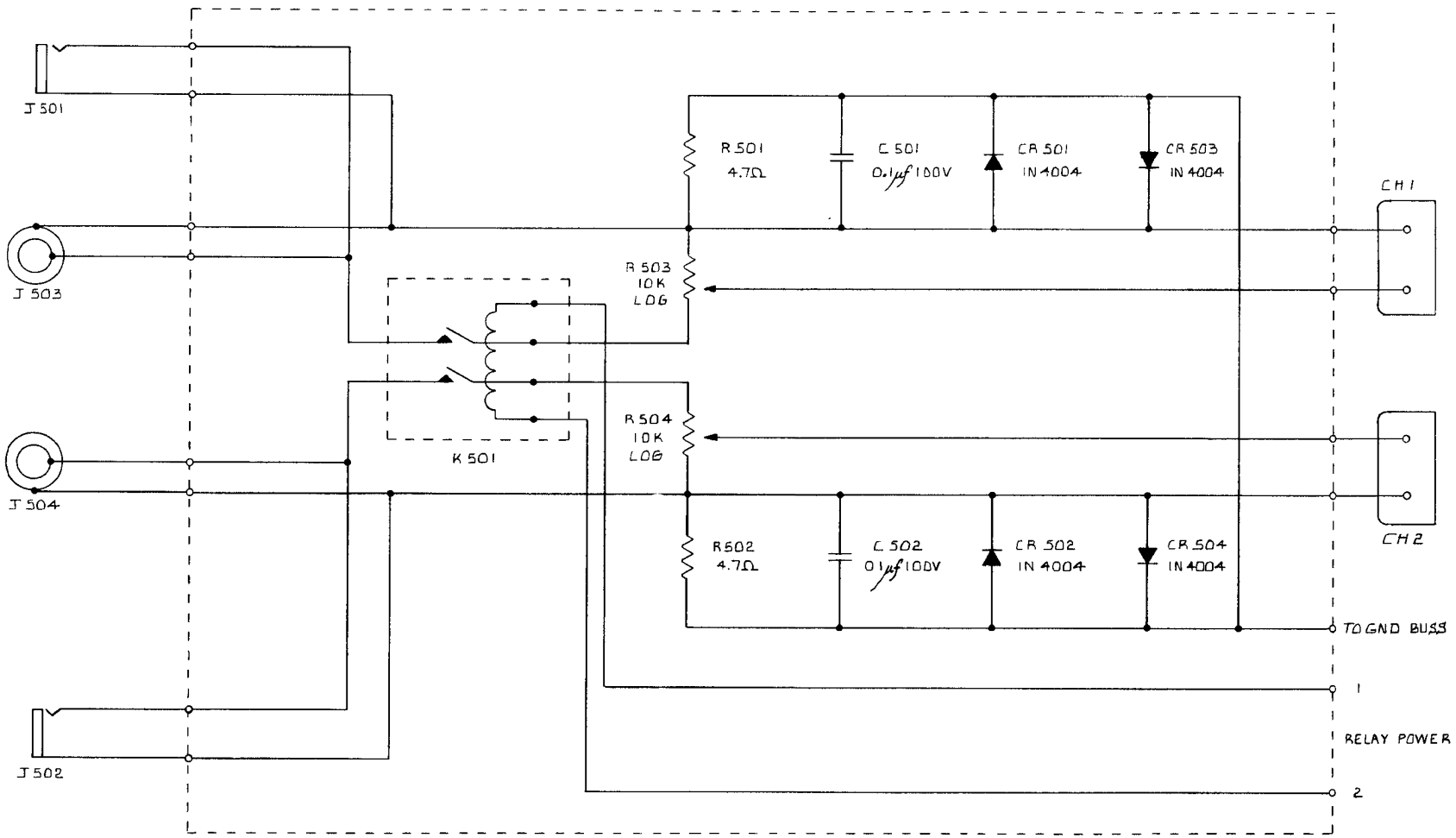
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



(26)

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC ± ANGLES ±		**Cerwin-Vega, Inc.**	
APPROVALS	DATE	INPUT PCB ASSEMBLY	
DRAWN Bob Cox	10-31-78		
CHECKED		SCALE	SIZE C — DRAWING NO 7105
		DO NOT SCALE DRAWING	SHEET

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
B	ADDED COMPONET VALUES	2-6-79	B. Cof

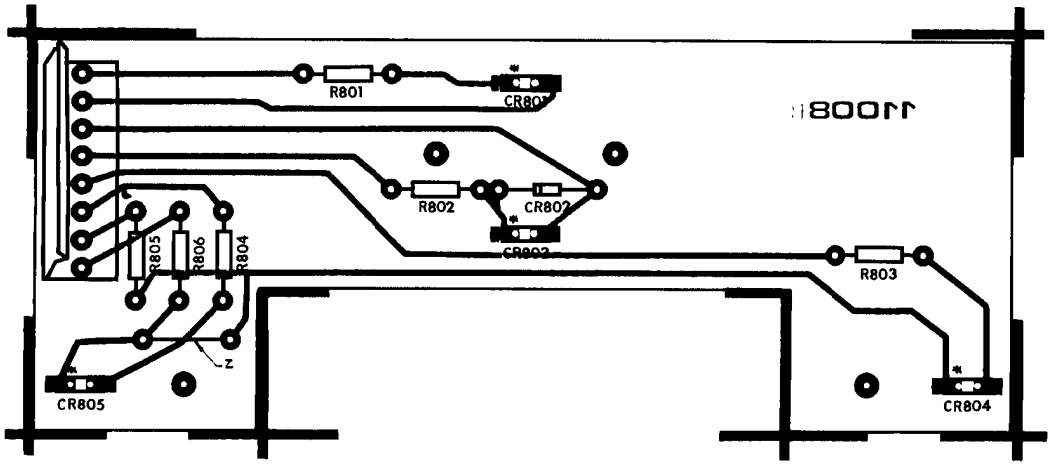


(27)

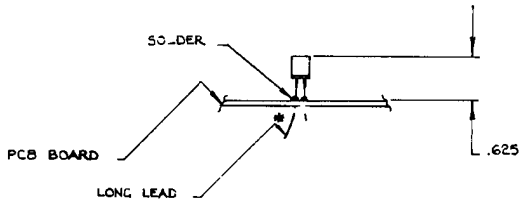
NOTES
1. ALL RESISTORS 1/2W 5% UNLESS SPECIFIED OTHERWISE
2. ALL RESISTORS EXPRESSED IN OHMS

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC ± ANGLES ±		Cerwin-Vega, Inc.	
APPROVALS	DATE	INPUT RELAY SCHEMATIC BOARD ASSY. 7105 (A-600)	
DRAWN	2-6-79		
CHECKED	3.15.79	SCALE	SIZE C / DRAWING NO 7305
	3.15.79	DO NOT SCALE DRAWING	SHEET

