



KAV-300i Integrated Amplifier Service Manual

**v99.0
June, 1999**

14. Burn-in Procedure

- a) Allow unit to sit, turned on, for 1 day.
- b) Switch off the unit and let sit for five or ten minutes. Turn unit on. After 2 minutes continue with test procedure starting at Step 8c). At Step 8e) readjust the bias for 12mV.

Note: The bias should not be readjusted again. Check all the voltages stated in Step 8a).

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Schematic Diagrams and Bill of Materials are separately attached

KAV-300i Integrated Amplifier Specifications

Frequency Response

1 Hz-100KHz +0dB, -3dB

Signal to Noise Ratio

-95dB. "A" weighted

Distortion

1KHz 0.06% THD

20KHz 0.3% THD

Gain

36.1 dB

Input Impedance

210k Ohms

Output Power

each channel driven

8 Ohms 150W

4 Ohms 300W

Power Consumption

Idle 50W

Inputs

1 balanced, 3 single-ended

Outputs

1 pair speaker outputs via five way binding posts

1 single-ended

Tape Monitor

1 single-ended

Dimensions

19w x 3.7h x 15.5d inches

47.5w x 9.25h x 38.75d centimeters

Weight

Unit 25 lbs., 11.4 kg

Shipping 33 lbs., 14.9 kg

12. Carefully reposition the input configuration back to the **J11/S3** position. Power down to **STAND-BY**, then press **POWER**. After a slight delay observe that you are out of the processor mode. (See step 11g)

a) Proceed to perform the volume tracking, input balance, mute and remote tests.

Volume Tracking Test that each channels volume matches.
Input Balance Balance is tested in 1dB increments. Left Balance button adjusts the right channel and vica-versa. Test that each channels balance works.

Mute Press **MUTE** key to prove functionality.
Remote Press Remote keys to prove functionality.

Note: The input balance function can only be obtained through the remote control. When performing the input balance test, observe that the volume control will extinguish, the balance LED will illuminate, the center position LED will illuminate and the left and right LED's will illuminate as you toggle the balance controls. The volume LEDs double as the balance LED indicators. If no balance operation is being performed after a short time, the balance LED indicators will extinguish and the volume LED indicators will resume.

Note: The mute function may be activated through an input select button on the second depression of the switch, then deactivated by the third depression of the switch, or from the remote control.

13. HC705 Memory and Mute Control Test

a) With a signal passing through the **S3** input with the output set for 2V, and the balance control set for 3dB down, switch to **STAND-BY**, then power back up. Observe that after a slight delay of approximately 3-4 seconds, a signal will pass and the same settings that were previously set are retained.

b) Press the **POWER** button to place the unit back to a **STAND-BY** condition. Disconnect all connections, turn the Variac off and set the dial to the "0" position and then remove the AC cord from the unit.

- c) Select the **S1** input, then press and hold the up arrow button until full volume. Observe a signal passing through both channels. Adjust the ATS-1 outputs for 2 Vrms. Check for corresponding LED illumination.

11. Preamplifier Specification Test

- a) Adjust the preamp outputs for 2 Vrms @ 1KHz.

- b) Proceed to measure for the below requirements for both channels:

1KHz THD < 0.005%

GAIN = 8.7dB +/- 0.2dB

20KHz THD < 0.01%

NOISE ≤ -93dB

DCO = 0.000V +/- 0.1V

- c) Proceed to check **S2** & **S3** inputs for a passing signal for both channels @ 2 Vrms. Check for corresponding LED illumination.
- d) While still connected to the **S3** input, select the tape button and observe the signal dropping out. This indicates a priority tape selection has been made. Press the tape button again and observe the signal returning.
- e) Apply a signal to the tape inputs and observe a passing signal for both channels only after the tape input button has been selected. The output should be @ 2Vrms.
- f) Deselect the tape function. Apply a signal to the **S3** source input and take the output through the tape outputs and observe a voltage reading of approximately the same as the input voltage. Check that the volume control does not affect the output voltage.
- g) Reconnect for the preamp outputs and observe a signal passing @ 2Vs.
- h) Carefully reposition the input configuration to the **J12**/proc. position. The unit will operate in unity gain for input **S3**.
- i) Select the **S2** input then back to the **S3** input and observe the output voltage is now approximately the same as the input voltage. Also confirm that there is no volume or balance operation while in this processor mode. This is a unity gain setting. Confirm that mute and tape still function.

Note: The volume and the balance LED should extinguish in this mode.

KAV-300i Integrated Amplifier Test Procedure

1. Purpose

To verify proper assembly and functionality.

2. Scope

This procedure is to be used on all testing of the KAV-300i.

3. Test Equipment Required

- 1 Fluke 75 MM and a 8085 A MM or equivalent (Digital Multi-Meter)
- 1 Hitachi V-212 Oscilloscope or equivalent
- 1 ATS-1 (Audio Precision Analyzer) or equivalent
- 1 Variac (Autoformer)
- 1 Load Bank (50 Watt 8 Ohm Resistors)
- 1 0.015uf capacitor
- 1 0.1uf capacitor
- 1 KAV-300i Remote Control

4. Special Instructions

Safety Glasses must be worn at all times.

A complete understanding of the ATS-1 and other test equipment used is required.

5. Reference Documents

KAV-300i Schematics and Drawings.

6. Visual Inspection

Check for solder shorts, properly seated components, broken parts, etc. on the preamp board. Make sure there is no misalignment of header pins.

7. Initialization

- a) Connect the Variac to the KAV-300i.

Note: The Variac should be off and set to the zero position.

b) Input configuration on the faceplate board should be positioned at **J11/S3**

Set the ATS-1 as follows:

- I. Select the amplitude function to read in watts.
- II. Select the generators output impedance for 50 Ohms balance configuration.
- III. Adjust the generators output for approximately 0.540 Vrms @ 1 KHz.

8. Amplifier Test Procedure (Functional)

Caution: If you hear any buzzing or excessive humming during the next step, turn off the Variac immediately.

- a) Turn on the Variac. Adjust the Variac until a reading of 120VAC is found on the power board, stopping at times to monitor the balance of the HC rails, +/- 18V the 5V and the bias, and the dco for both channels.

Note: The processor will not turn the unit on due to the use of the Variac.

LEFT CH. BIAS = TP-2 & TP-3, TRIM POT R147. DCO = TP-1 & TP-2, TRIM POT R128

RIGTH CH. BIAS = TP-5 & TP-6, TRIM POT R195. DCO = TP-4 & TP-5, TRIM POT R176

Note: Loaded = power supply circuit is connected
Unloaded = power supply circuit is not connected

Note: The unloaded High Current rails = approx. 70V-76V. The loaded High Current voltage should be approx. +/- 68VDC. The loaded AC input voltage at the bridges should be approx. 51VAC.

- b) Turn the Variac off; leaving its output voltage set per step 8a).
- c) Make the proper connections between the KAV-300i and the test equipment to pass a balanced signal through the left channel amplifier. No Load.
- d) Turn the Variac and observe the **STAND-BY** LED illuminate. Press the **POWER** button and observe the **STAND-BY** LED extinguish and the **POWER** LED illuminate.
- e) Adjust the bias for 12mV, and the dco for 0.000V +/- 20mV for both channels.

- f) Select the **B1** input, then press the up arrow until full volume and observe a smooth signal passing. Check for corresponding LRD illumination.
- g) Move the proper connections to monitor a smooth sinewave passing out the right channel amplifier.

9. Amplifier Specification Test

- a) Apply an 8 Ohm load @ 1KHz and adjust the output for 150 Watts.
- b) Proceed to measure for the requirements (below) for both channels.

THD @ 20Hz < 0.1%	GAIN = 35.8 dB +/- 0.2dB
THD@ 1KHz < 0.1%	NOISE ≤ -89dB
THD@ 20KHz < 0.3%	DCO = 0.000V +/- 20mV
THD@ 50mV OUTPUT < 0.25%	BIAS = 12mV

- c) Check for Stability with and without an 8 Ohm load for both channels using a 0.015uf cap and the 0.1uf cap. Observe that there is no oscillation.
- d) Momentarily connect the 2 Ohm load to unit. The unit should not blow a fuse, or turn off.
- e) Proceed to check that the unit clips @ 185 Watts or better, not below, into an 8 Ohm load for both channels @ 0.5 THD.
- f) Readjust the output for 150 Watts.