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



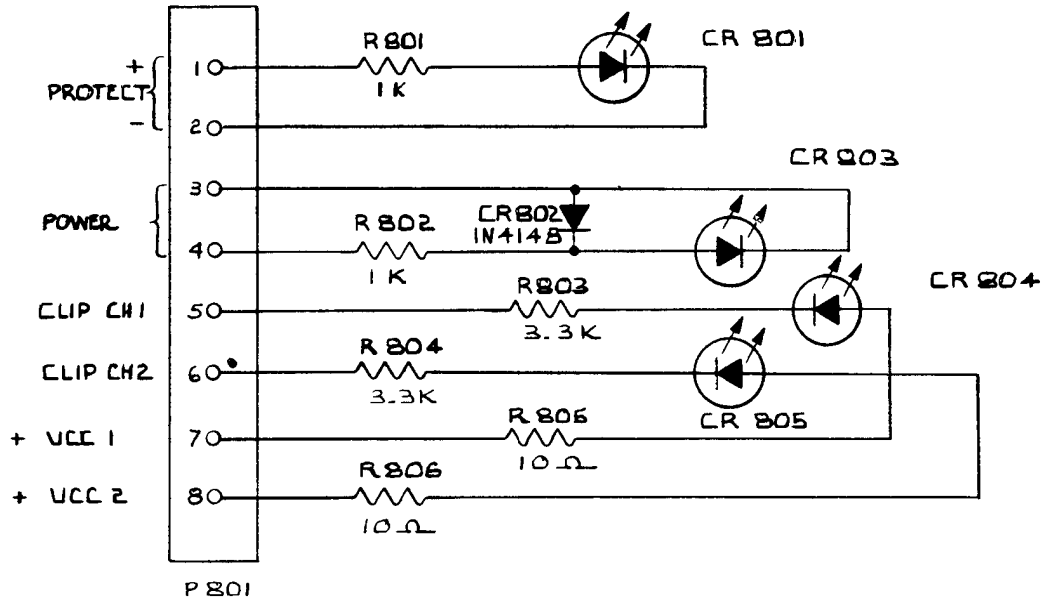
NOTES
1. LED's TO BE ASSEMBLED AS SHOWN IN PART VIEW
* DENOTES LONG LEAD OF LED.
2. JUMPER LEAD MARKED Z ONLY USED FOR M-400



PART VIEW SHOWING LED SOLDERED TO PCB BOARD
TYPICAL FOR ALL LED's

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± .010 ±		Cerwin-Vega, Inc.	
APPROVALS	DATE	LED PCB ASSY	
DRAWN J Davies	9-6-78		
CHECKED [illegible]	9-6-78	SCALE	SIZE C / DRAWING NO 11108
		DO NOT SCALE DRAWING	SHEET 1 of 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
B	REDRAWN - ADDED COMPONENT VALU	11-14-78	B Coy



(29)

CR 801	PROTECT
CR 802	POWER
CR 803	CH1 PEAK CLIP
CR 804	CH2 PEAK CLIP

NOTES:
1. ALL RESISTORS 1/2W 5% UNLESS OTHERWISE SPECIFIED.
2. ALL RESISTORS EXPRESSED IN OHMS

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES ± ± ±		Cerwin-Vega, inc.		
		L.E.D. PCB 600 A SCHEMATIC		
		BOARD ASSY 108-1		
APPROVALS	DATE	SCALE	SIZE	DRAWING NO
DRAWN BOB COX	11-14-78		B	7304
CHECKED	3.15.79			
	3.15.79	DO NOT SCALE DRAWING		SHEET

Service Addendums A-600 Protect PCB

1. AC sense circuit.

C401 was 0.1uf - is 2.2uf, 20%, non-polarized electrolytic. This change allows a longer interruption of AC power (Applies to units with S/N's below 780200).

2. Relay resistor.

R426 was 2.7kΩ , 1/2w - is 2.7kΩ , 1W. This change keeps the resistor temperature down (Applies to units with S/N's below 780200).

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7112 1&2	
2		Winding Diagram		CV		1	7308A	
3		Lamination Core		CV		1	7308B	
4		Solid Copper Wire (1 oz.) #22		CV		29ft.	7903	
5		Bobbin		CV		1	7032-1	
6		Solid Copper Wire #14		CV		2¼lb	7904	
7		Wire: Black #14		CV		1	7207	
8		Wire: Black/White Stripe #14		CV		1	7208	
9		Wire: Brown		CV		1	7209	
10		Wire: Brown/White Stripe #14		CV		1	7210	
11		Wire: Red		CV		2	7211	
12		Wire: Red/Yellow Stripe #14		CV		2	7212	
13		Wire: Green #22		CV		1	7213	
14		Wire: Green/White Stripe #22		CV		1	7214	
15		Wire: Red #14		CV		2	7244	
16		Wire: Green #22		CV		1	7269	
17		Wire: Green/White Stripe #22		CV		1	7270	
18								
19		Nomex Paper .010 Thick 3.135"W	410	Dupont		12.65'		
20		Nomex Paper .005 Thick 3.24"W	410	Dupont		6.27'		
21		Fiberglass Tape	530G	CHR		6'6"	7268	
22		Kapton Tape 3/8" Wide	K250	CHR		11.5'	2647	
23		Kapton Tape 1" Wide	K250	CHR		9'6"	8272	
24		Teflon Tubing T.F.E. #11	1500-11T	Standard		A/R	7909	
25		Teflon Tubing T.F.E. #22	1500-22T	Standard		A/R	7910	
26		Copper Foil		CV		1	7293	
27		End Cap		CV		2	7010	
28		Mounting Bracket		CV		4	7011	
29		Flexible Grommer	SPG-1	Richco		1	7901	
30		Lamination & Keepers		CV		220	7296	
31		Bolt Hex Hd ¼-20 - 4" LG. Zinc				4		
32		Washer ¼" Int-Tooth Lock				8		
33		Nut ¼" - 20 Hex 7/64 Thk. Zinc				4		
34		Shoulder Bushing Nylon	NY25-375-G	McNabb		8	7294	
35		Varnish: Electrical	U-372-W	Sterling		1 oz.	2653	
36		Nomex Nylon Paper .010"T x 3.10"x1.25"	410	Dupont		1	7922	
37		Nomex Nylon Paper .010"Tx1.5"x1.5"	410	Dupont		1	7923	
38		Nomex Nylon Paper .010"Tx3.10"x1.5"	410	Dupont		3	7924	

Cerwin-Vega	TITLE Transformer Assembly	1 Required	DWN. BJG	ASSY. 7112
	MODEL A-600		APP.	REV 7634

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7102	
2		Printed Circuit Board		CV		1	8047	
3		Schematic		CV		1	7307	
4								
5		Resistors						
6	R228 R231 R232 R233	Carbon Film ½w 5% 10 ohm				4		
7	R207 R210 R211 R215	Carbon Film ½w 5% 27 ohm				4		
8	R224 R227	Carbon Film ½w 5% 100 ohm				2		
9	R217 R223	Carbon Film ½w 5% 220 ohm				2		
10	R229 R230 R234 R235	Carbon Film ½w 5% 470 ohm				4		
11	R218 R220 R221 R244 R245 R238 R241	Carbon Film ½w 5% 1k ohm				7		
12	R215 R222	Carbon Film ½w % 2.2k ohm				2		
13	R206 R212 R242 R243	Carbon Film ½w 5% 2.7k ohm				4		
14	R201	Carbon Film ½w 5% 3.3k ohm				1		
15	R202 R205 R208 R209 R213 R214	Carbon Film ½w 5% 10 k ohm				6		
16	R204 R225 R226	Carbon Film ½w 5% 33 k ohm				3		
17	R236 R237	Carbon Film ½w 5% 39 k ohm				2		
18	R219	Carbon Film ½w 5% 47 k ohm				1		
19	R239 R240	Carbon Film ½w 5% 51 k ohm				2		
20								
21		Capacitors						
22	C203 C205 C206 C208 C211 C214	Omit				6		
23	C222	Ceramic NPO 1kV 'D' 1.5 pf				1		
24	C210	Disc 'J' 2.7 pf				1		
25	C216 C217	Disc 500wV 'K' 47 pf				2		
26	C202	Sil-Mica 500wV 'J' 150 pf				1		
27	C220 C221	Elect. B.P. 50wV 'K' 2.2 uf				2		
28	C218 C219	Dip Mylar 100wV 'K' .01 uf				2		
29	C213	Disc 100wV 'P' 0.1 uf				1		

Cerwin-Vega	TITLE DRIVE BOARD 2 REQIURED	DWN. BEH	ASSY.	REV
	MODEL A-600	APP.	7102	7624

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
30	C212 C215	Dip-Mylar 250wV 'M' 0.1 uf				2		
31	C201	Stack Foil 100wV 'J' 2.2 uf	B32562	Siemens		1	2867	
32	C204 C207	Tant-Tag 35wV 'M' 6.8 uf				2		
33	C209	Elect-NP 6.3wV 'M' 220 uf	6.3 U 220NP-M	Nichicon		1	2865	
34								
35		Semiconductors						
36	CR201 CR202							
	CR203 CR204							
	CR206 CR207							
	CR209 CR210							
	CR213 CR214							
	CR217	Diode	1N4148			11	2856	
37	CR215 CR216							
	CR208 CR211	Diode Low Capacitance	1SS82	Hitachi		4	2857	
38	CR205 CR212	Diode Zener	HZ24-3	Hitachi		2	2859	
39	Q201 Q202 Q203	Transistor NPN	2SC1775AE	Hitachi		3	2846	
40	Q204 Q205 Q206	Transistor PNP	2SA872AE	Hitachi		3	2847	
41	Q207	Transistor PNP	2SA639Q	NEC		1	2848	
42	Q208	Transistor NPN	2SC1279	NEC		1	2849	
43	Q209 Q212	Transistor PNP	2SA969B	Toshiba		2	7920	
44	Q210 Q211	Transistor NPN	2SC2239B	Toshiba		2	7921	
45	Q213	Transistor NPN	2SC1213A	Hitachi		1	2852	
46	Q214	Transistor PNP	2SA673	Hitachi		1	2853	
47								
48		Mechanical Parts						
49	P201	Connector : Input - Male 2 Pin	09-65-1022	Molex		1	2765	
50	J201	Connector : PCB - Rt.Angle 15 Pin	09-52-3151	Molex		1	7278	
51		Screw 6/32 - ½" Zinc P-H Phil				8		
52		Nut 6/32 - ¼" Zinc Hex				16		
53		Washer-Lock # 6 Int-Tooth				8		
54		Heat Sink TO-66	LAD66A2CB	IERC		4	7292	
55		Mini Label	M-600			1		

Cerwin-Vega	TITLE DRIVE BOARD 2 REQUIRED	DWN. BEH	ASSY.	REV
	MODEL A-600	APP.	7102	7624

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7105	
2		Printed Circuit Board		CV		1	7027	
3		Schematic		CV		1	7305	
4								
5	R501, R502	Carbon Film ½w 5% 4.7 ohm				2		
6	R503, R504	Gain Potentiometer	DQ 7444	CTS		2	11203	
7	C501, C502	Disc 100wV 'P' 0.1 uf				2		
8								
9	CR501, CR502							
	CR503,Cr504	Diode 1N4004				4	2879	
10	K501	Relay (Reed) Dual Form "A"	RA30312121	Electrol		1	11204	
11								
12		Tin Evelet.				17		
13								
14	P501	Shield Wire: #22 Gray Stranded				1	7250	
15	P502	Shield Wire: #22 Gray Stranded				1	7251	

Cerwin-Vega	TITLE INPUT PCB	DWN. BEH	ASSY. 7105 REV
	MODEL A-600 1 REQUIRED	APP.	

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7103	
2		Printed Circuit Board		CV		1	7025-B	
3		Schematic		CV		1	7301	
4								
5	R 340	Omit				1		
6	R 339	Jumper		CV		1		
7		Resistors						
8	R306 R307 R312 R313 R318 R319 R324 R325 R330 R331	Carbon Film 1/2w. 5% 3.3 ohm				10		
9								
10	R310 R311 R316 R317 R322 R323 R328 R329 R334 R335	Carbon Film 1/2w. 5% 10 ohm				10		
11	R303 R304	Carbon Film 1/2w. 47 ohm				2		
12	R305	Carbon Film 1/2w. 470 ohm				1		
13	R301	Carbon Film 1/2w. 220 ohm				1		
14	R302	Carbon Film 1/2w. 1 k ohm				1		
15	R336	Carbon Film 2w. 4.7 ohm				1		
16	R308 R309 R314 R315 R320 R321 R326 R327 R332 R333	Wire Wound 5w. .82 ohm	CP-5	Dale		10		
17	R337 R338	Wire Wound 5w. 15 ohm	CP-5	Dale		2		
18								
19		Capacitors						
20	C301	Disc 100wV 'P' .01 mf				1		
21	C302	Tant-Tag 35wV 'M' 2.2 uf				1		
22	C303 C304	Poly Film 250wV 'K' .027 uf	160.027 .250C	Plessey		2	2922	
23								
24		Semiconductors						
25	CR301 CR302	Diode 1N 4004				2	2879	
26	Q301	Transistor NPN	2SC1213AC	Hitachi		1	2852	
27	Q302	Transistor PNP	PN4248	Fairchild		1	2622	