Note: Turn the ATS-1 or equivalent off.

- g) Disconnect the amplifier from the output/loadbank and the balanced input from the unit.

10. Preampifier Test Procedure (Functional)

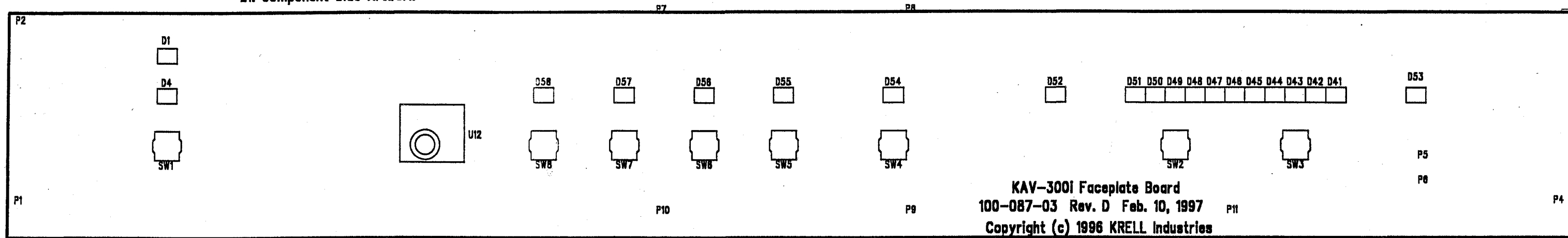
- a) Set the ATS-1 as follows:
 - I. Select the level function to read in Volts.
 - II. Select the generators output impedance for 50 Ohm unbalanced configuration.
 - III. Adjust the generators output for approximately 0.732 Vrms @ 1KHz.
- b) Make the proper single-ended connections to the input and the preamp outputs for both channels.

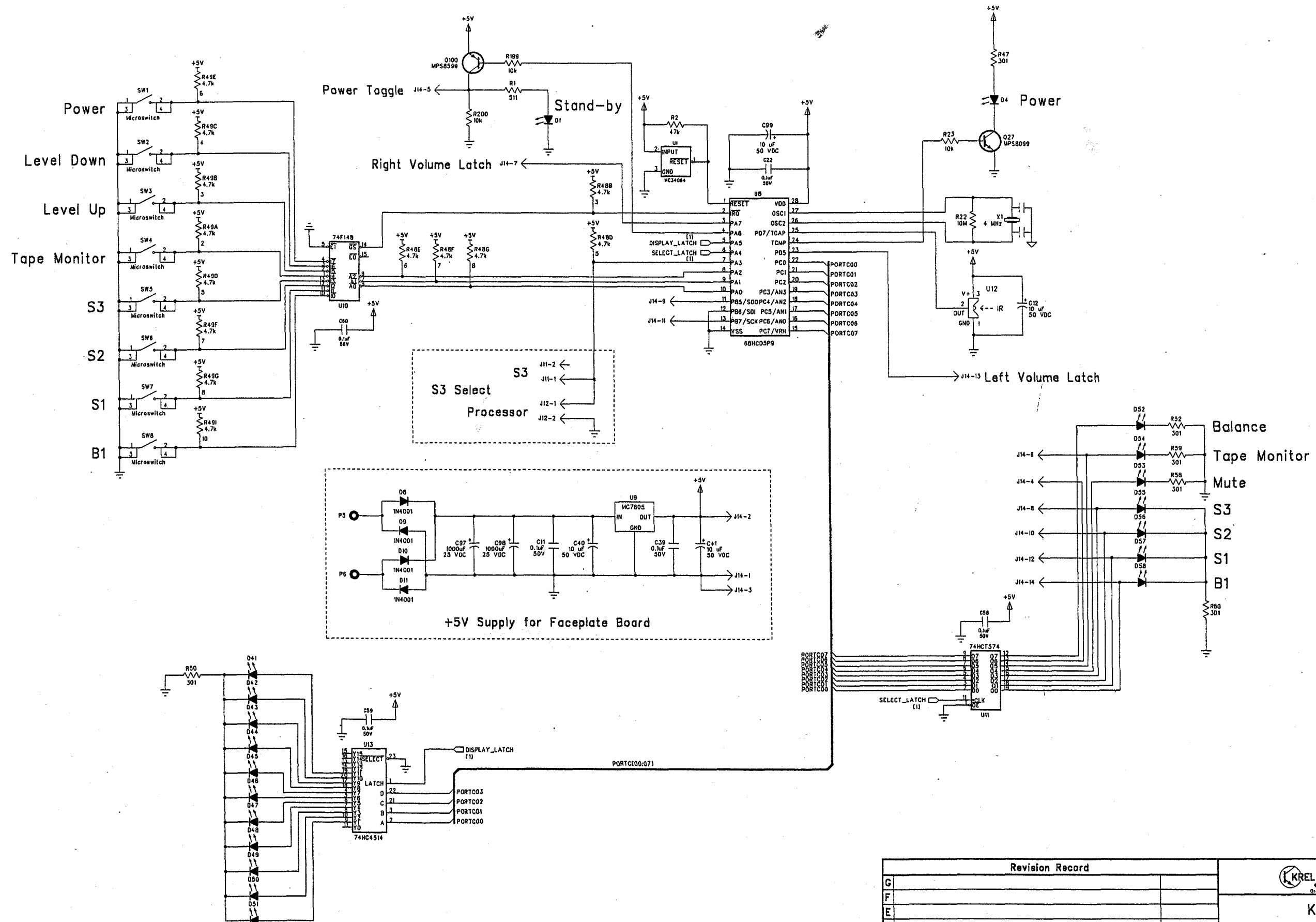


KAV-300i Integrated Amplifier Service Manual

Schematics and Bill of Materials

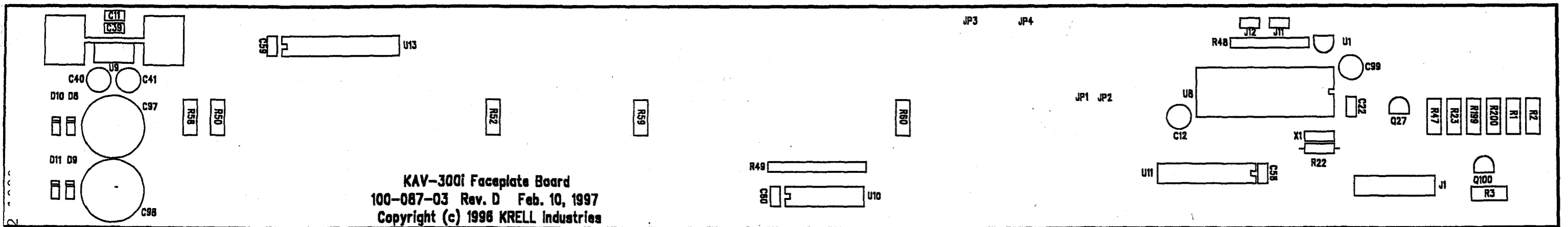
L1: Component Side Artwork



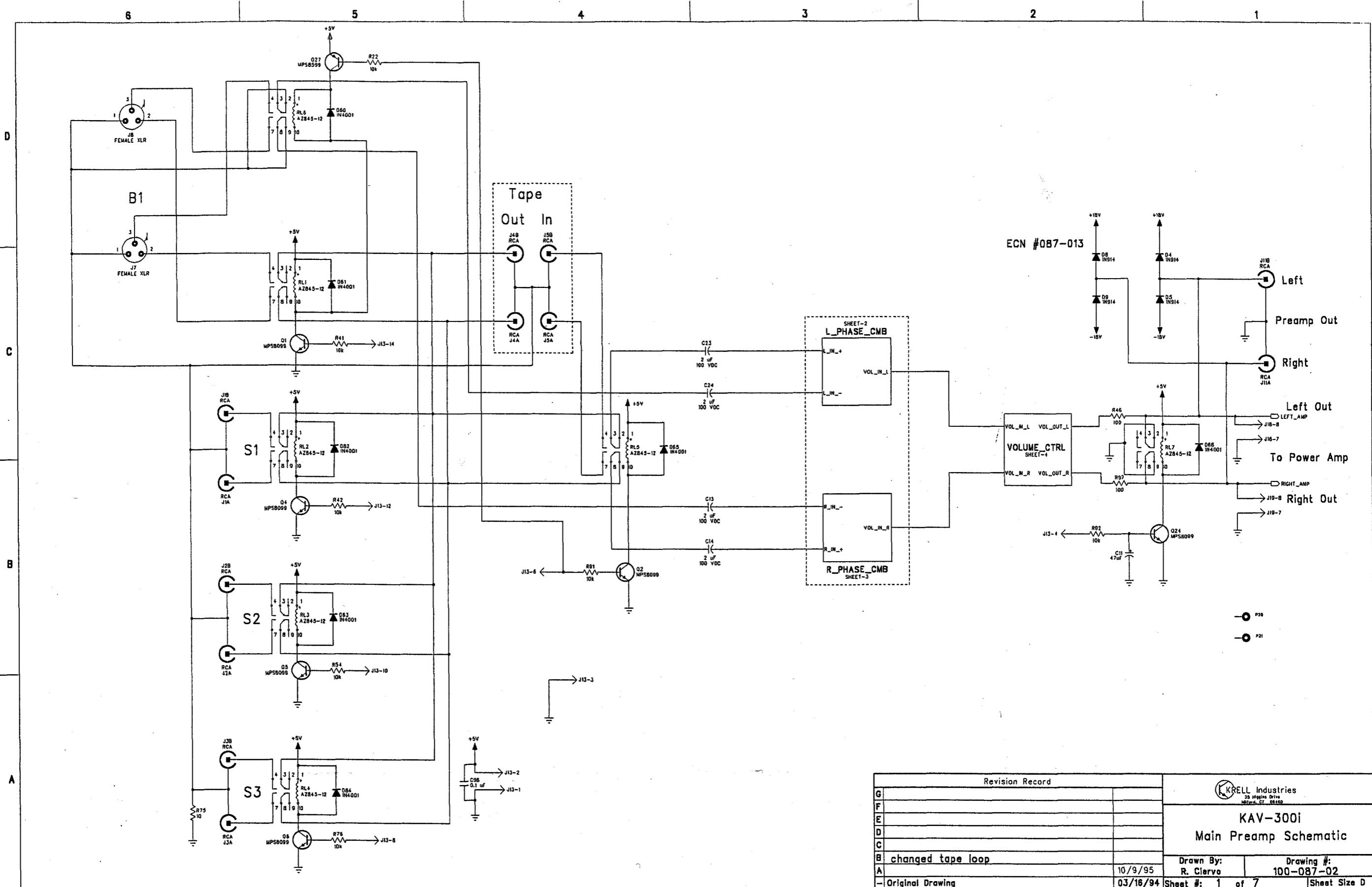


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G		KAV-200i Preamp Faceplate Schematic	
F			
E			
D			
C			
B	Added MC34064, IRQ pull-up	10/9/95	Drawn By: R. Ciervo
A			Drawing #:
Original Drawing		03/16/94	Sheet #: 2 of 5

LS: Solder Side Artwork



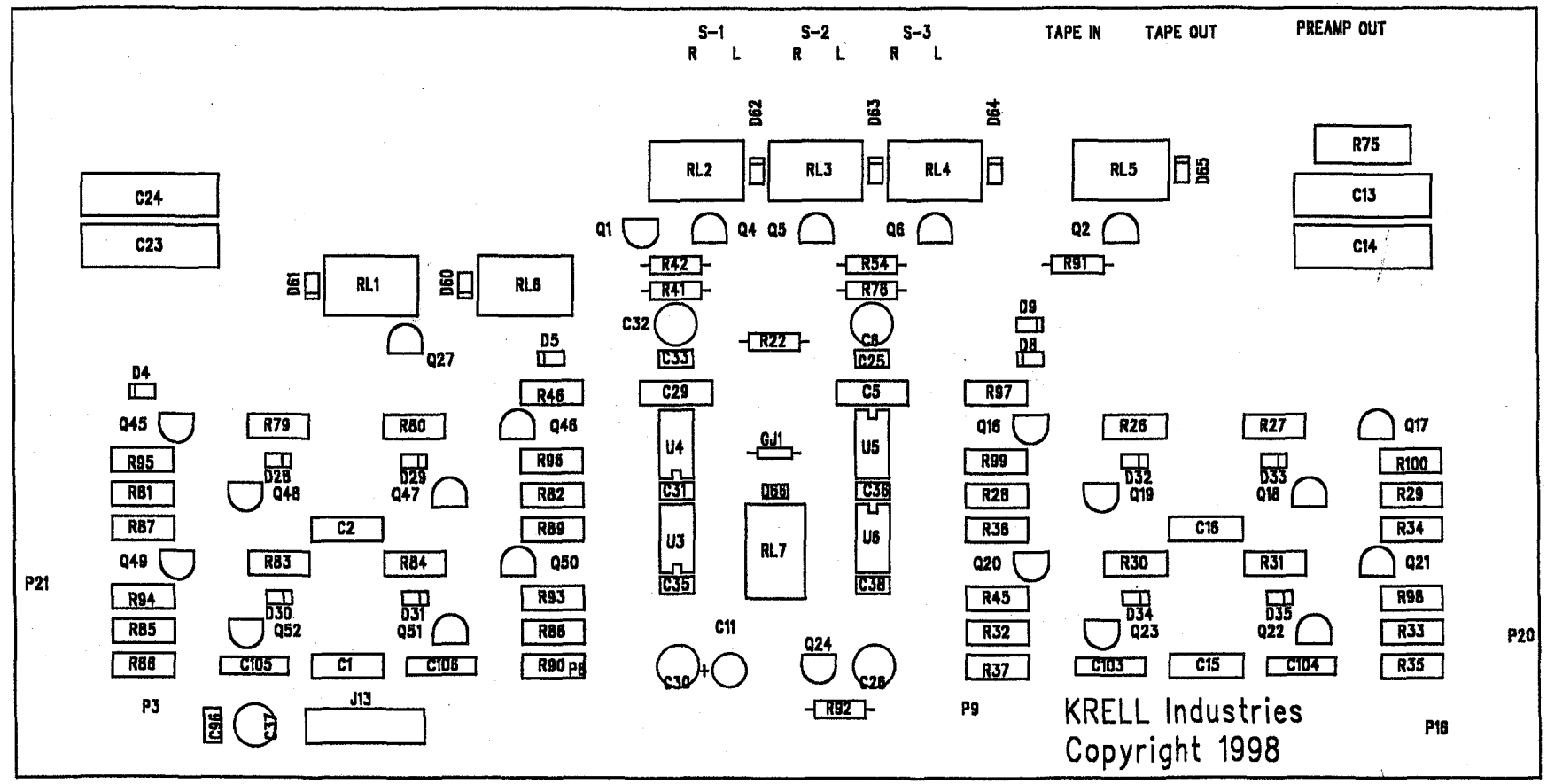
KAV-300i Faceplate Board
100-087-03 Rev. D Feb. 10, 1997
Copyright (c) 1996 KRELL Industries