Cerwin-Vega	TITLE Output PCB	2 Required	DWN. TMK	ASSY.
	MODEL A-600		APP.	7103

REV

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
28								
29		Inductors						
30	L301	Air Core Coil 1.0 Micro Henry		CV		1	11257	
31		Mechanical Parts						
32	P302	Connector 15 Pin Male	09-67-1154	Molex		1	2642	
33								
34		Compression Pads		CV		1	8054	
35		Speedy Tys	65002	Waldom		4	2812	
36		Eyelets				9		
37	JU301							
38	JU302	Jumper Wire		CV		1		
39								
40		Left Board Channel 1						
41		Wire: Black #22 Solid		CV		1	7280	
42		Wire: Red #14 Stranded		CV		1	7231	
43		Wire: Violet#14 Stranded		CV		1	7233	
44		Wire: Black #16 Stranded		CV		1	7235	
45		Wire: Yellow#14 Stranded		CV		1	7237	
46								
47		Right Board Channel 2						
48		Wire: Red #14 Stranded		CV		1	7232	
49		Wire: Violet#14 Stranded		CV		1	7234	
50		Wire: Black #16 Stranded		CV		1	7236	
51		Wire: Yellow#14 Stranded with Red Stripe		CV		1	7238	

Cerwin-Vega	TITLE Output PCB	2 Required	DWN. BJG	ASSY.
	MODEL A-600		APP.	7103

REV

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7104	
2		Printed Circuit Board		CV		1	11015	
3		Schematic		CV		1	7306	
4								
5		Resistors						
6	R401 R402	Carbon Film ½w 5% 10 ohm				2		
7	R421	Carbon Film ½w 5% 22 ohm				1		
8	R427	Carbon Film ½w 5% 330 ohm				1		
9	R445 R446	Carbon Film ½w 5% 390 ohm				2		
10	R406 R407 R408 R409	Carbon Film ½w 5% 470 ohm				4		
11	R405 R411 R414 R415 R444	Carbon Film ½w 5% 1k ohm				5		
12	R413 R417	Carbon Film ½w 5% 1.2k ohm				2		
13	R442 R443	Carbon Film ½w 5% 3.3k ohm				2		
14	R430 R431 R432 R433	Carbon Film ½w 5% 4.7k ohm				4		
15	R419	Carbon Film ½w 5% 8.2k ohm				1		
16	R412 R416 R420 R422 R436 R437 R438 R439 R440 R441	Carbon Film ½w 5% 10k ohm				10		
17	R428 R429	Carbon Film ½w 5% 12k ohm				2		
18	R434 R435	Carbon Film ½w 5% 56k ohm				2		
19	R403 R404 R410 R424	Carbon Film ½w 5% 100k ohm				4		
20	R418 R425	Carbon Film ½w 5% 1m ohm				2		
21	R426	Carbon Film 1w 5% 2.7k ohm				1		
22	R423	Wire Wound 5w 10% 3.3k ohm				1		
23								
24		Capacitors						
25	C407 C409	OMIT				2		
26	C413	Disc 100wV M .01 uf				1		
27	C401	Elect R-L BP 50wV M. 2.2 uf				1		
28	C410	Disc 100wV P .1 uf				1		
29	C406 C408	Elect 100wV 2.2 uf	B41313/80000	Seimens		2	11236	
30	C411 C412	Tant-Tag 35wV 3.3 uf				2		
31	C403 C405	Tant-Tag 35wV 6.8 uf				2		

Cerwin-Vega	TITLE Protect PCB	1 Required	DWN. SAH	ASSY. 7104
	MODEL A-600		APP.	REV 7626

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
32	C402	Elect N-P 16wV Z 22 uf				1		
33	C404	Elect 16wV 47 uf	B41313/80000	Seimens		1	11235	
34								
35		Semiconductors						
36	CR401 CR403							
	CR407 CR408							
	CR409	Diode 1N4004				3	2879	
37	CR402 CR404							
	CR412 CR413							
	CR414 CR415	Diode 1N4148				6	2856	
38	CR405	Diode-Zener 1N4744				1	2885	
39	CR406 CR410							
	CR411	Diode-Zener 1N5242B				3	2882	
40	U401	IC-Timer 555	NE555	SIG		1	11240	
41	Q401 Q403 Q418							
	Q419	Transistor NPN	2SC1279S	NEC		4	2849	
42	Q402 Q404 Q407							
	Q410 Q411 Q412							
	Q413	Transistor NPN	2SC1213AC	HIT		7	2852	
43	Q405 Q406 Q408							
	Q409 Q416 Q417	Transistor PNP	2SA939Q	NEC		6	2848	
44	Q414	Transistor PNP	2SA673D	HIT		1	2853	
45	Q415	Transistor NPN	1A09	RCA		1	2623	
46	VR401 VR402	Varistor	V120ZA6	GE		2	11273	
47								
48	K401	Relay 48Vdc coil	HL2P48VDC	ARMAT		1	11241	
49								
50	P401	Connector 15 pin male	09-65-1151	Molex		1	11242	
51		Spade Connector double .250"	41480	Amp		4	11231	
52		Eyelets				4		

Cerwin-Vega	TITLE Protect PCB	1 Required	DWN. SAH	ASSY. 7104	REV 7623
	MODEL A-600		APP.		

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7108	
2		Printed Circuit Board		CV		1	11008B	
3		Schematic		CV		1	7304	
4								
5	R805, R806	Carbon Film ½w 5% 10 ohm				2		
6	R801, R802	Carbon Film ½w 5% 1.0k ohm				2		
7	R803, R804	Carbon Film ½w 5% 3.3k ohm				2		
8								
9		Semiconductors						
10	CR802	Diode 1N 4148				1	2856	
11								
12		8 Pin Male Connector With Latch	09-65-1081	Molex		1	11232	
13		Jumper				1		