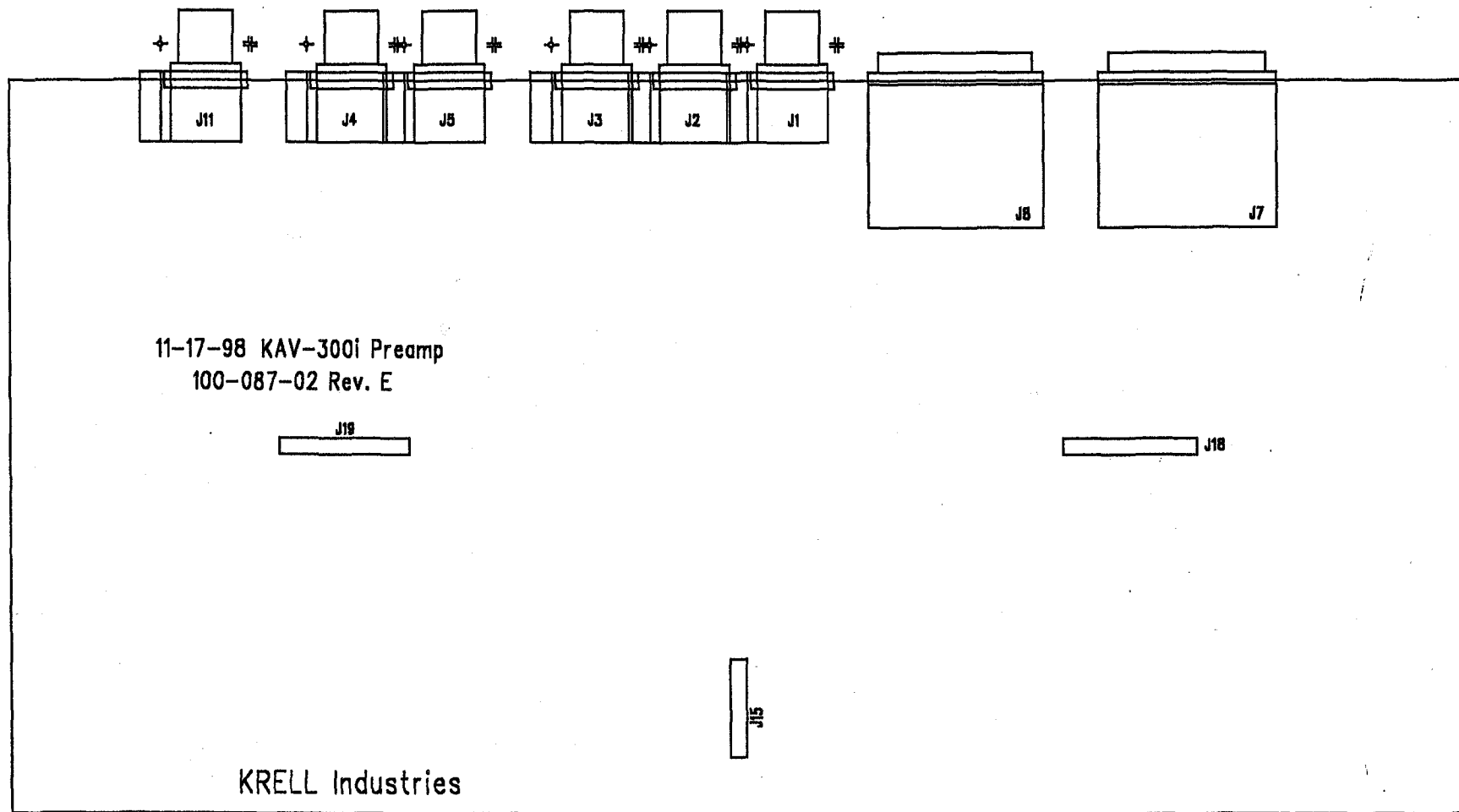


ECN #087-013

P20
 P21

Revision Record		KRELL Industries 33 Maple Drive Worcester, MA 01091	
G		KAV-300i Main Preamp Schematic	
F			
E		Drawn By: R. Clervo	Drawing #: 100-087-02
D		Sheet #: 1 of 7	
C			
B	changed tape loop	Sheet Size D	
A			
-	Original Drawing	10/9/95	
		03/16/94	