Cerwin-Vega	TITLE LED P.C.B.	DWN. BEH	ASSY.
	MODEL A-600 1 REQUIRED	APP.	7108

REV

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7109	
2		Chassis Schematic		CV		1	7302	
3		Assembly Drive Board		CV		2	7102	
4		Assembly Heat Sink		CV		1	7106	
5		Assembly Front Panel		CV		1	7107	
6		Assembly Transformer		CV		1	7112	
7		Assembly Rear Connector Panel		CV		1	7115	
8		Assembly Fan Panel		CV		1	7116	
9		AC Wiring Diagram		CV		1	7310	
10		Power Supply Cover		CV		1	7005-2	
11		Ground Plate Assy.		CV		1	7113	
12		Side Panels A & B		CV		1ea.	7017	
13		Capacitor Mount Plate		CV		1	7008	
14		Electrolytic 14,000 MFD 100VDC	DCM 143U100CD2B	Sangamo		4	7283	
15		Bridge Rectifier	J-775	Solitron		2	2604	
16		Fuse Block 1,2,4 (Dual)	403	NaTelTro		3	11271	
17		Terminal Block 1	303106MTNLA3A80J5	Magnum		1	7206	
18		Terminal Block 2	303106MTNLA30J5	Magnum		1	7205	
19								
20		Thermistor	SG-7	Amatex		2	11238	
21		Carbon Film ½w 5% 22 ohm				1	7289	
22		Dip-Mylar 25 uf k 200VDC	2PS-P25	Sprague		1	7290	
23		Mylar 1.5 uf k 200VDC	SEC MPEs2	SEC		1	7291	
24		Fuse 3 AG 15 A				5		
25		Fuse 3 AG 1 A				1		
26		Capacitor Plate Foam ,Compression Pads & 16 Tabs		Wilshire		1	7043	
27		Speedy Tys	65002	Waldom		70	2812	
28		Cable Clamp ¼" Nylon	8942	Smith		5	7907	
29		Cable Clamp 1/8" Nylon	8940	Smith		3	7906	
30		Cable Clamp Adhesive Back	UC-4	Richco		3	7297	
31		Cable Clamp (Latching)		Richco		2	7911	
32		Terminal Block 3 Gang		Magnum		1	7266	
33		Flexible Grommet	SPGS-2	Richco		2	7902	
34		Fan Cord Fabrication Black		CV		1	7246	
35		Bolt Hex Head ¼-20 x ½" Cad				4		
36		Screw 8/32 x 3/8" P-H Blk Phil				41		
37		Screw 8/32 x 5/8" P-H Blk Phil				4		
38		Screw 6/32 x 5/8" P-H Blk Phil				4		

Cerwin-Vega	TITLE CHASSIS	DWN. BEH	ASSY.	REV
	MODEL A-600 1 REQUIRED	APP.	7109	

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
39		Screw 6/32 x ½" P-H Blk Phil				7		
40		Screw 6/32 x 3/4" Truss HD Zinc Phil				2		
41		Screw Sheet # 6 x 3/8" P-H Blk Phil				2		
42		Screw Sheet # 6 x 5/8" P-H Blk Phil				2		
43		Cable Clamp 3/16" Nylon		Smith		1	5236	
44		Washer # 6 Int-tooth Lock				7		
45		Washer # 6 Flat				4		
46		Washer ¼" Int-Tooth Lock				4		
47		Nut Tinnerman # 6/32	8092-6-32-4	Eaton		7	8261	
48		Wire: # 14 Red Stranded		CV		1	7223	
49		Wire: # 14 Red Stranded		CV		1	7224	
50		Wire: # 14 Violet Stranded		CV		1	7225	
51		Wire: # 14 Violet Stranded		CV		1	7226	
52		Wire: # 14 Red Stranded		CV		1	7227	
53		Wire: # 14 Red Stranded		CV		1	7228	
54		Wire: # 14 Violet Stranded		CV		1	7229	
55		Wire: # 14 Violet Stranded		CV		1	7230	
56								
57		Washer 1/4" Flat				4		
58		Wire: # 22 Brown Stranded		CV		1	7245	
59		Wire: # 22 Green Stranded		CV		1	7271	
60		Wire: # 22 Green / White Stripe		CV		1	7272	
61		Wire: # 14 Red Stranded		CV		1	7276	
62		Wire: # 14 Red Stranded		CV		1	7277	
63		Nomex Paper		CV		3	7284	
64		Heat Sink Compound				A/R	2675	

(41)

Cerwin-Vega	TITLE CHASSIS	DWN. BEH	ASSY.
	MODEL A-600 1 REQUIRED	APP.	7109

REV

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7111	
2								
3	P1101	Connector Block 8 Pin	09-50-3081	Molex		1	11255	
4	P1102	Connector Block 15 Pin	09-50-3151	Molex		1	11256	
5	CB	Thermal Breaker	3001-14-339	Elmwood		1	11272	
6								
7		Wire: # 22 Brown		CV		1	7247	
8		Wire: # 22 White		CV		1	7248	
9		Wire: # 22 Brown		CV		1	7252	
10		Wire: # 22 Green Twisted Pair		CV		1	7253	
11		Wire: # 22 Blue/White Twisted Pair		CV		1	7254	
12		Wire: # 22 Yellow Violet Red Triad		CV		1	7255	
13		Wire: # 22 Yellow Violet Red Triad		CV		1	7256	
14		Wire: # 22 Orange		CV		1	7257	
15		Wire: # 22 Yellow		CV		1	7258	
16		Wire: # 22 Yellow / Red Stripe		CV		1	7259	
17		Wire: # 22 Black		CV		1	7260	
18		Wire: # 22 Black		CV		1	7261	
19		Wire: # 22 Red		CV		1	7262	
20		Wire: # 22 Red		CV		1	7263	
21		Wire: # 22 Red / White Stripe		CV		1	7264	
22		Wire: # 22 Red / White Stripe		CV		1	7265	
23								
24		Speedy Tys	65002	Waldom			2812	

Cerwin-Vega	TITLE PROTECT HARNESS	DWN. BEH	ASSY.	REV
	MODEL A-600 1 REQUIRED	APP.	7111	

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7113	
2								
3		Ground Plate		CV		1	7031	
4		Screw 6/32 x 3/16 " P-H Zinc Phil				6		

Cerwin-Vega	TITLE GROUND PLATE	DWN. BEH	ASSY.	REV
	MODEL A-600 1 REQUIRED	APP.	7113	

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7107	
2		Assembly 7108 (LED PCB) Assy.		CV		1	7108	
3								
4		Front Panel		CV		1	7029	
5		Sub Panel		CV		1	7028	
6		Bracket Panel		CV		2	7020	
7		Front Handle		CV		2	7038	
8								
9	S 701	Switch Power	JA 2002	SMK		1	11228	
10		LED Indicators	GL-9PR2	Sharp		4	8251	
11		Standoff ¼" Nylon	TCBS 4N	Richco		4	7287	
12		Screw 6/32 x 3/8" Zinc F-H				2		
13		Screw 8/32 x 5/8" Allen Blk				8		
14		Screw 6/32 x¼" P-H Blk Phil				4		
15		Screw M 4 x 0.7 x 8mm Blk P-H Phil				2		

Cerwin-Vega	TITLE FRONT PANEL - SUB PANEL	DWN. BEH	ASSY. 7107 REV
	MODEL A-600	APP.	