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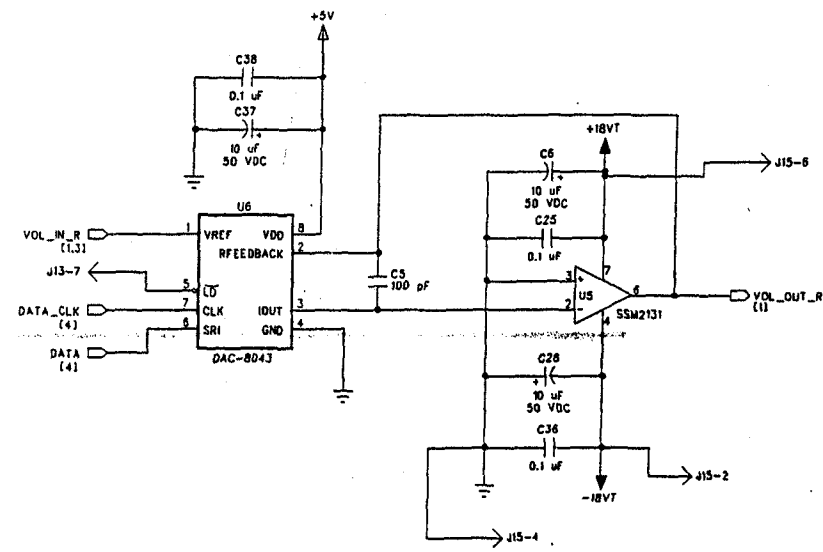
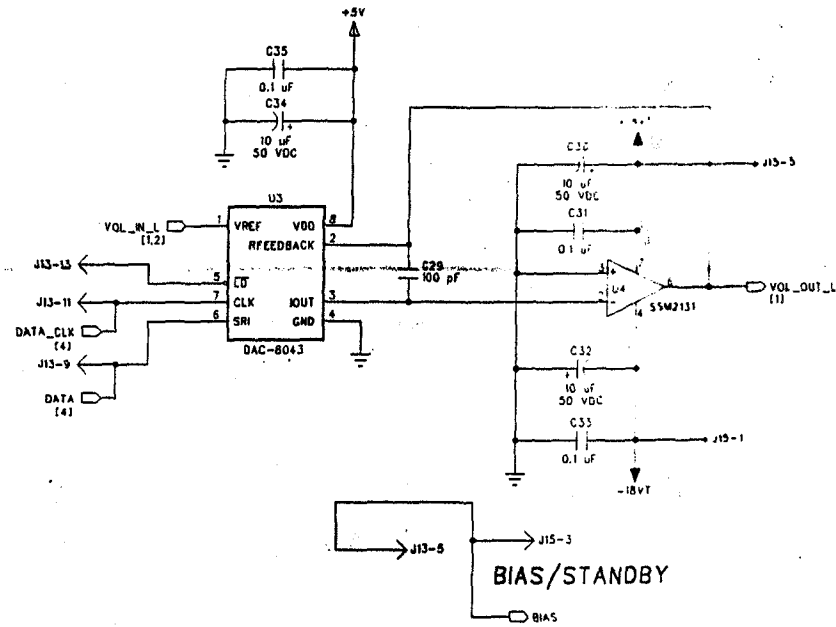
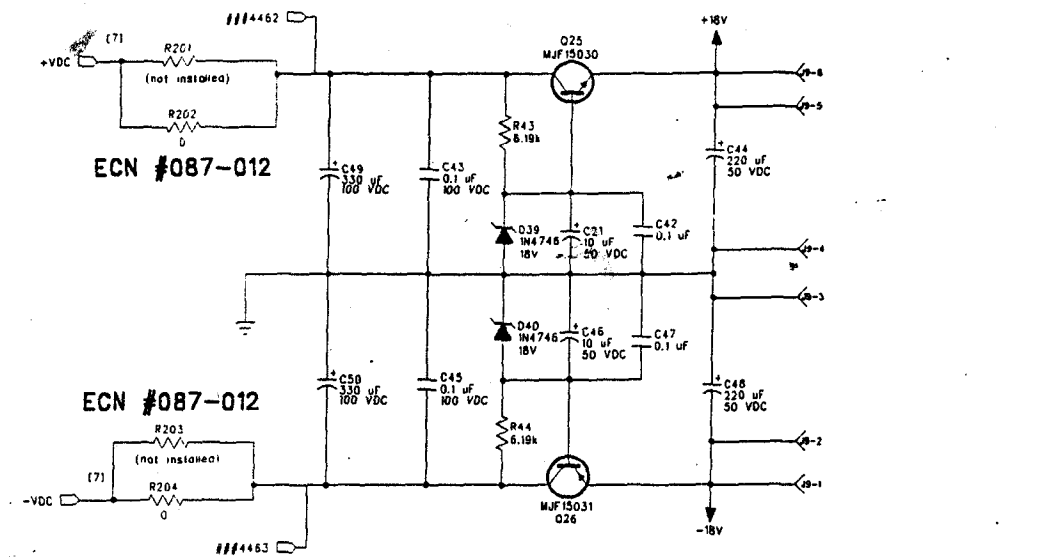
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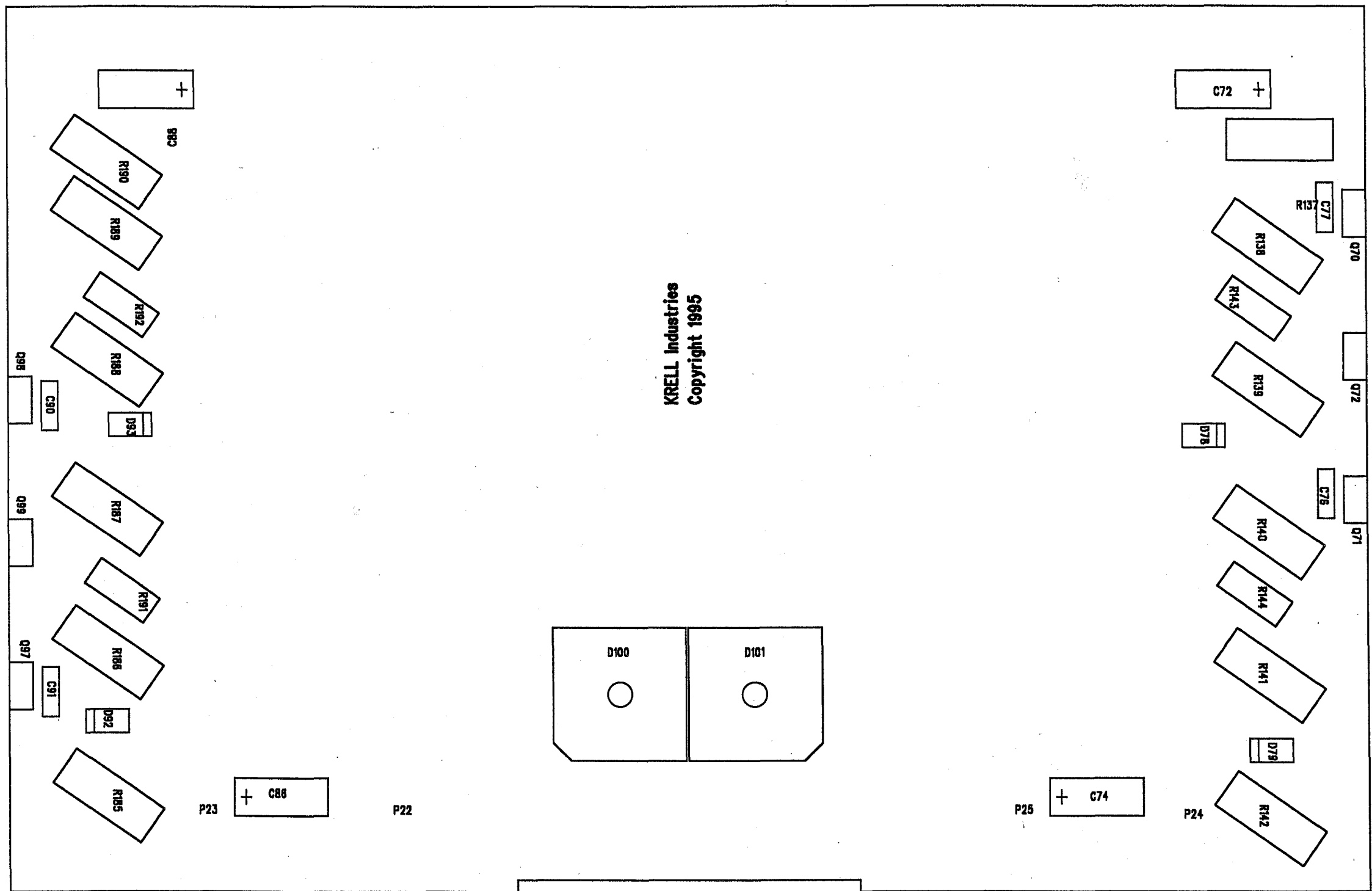
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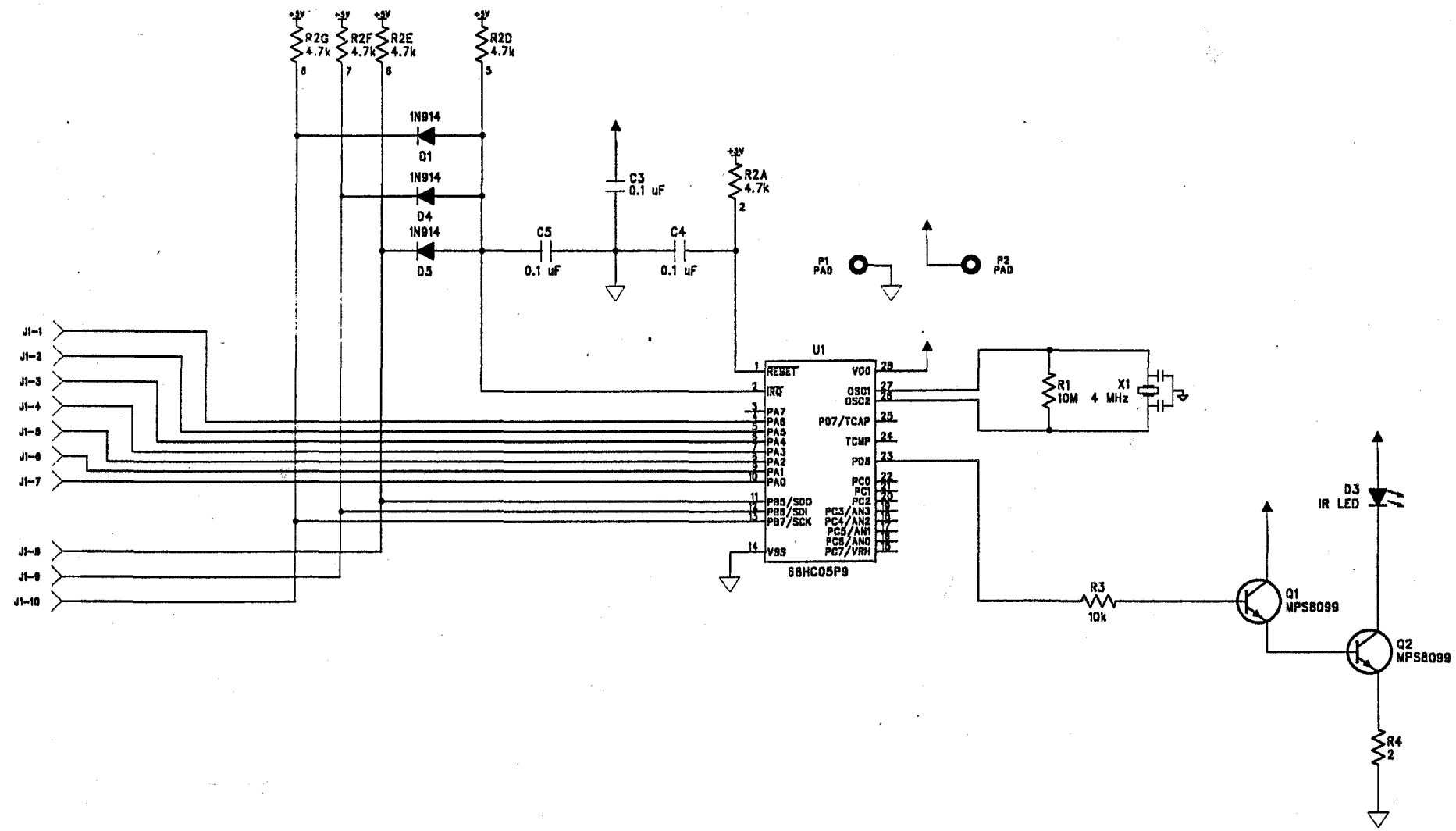



Revision Record		KRELL Industries 45 Connor Road Orange, CT 06477	
G		KAV-300i Volume Control Schematic	
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D			
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B			
A			
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		Sheet Size D	

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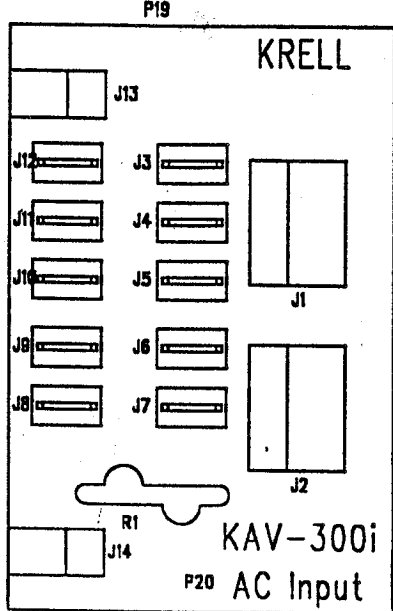


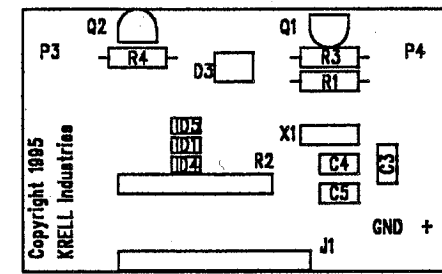
KRELL Industries
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REVISION RECORD			 35 Higgins Drive Milford, CT 06460	
LTR	COMMENTS	DATE	TITLE:	
A	Modified output Darlington	03-93	RC5 Remote Control Transmitter for KRELL Preamplifiers	
B	Added R4.	12/94		
			DRAWN BY:	SIZE:
			RDC	C
			DRAWING NO:	REV:
				B
DATE: 08-JAN-93			SHEET: 1 OF 1	

Component side





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D

D

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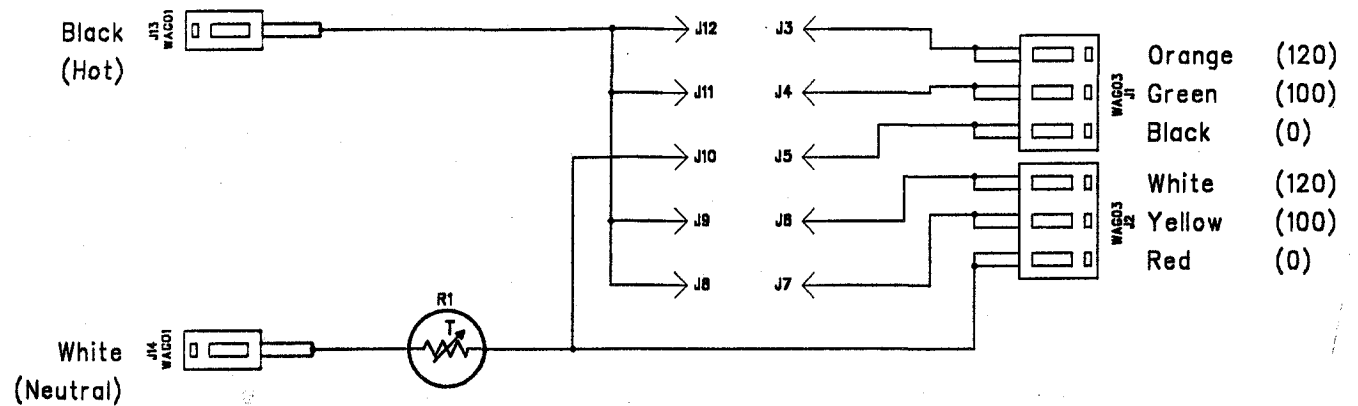
C

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B

A

A



Voltage	Jumpers
100	J10-J5, J11-J4, J8-J7
120	J10-J5, J12-J3, J9-J6
200	J11-J4, J5-J7
220	J11-J4, J5-J6
240	J12-J3, J5-J6

REVISION RECORD			 KRELL Industries 38 Higgins Drive Milford, CT 06460		
LTR	COMMENTS	DATE	TITLE:		
A	Added WAGOs and lugs	6/97	KAV-300i Power Board		
			DRAWN BY:	SIZE:	DRAWING NO:
			DSG	C	100-087-09
			DATE:	10-6-95	SHEET: 1 OF 1
					REV: A

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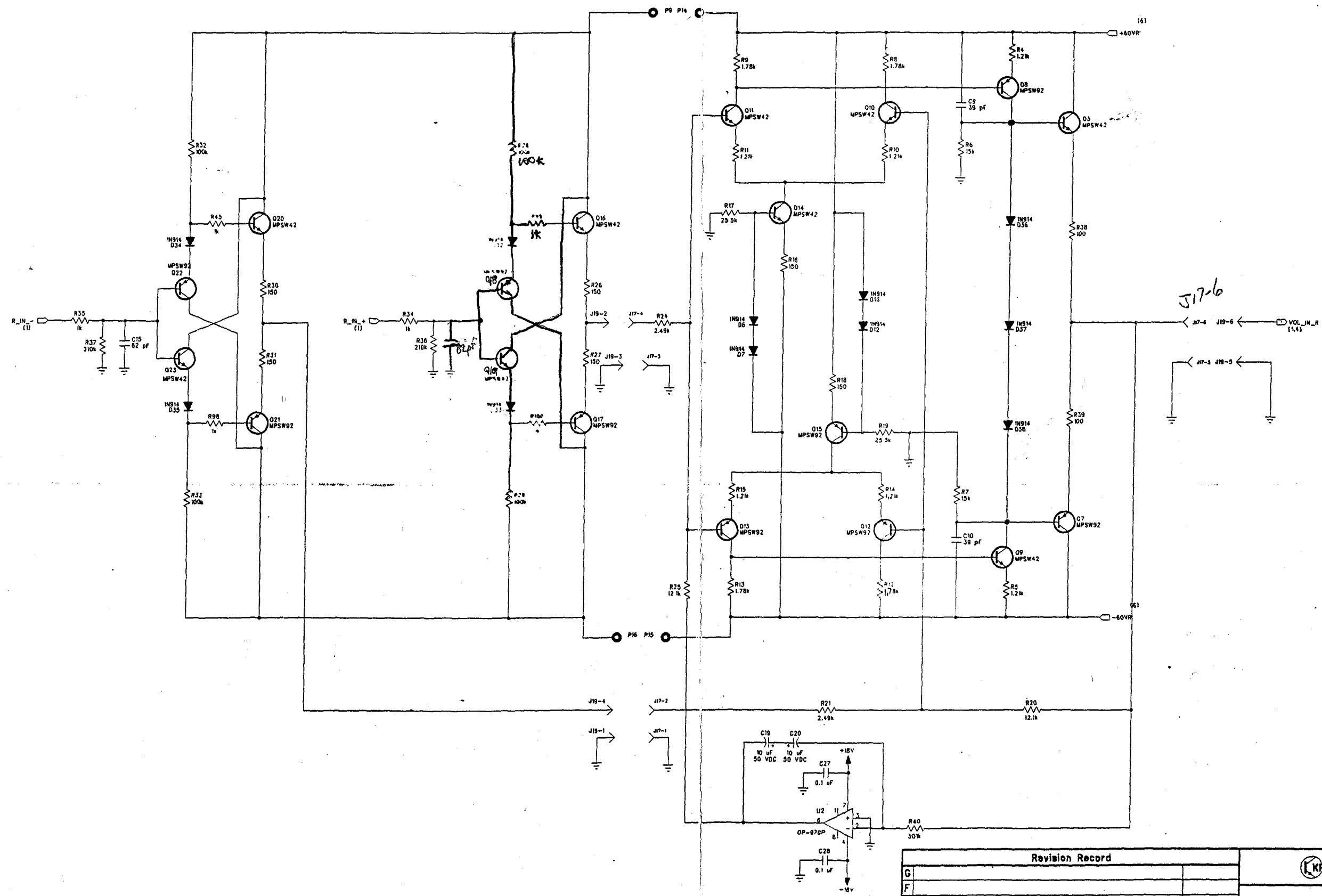
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Revision Record	
G	
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- Original Drawing	