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7115	
2		Input Relay Pcb Assy.		CV		1	7105	
3		A C Wiring Diagram		CV		1	7310	
4		Connector Panel		CV		1	7016-1	
5								
6		Switch Guard		CV		1	7030	
7		Binding Post (5-Way)	BF30-2-BRC	Superior		2	2607	
8		Binding Post (Ground)	110	Smith		1	8257	
9	F 1501	Fuse 3 AG 15 A				1		
10		Fuse Holder	342014L	LittleFu		1	7900	
11		Power Cord	4195	Carol		1	7222	
12		Strain Relief	SR-34-2	Heyco		1	7286	
13	J 1501 J 1502	Phone Jack	S-G-7717	SMK		2	11205	
14	J 1503 J 1504	Phono Jack	350 IFR	Switchcft		2	2616	
15		Knob	1903-1L	KurzKasch		2	11275	
16	CB 100	Thermal Breaker	2455285-2	Elmwood		1	2655	
17		Tap Change Switch	2GL 50-73	Carling		1	8254	
18								
19								
20		Standoff Nylon 3/8"	TCBS-6N	Richco		4	11229	
21		Screw 6/32 x ½" P-H Blk Phil				1		
22		Screw 6/32 x ¼" F-H Blk Phil				4		
23		Screw Sheet # 6 x ¼" P-H Blk Phil				2		
24		Washer # 10 Int Tooth Lock				4		
25		Washer # 8 Int Tooth Lock				1		
26		Washer Flat Phenolic	2678	Smith		2	2689	
27		Washer Shoulder Phenolic	2158	Smith		2	2605	
28								
29		Washer # 3/8" id Int-Tooth Lock				2		
30		Solder Lug #8 Int-Tooth Lock	1416-8	Smith		1	7279	
31								
32		Nut 6/32 ¼" Hex Zinc				1		
33								
34		Wire: # 14 Black Stranded		CV		1	7215	
35		Wire: # 14 Black/White Stripe		CV		1	7216	
36		Wire: # 14 Brown Stranded		CV		1	7217	
37		Wire: # 14 Brown/White Stripe		CV		1	7218	
38		Wire: # 14 Brown/Orange Stripe		CV		1	7219	

Cerwin-Vega	TITLE REAR CONNECTOR PANEL	DWN. BEH	ASSY.	REV
	MODEL A-600	APP.	7115	

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
39		Wire: # 14 Brown/Orange Stripe		CV		1	7220	
40		Wire: # 14 Brown/Orange Stripe		CV		1	7221	
41		Wire: # 14 Yellow Stranded		CV		1	7239	
42		Wire: # 14 Yellow/Red Stripe		CV		1	7240	
43		Wire: # 14 Black Stranded		CV		2	7241	
44		Wire: # 14 Black Stranded		CV		1	7242	
45		Wire: # 14 Black Stranded		CV		1	7243	
46		Wire: # 22 Black/Red Twisted		CV		2	7249	

Cerwin-Vega	TITLE REAR CONNECTOR PANEL	DWN. BEH	ASSY.	REV
	MODEL A-600	APP.	7115	

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7116	
2		Assembly Protect PCB		CV		1	7104	
3								
4		Fan Panel		CV		1	7015	
5		Fan Hole Cover - Screen		CV		1	11014	
6		Fan Padding		Wilshire		1	7041-B	
7		Fan , Cooling	TA-450	Torin		1	7913	
8		Back Handle		CV		2	7039	
9								
10		Fan Padding (Heat Sink)		Wilshire		1	7041-A	
11		Tinnerman #6-32				4	8261	
12		Standoff ¼" Nylon	TCBS- 4N	Richco				
13		Standoff 3/8" - 3/8" (Round)		CV		4	7298	
14		Screw 6/32 x ¼" P-H Blk Phil				4		
15		Screw 6/32 x 1¼" P-H Blk Phil				4		
16		Screw 8/32 x ½" P-H Blk Phil				4		

Cerwin-Vega	TITLE REAR PANEL - FAN	DWN. BEH	ASSY. 7116 / REV
	MODEL A-600 1 REQUIRED	APP.	

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Assembly Print		CV		1	7106	
2		Assembly 7103 (Output PCB) 2	Reg.	CV		2	7103	
3								
4		Semiconductors						
5	Q601 Q603 Q605 Q607 Q609	Transistor NPN	2SC1586	Sanken		10	2855	
6	Q602 Q604 Q606 Q608 Q610	Transistor PNP	2SA909	Sanken		10	2854	
7		Heat Sink cover Plate		CV		1	7014	
8		U Type Fastener	C21457-025	Tinnerman		4	7282	
9		Mechanical Parts						
10		Heat Sink		CV		1	7002	
11		Screw M3 x 0.5 - 16 mm P-H Zinc Phil				40		
12		Washers # 4 Int-Tooth Lock				40		
13		Transistor Sockets	M 1629	Emuden		20	8243	
14		Transistor Insulators	DM-101K	McNabb		20	2611	
15		Heat Sink Compound				A/R	2675	

Cerwin-Vega	TITLE HEAT SINK	DWN. SR	ASSY.	REV
	MODEL A-600 1 REQUIRED	APP.	7106	

ITEM	REF DISGN	DESCRIPTION	MFGR PART #	MFGR	PART/STOCK #	QTY	SPEC. #	PRICE
1		Completed Amplifier		CV		1	7101	
2		Carton $ Inserts		CV		1	7912	
3		Owners Manual		CV		1		
4		Plastic Bag				1		
5		Bottom Cover		CV		1	7019	
6		Top Cover		CV		1	7018-1	
7		Rubber Feet		Rubcrft		4	2660	
8								
9		Screw 8/32 x 3/3" P-H Blk Phil				40		
10		Screw Sheet # 8 3/8' P-H CAD Phil				4		
11								
12		Nomex Paper 2" x 2" stick on to bottom				2		
13		Glue				A/R		
14		Insulative Tape				2		

Cerwin-Vega	TITLE FINAL ASSEMBLY	1 REQUIRED	DWN. BEH	ASSY.
	MODEL A-600		APP.	7101

REV

Cerwin-Vega! 12250 Montague Street,
Arleta, California 91331 (213) 896-0777

ENGINEERING CHANGE NOTICE

Cerwin-Vega

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DOCUMENT NO	DOCUMENT TITLE	E.C.N. NO
7103	A-600 Output PCB	7638
C.V. PART/STOCK NO	NEXT HIGHER ASSY	SH. 1 OF 1
	7106	

EFFECTIVITY	FROM	THRU
PRODUCT SERIAL NUMBER	09780301	Continuous
PRODUCTION DATE CODE		

OTHER DOCUMENTS AFFECTED

7301, 7307

APPROVAL	DATE
ORIG. SAH	4.18.80
DFT. [illegible]	4-21-80
CHECK. [illegible]	4.18.80
ENG. SAH	4.18.80

REASON FOR CHANGE

Improper setting of bias adjust potentiometer could result in a bias current which is exessively high.