KRELL Industries
35 Niagara Drive
Meriden, CT 06450

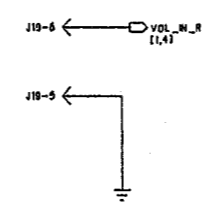
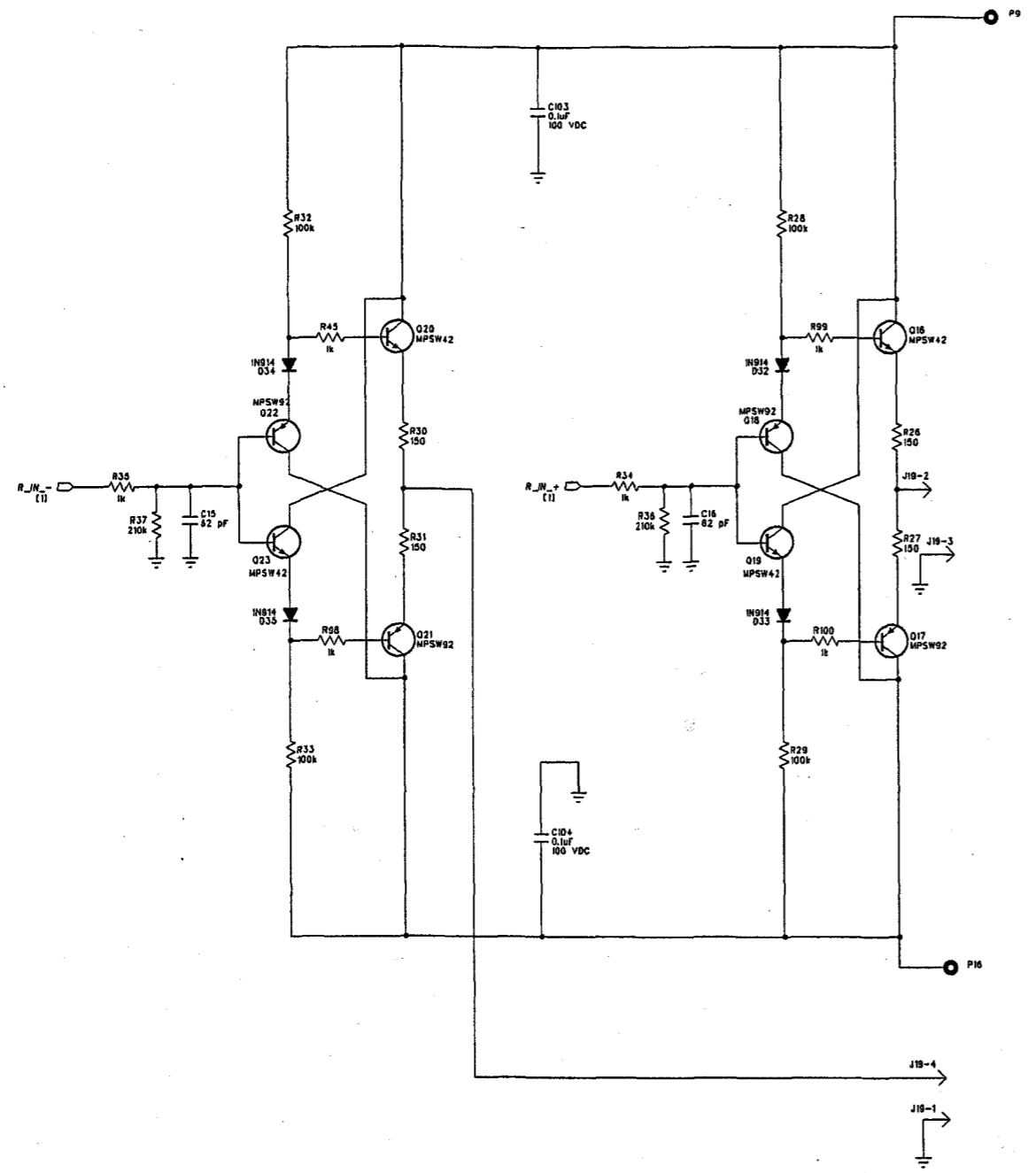
KAV-300i
Right Phase Combiner

Drawn By: R. Clervo	Drawing #:
03/18/94 Sheet #: 3 of 7	
Sheet Size D	

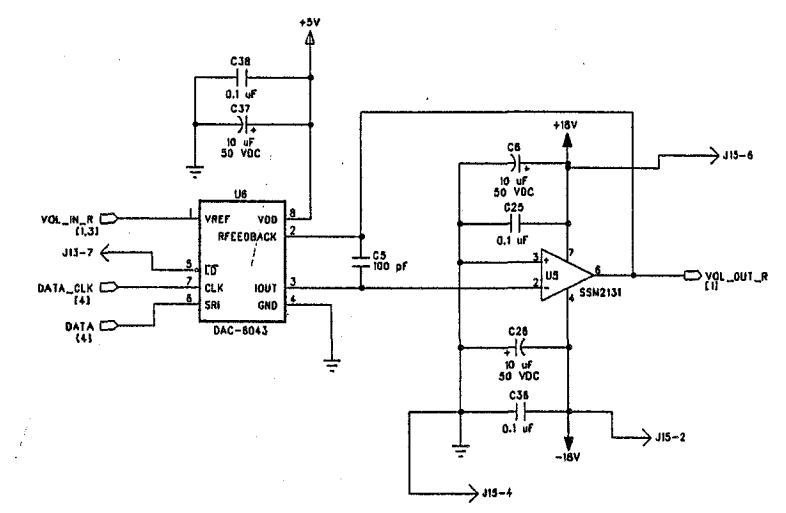
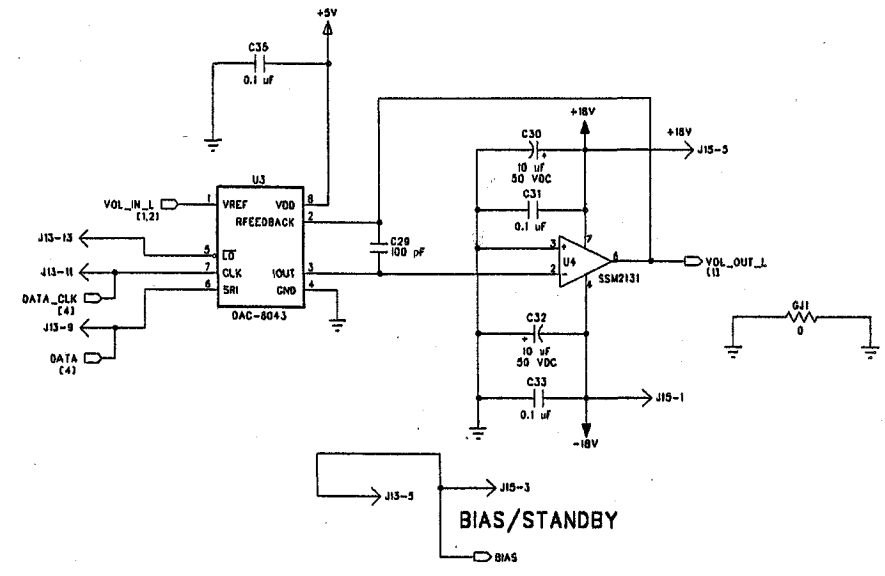
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Revision Record		KRELL Industries 33 Maple Drive Middletown, CT 06457		
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C				
B		Drawn By: R. Clervo	Drawing #:	
A				
- Original Drawing		03/18/94	Sheet #: 3 of 7	Sheet Size D



Revision Record		KRELL Industries 15 Connor Road 07056, CT 06177	
G		KAV-300i Volume Control Schematic	
F			
E			
D			
C			
B		Drawn By: R. Clervo	Drawing #:
A		03/16/94	Sheet #: 4 of 7
- Original Drawing		Sheet Size D	