DISPOSITION OF PARTS

IN PROCESS		IN STOCK		IN FIELD	
X	CHANGE		CHANGE		CHANGE
	NOCHANGE	X	NOCHANGE		NOCHANGE
	SCRAP		SCRAP	X	OPTIONAL

OTHER

DISTRIBUTION

1	[illegible]	4/24/80
2	Otakuchi	4/25/80
3	Cerwin-Vega	4/25/80
4	[illegible]	[illegible]
5	Nancy	4-25-80
6	[illegible]	20 MAY 80
7	[illegible]	5/30/80
8		

DESCRIPTION OF CHANGE

Change in value of R301:

Was: 220 Ω ½W 5% CF
Is: 470 Ω ½W 5% CF

SPECIFICATIONS AFFECTED

None

TEST PROCEDURES AFFECTED

None

RELEASE DATE

Cerwin-Vega

ENGINEERING CHANGE NOTICE

☐ TRANSDUCERS ☒ ELECTRONICS

DOCUMENT NO	DOCUMENT TITLE	ECN NO
7104	A-600 Protect PCB	7639
C.V. PART/STOCK NO	NEXT HIGHER ASSY	SH. 1 OF 1
	7116	

EFFECTIVITY	FROM	THRU
PRODUCT SERIAL NUMBER	09780301	Continuous
PRODUCTION DATE CODE		

OTHER DOCUMENTS AFFECTED: 7306, 7307

APPROVAL	DATE
ORIG.	4.18.80
DFT.	4-18-80
CHECK.	4.18.80
ENG.	4.18.80

REASON FOR CHANGE

To improve the operation of the Protect CKS:

1.) Shorten the reset time constant to approx. 3 Seconds.
2.) Increase the trip voltage of the D.C. offset CKT. This should prevent misfire due to percussive overloads.

DISPOSITION OF PARTS

IN PROCESS		IN STOCK		IN FIELD	
X	CHANGE		CHANGE		CHANGE
	NOCHANGE	X	NOCHANGE		NOCHANGE
	SCRAP		SCRAP	X	OPTIONAL

OTHER

DISTRIBUTION

1		4/24/80
2		4-25-80
3		4/25/80
4		4-25-80
5		4-25-80
6		30 MAY 80
7		5/30/80
8		

DESCRIPTION OF CHANGE

Change in Component Values:

R425
Was: 1Meg ½w 5% CF
Is: 330k ½w 5% CF

R403, R404
Was: 100k ½w 5% CF
Is: 220k ½w 5% CF

R419
Was: 8.2k ½w 5% CF
Is: 2.7k ½w 5% CF

These values set the trip voltage at approximately 50V DC. (Note: R419 has diff. values on other products.)

R420
Was: 10k ½w 5% CF
Is: 47k ½w 5% CF

SPECIFICATIONS AFFECTED

None

TEST PROCEDURES AFFECTED

None

RELEASE DATE

Cerwin-Vega

ENGINEERING CHANGE NOTICE

☐ TRANSDUCERS ◪ ELECTRONICS

DOCUMENT NO	DOCUMENT TITLE	E.C.N. NO
7115	600-Rear Panel Assy.	7641
C.V. PART / STOCK NO	NEXT HIGHER ASSY	SH. 1 OF 1
	7109	

EFFECTIVITY	FROM	THRU
PRODUCT SERIAL NUMBER	09-780301	cont.
PRODUCTION DATE CODE		

REASON FOR CHANGE

The glass type of fuse that was previously used can shatter the glass case, in the event that they receive a severe over-current. This tendency is most appearant in fuses with current ratings in excess of 10 amperes. When these types of fuses are used as line fuses, there exists a potential hazard to the customer.

OTHER DOCUMENTS AFFECTED

none

DISPOSITION OF PARTS

IN PROCESS	IN STOCK	IN FIELD
◪ CHANGE	☐ CHANGE	☐ CHANGE
☐ NOCHANGE	◪ NOCHANGE	☐ NOCHANGE
☐ SCRAP	☐ SCRAP	◪ OPTIONAL

OTHER

APPROVAL		DATE
ORIG.	[signature]	3.26.80
DFT.	[signature]	[illegible]
CHECK.	[signature]	[illegible]
ENG.	[signature]	3.26.80

DISTRIBUTION

1	[signature]	[illegible]
2	Nancy	3-2[illegible]
3	[signature]	3-26-80
4	[signature]	3/26/80
5	[signature]	3/27/80
6	[signature]	[illegible]
7	O'Brien	3-26-80
8	[signature]	3/25/80

DESCRIPTION OF CHANGE

To the "Assembly Parts List" 7115

Item 9 was: Fuse 3AG 15A
is: Fuse 3AB 15A 250V

NOTE: This change calls out a ceramic cased fuse that does not shatter.

SPECIFICATIONS AFFECTED

none

TEST PROCEDURES AFFECTED

none

RELEASE DATE MAR 2[illegible] 1980

PRODUCT REVISION ORDER 7642

DATE July 7, 1979 MODEL A-600 (Assy. 7106)

DATE EFFECTIVE July 7, 1979 RETROACTIVE No

FIRST SERIAL NUMBER REVISED _____

1. REASON:

To improve the power handling capacity of the Amplifier.

2. DESCRIPTION OF REVISION: NEW SPECS.

Item 5:

Was: Transistor NPN 2SC1586 Sanken Spec #2855

Is: " " 2SC2608 " Spec #3051

Item 6:

Was: Transistor PNP 2SA909 Sanken Spec #2854

Is: " " 2SA1117 Sanken Spec #3049

SIGNED _____

Distribution List

1. Purchasing Mgr.
2. Prodcution Mgr.
3. Q. C. Manager
4. Service Manager
5. Production Sec.
6. Q.C. Inspection
7. Stockroom
8. Tech.Service

1. _____ 4/10/80
2. _____ 4/10/80
3. _____ 10 APR 80
4. _____ 4 10 80
5. _____
6. _____ 4-10-80
7. _____ 4/10/80
8. _____ 4-10-80

Date:

ENGINEERING CHANGE NOTICE

Cerwin-Vega

☐ TRANSDUCERS ☒ ELECTRONICS

DOCUMENT NO	DOCUMENT TITLE	ECN. NO
7102	Drive Board	7644
C.V. PART/STOCK NO	NEXT HIGHER ASSY	SH. 1 OF 1
	7103	

EFFECTIVITY	FROM	THRU
PRODUCT SERIAL NUMBER	09-780351	Continuous
PRODUCTION DATE CODE		

REASON FOR CHANGE

To make Parts List conform to Schematic Diagram.
Resistors R234 and R235 are not used in circuit.

OTHER DOCUMENTS AFFECTED

APPROVAL	DATE
ORIG.	4-23-80
DFT. Bart	4-23-80
CHECK.	4.23.80
ENG.	4.23.80

DISPOSITION OF PARTS

IN PROCESS		IN STOCK		IN FIELD	
x	CHANGE	x	CHANGE		CHANGE
	NOCHANGE		NOCHANGE		NOCHANGE
	SCRAP		SCRAP	x	OPTIONAL

OTHER

DISTRIBUTION

1		4/24/80
2		4/25/80
3		4/25/80
4		4/25/80
5	Nancy	4-25-80
6		30 APR 80
7		5/30/80
8		

DESCRIPTION OF CHANGE

Assembly 7102 Parts List

Item 4: Was: Blank
Is: Resistors

Item 5: Was: Resistors
Is: R234, R235,; Omit: Qty 2

Item 10: Was: R229, R230, R234, R235· CF ½w 5% 470Ω: Qty 4
Is: R229, R230; CF ½w 5% 470Ω: Qty-2

SPECIFICATIONS AFFECTED

None

TEST PROCEDURES AFFECTED

None

RELEASE DATE

ENGINEERING CHANGE NOTICE

Cerwin-Vega

☐ TRANSDUCERS ☒ ELECTRONICS

DOCUMENT NO	DOCUMENT TITLE	E.C.N. NO
7104	Assembly & Parts List	7657
C.V. PART/STOCK NO PCA-AAA-071040	NEXT HIGHER ASSY 7109	SH. 1 OF 1

EFFECTIVITY	FROM	THRU
PRODUCT SERIAL NUMBER		
PRODUCTION DATE CODE		

REASON FOR CHANGE

Certain Transistors are being changed to increase common usage and improve purchasing power.

OTHER DOCUMENTS AFFECTED

7306 Protect Schematic(8302)

7307 Composite Schematic

DISPOSITION OF PARTS

IN PROCESS		IN STOCK		IN FIELD	
	CHANGE		CHANGE		CHANGE
X	NOCHANGE	X	NOCHANGE	X	NOCHANGE
	SCRAP		SCRAP		OPTIONAL

OTHER

APPROVAL	DATE
ORIG.	12-9-80
DFT.	12-9-80
CHECK.	12-9-80
ENG.	12-9-80

DISTRIBUTION

1	MFG	12/10/80
2	QT	12/10/80
3	Purchasing	12-9-80
4	RLO 16-2	12/10/80
5	QA/IAW	12-10-80
6		1/5/80
7		
8		

DESCRIPTION OF CHANGE

Parts List #7104

Item 45

Was: Transistor PNP; 2SA639Q; NEC; QQE-PPP-028480; Qty=6; Spec 2848

Is: Transistor PNP; 2SA872A; Hitachi; QQE-PPP-028470; Qty=6; Spec 2847

SPECIFICATIONS AFFECTED

none

TEST PROCEDURES AFFECTED

none

RELEASE DATE

Cerwin-Vega

ENGINEERING CHANGE NOTICE

☐ TRANSDUCERS ☒ ELECTRONICS

DOCUMENT NO	DOCUMENT TITLE	E.C.N. NO
7103	Output PCB Assy	7664
C.V. PART/STOCK NO	NEXT HIGHER ASSY	SH. OF
PCA-AAA-071030		1 1

EFFECTIVITY	FROM	THRU
PRODUCT SERIAL NUMBER		
PRODUCTION DATE CODE	JUN 1 1 1981	cont.

REASON FOR CHANGE

To make greater common usage of parts.

OTHER DOCUMENTS AFFECTED

7301, Comp. Schematic

APPROVAL	DATE
ORIG.	11-JUN-81
DFT.	11-JUN-81
CHECK.	11-JUN-81
ENG.	11-JUN-81

DISPOSITION OF PARTS

IN PROCESS	IN STOCK	IN FIELD
☐ CHANGE	☐ CHANGE	☐ CHANGE
☐ NOCHANGE	☐ NOCHANGE	☐ NOCHANGE
☐ SCRAP	☐ SCRAP	☐ OPTIONAL

OTHER

DISTRIBUTION

1		
2		
3		INSTLNG
4		
5		
6		6/11/81
7		6-11-81
8	Carmen Vasquez	6-11-81

DESCRIPTION OF CHANGE

Item 15*

Was: Carbon-film 2w 5% 4.7 ohm, RRB-AHA-A47GJO

Is: Metal film 2w 5% 4.7 ohm RRE-AHA-A47GJO

* Computer/product structure printout SEQ=80

SPECIFICATIONS AFFECTED

None

TEST PROCEDURES AFFECTED

None

RELEASE DATE JUN 1 1 1981

Cerwin-Vega

ENGINEERING CHANGE NOTICE

☐ TRANSDUCERS ☐ ELECTRONICS

DOCUMENT NO	DOCUMENT TITLE	ECN NO
7290	CAPACITOR	7666
C.V. PART/STOCK NO	NEXT HIGHER ASSY	SH. 1 OF 1
CCH-AAA-072900	7113	

EFFECTIVITY	FROM	THRU
PRODUCT SERIAL NUMBER		
PRODUCTION DATE CODE	1-19-82	Continuous

REASON FOR CHANGE

TO INCREASE VOLTAGE RATING OF CAPACITOR

OTHER DOCUMENTS AFFECTED

APPROVAL	DATE
ORIG. J Davies	1/21/82
DFT. K.C	1/20/82
CHECK.	1-20-82
ENG.	1-20-82

DISPOSITION OF PARTS

IN PROCESS	IN STOCK	IN FIELD
■ CHANGE	■ CHANGE	CHANGE
NOCHANGE	NOCHANGE	NOCHANGE
SCRAP	SCRAP	OPTIONAL

OTHER Repair All A-600's packed in stock & on line.

DISTRIBUTION

1	Raul (via)	1-20-82
2		
3		1/20/82
4		1/20/82
5		20-JAN-82
6	Roy Hammond	1/20/82
	Carmen Vargas	1-20-82
8		

DESCRIPTION OF CHANGE

WAS: 0.25uf 10% 200 V. DC Sprague 2PS-P25

IS: 0.25uf 10% 400 V. DC Sprague 4PS-P25

SPECIFICATIONS AFFECTED

TEST PROCEDURES AFFECTED

RELEASE DATE 1-20-82