Sub Assembly Part No	Sub Assembly Description	Component No	Component Description	Qty Per	Sub Assembly Level	Reference Designators		
181087870100	Face Plate Board CV	110000087003	KAV-300i FACEPLATE BD	4	3			
181087870100	Face Plate Board CV	1113010053025	10 MEG 1/4 WATT 5%	2	3	R22		
181087870100	Face Plate Board CV	1132004721008	4.7K RES PACK 8 PIN	2	3	R48		
181087870100	Face Plate Board CV	1132004721010	4.7K RES PACK 10 PIN	8	3	R49		
181087870100	Face Plate Board CV	121100100011	10 OHM CMF-60-70 DALE	6	3	R3		
181087870100	Face Plate Board CV	121200301012	301 OHM CMF 60-70	4	3	R47 R50 R52 R58-60		
181087870100	Face Plate Board CV	121200511012	511 OHM CMF60-70	8	3	R1		
181087870100	Face Plate Board CV	1212201063505	10 UF 35V TANTALUM	1	3	U1		
181087870100	Face Plate Board CV	121300475013	4.75K OHM CMF60-70	2	3	R2		
181087870100	Face Plate Board CV	1213201015017	10 UF/50 V	4	3	C12 C40-41 C99		
181087870100	Face Plate Board CV	1213201085000	E CAP RL 1000UF/50V	4	3	C97		
181087870100	Face Plate Board CV	121400100014	10K OHM CMF60-70	1	3	R23,199-200		
181087870100	Face Plate Board CV	1217101045005	.1 UF 50V CERAMIC	2	3	C11,22,39,58-60		
181087870100	Face Plate Board CV	1251014001000	IN4001 DIODE	2	3	D8-11		
181087870100	Face Plate Board CV	1310207805022	3 TERM.+FIXED 5V REG.	1	3	U9		
181087870100	Face Plate Board CV	1411040574010	SN74HCT574N	2	3	U11		
181087870100	Face Plate Board CV	1411044514010	MC 74 HC 4514 N	28	3	U13		
181087870100	Face Plate Board CV	1411060148010	8-3 PRIORITY ENCODER	28	3	U10		
181087870100	Face Plate Board CV	1473400004000	4.0 MKS RESONATOR	2	3	X1		
181087870100	Face Plate Board CV	148600080099	MPS 8099 RLRA	1	3	Q27		
181087870100	Face Plate Board CV	148600085099	MPS 8599 RLRA	1	3	Q100		
181087870100	Face Plate Board CV	1510301102042	F/PLATE SWITCH	1	3	SW1-8		
181087870100	Face Plate Board CV	161404014002	4/40 X 1/4 PHMS	1	3			
181087870100	Face Plate Board CV	1711500023004	JUMPER	1	3			
181087870100	Face Plate Board CV	1730110100020	10 PIN HEADER SAMTEC	5	3			
181087870100	Face Plate Board CV	1730510161420	16 PIN DUAL ROW HEADER	1	3	J1		
181087870100	Face Plate Board CV	1750102861100	28 PIN DIP SOCKET	1	3			
181087870100	Face Plate Board CV	181087870101	KAV-300i FACEPLATE WI	1	3			
181087870100	Face Plate Board CV	185000000005	SMALL BLK H.S. 1 1/2 "	1	3			
181087870100	Face Plate Board CV	1860214400000	4-40 S.S KEPNUT	2	3			
181087870101	Face Plate WI	1450903004010	MICRO CONTROLLER	1	4			
181087870200	Amp Board CV	110000087001	KAV 300i AMP BD	2	3			
181087870200	Amp Board CV	1114018701050	187 OHM 1/2 WATT 1%	5	3	R113-114,R117-118,R161-162,R165-166		
181087870200	Amp Board CV	1114249001200	24 OHM 2W RESISTOR	1	3	R125-126,R173-174		
181087870200	Amp Board CV	121000000010	0 OHM RESISTOR	1	3	R202,204		
181087870200	Amp Board CV	121100100011	10 OHM CMF-60-70 DALE	11	3	R129-136,R177-184		
181087870200	Amp Board CV	121100475011	47.5 OHM CMF60-70	1	3	R103-104,R151-152		
181087870200	Amp Board CV	121200100012	100 OHM CMF60-70	2	3	R1-2,R38-39		
181087870200	Amp Board CV	121200150012	150 OHM CMF60-70	1	3	R16,R18,R69,R71,R119,R121,R145	R167,R169,R193	
181087870200	Amp Board CV	121200374012	374 OHM CMF60-70	1	3	R124,R150,R172,R198		
181087870200	Amp Board CV	121200511012	511 OHM CMF60-70	2	3	R148-149,R196-197		
181087870200	Amp Board CV	121200681012	681 OHM CMF60-70	14	3	R105-108,146,153-156,194		
181087870200	Amp Board CV	121200750012	750 OHM CMF60-70	6	3	R199,R200		
181087870200	Amp Board CV	121300121013	1.21K OHM CMF 60-70	1	3	R4-5,R10-11,R14-15,R53,R55,R63-64,R67,R68		
181087870200	Amp Board CV	121300178013	1.78K OHM CMF60-70	5	3	R8-9,R12-13,R61-62,159-160 ,R163-164,R65-66,R111-112,R115-116		
181087870200	Amp Board CV	121300249013	2.49K OHM CMF60-70	2	3	R21,R24,R74,R77		

Sub Assembly Part No	Sub Assembly Description	Component No	Component Description	Qty Per	Sub Assembly Level	Reference Designators		
I81087870200	Amp Board CV	I21300619013	6.19K OHM CMF60-70	1	3	R43-44		
I81087870200	Amp Board CV	I21400100014	10K OHM CMF60-70	28	3	R123,R127,R171,R175		
I81087870200	Amp Board CV	I21400121014	12.1K OHM CMF60-70	2	3	R20,R25,R73,R78		
I81087870200	Amp Board CV	I21400150014	15K OHM CMF60-70	2	3	R6-7,R56-57		
I81087870200	Amp Board CV	I21400162014	16.2K OHM CMF60-70	4	3	R109-110,R157-158		
I81087870200	Amp Board CV	I21400255014	25.5K OHM CMF60-70	1	3	R17,R19,R70,R72,R120,R122,R168,R170		
I81087870200	Amp Board CV	I21500301015	301K OHM CMF60-70	4	3	R3,R40		
I81087870200	Amp Board CV	I217101045005	.1 UF 50V CERAMIC	6	3	C7-8,C27-28,C42,C47		
I81087870200	Amp Board CV	I30000395000	39 PF 500V S.MICA CAP	2	3	C9-10,C17-18		
I81087870200	Amp Board CV	I30000625000	62 PF 500V S.MICA CAP	24	3	C55,C61,C69-70		
I81087870200	Amp Board CV	I30100011000	.1 UF @ 100V RAD.CAP.	4	3	C43,C45,C71,C73,C75,C85,C87,C89,C97,C98,C99,C100		
I81087870200	Amp Board CV	I421500973080	OP97 FP	2	3	U1-2		
I81087870200	Amp Board CV	I48600042000	MPSW42	1	3	Q3,Q9-11,Q14,Q28,Q32,Q34,Q36-40,Q43,Q53,Q56,Q58-60,Q73,Q77-80,Q83,Q85-87		
I81087870200	Amp Board CV	I48600092000	MPS W92	1	3	Q7-8,Q12-13,Q15,Q29-31,Q33,Q35,Q41-42,Q44,Q54-55,Q57,Q61-63,74-76,81-82,84,88-90		
I81087870200	Amp Board CV	I48700914000	1N 914 DIODE	1	3	D1-3,D6-7,D12-13,D18-19	D24-25,D36-38,D68-69,D74-75	D82-83,D88-89
I81087870200	Amp Board CV	I48704746018	1N 4746D DIODE 1%	1	3	D39-40		
I81087870200	Amp Board CV	I49000017002	CNY17-2 OPTO ISOLATOR	1	3	U12,U15		
I81087870200	Amp Board CV	I51500345000	BRD MOUNT FUSE CARRIER	3	3	F1-2		
I81087870200	Amp Board CV	I53700519000	TEST POINT	1	3	TP1-6		
I81087870200	Amp Board CV	I652919070610	FUSE CLIPS BUSSMAN	6	3	F3-6		
I81087870200	Amp Board CV	I680200401051	WAGO X5 W/ENDCAP	13	3	J6		
I81087870200	Amp Board CV	I80403122050	SILVER MICA SPACER	9	3			
I81087870200	Amp Board CV	I81087870201	KAV300i AMP BRD W.I	1	3			
I81087870201	Amp Board WI	D550003900100	390 UH INDUCTOR	2	4	L1-4		
I81087870201	Amp Board WI	I100008700004	KAV 300i SPACER BRD	6	4			
I81087870201	Amp Board WI	I114249001200	24 OHM 2W RESISTOR	1	4	R143-144,191-192		
I81087870201	Amp Board WI	I213201015017	10 UF/50 V	22	4	C3-4,19-21,32,34,46,C37 TP BOTTOM OF BRD		
I81087870201	Amp Board WI	I213202275004	220 UF @ 50V RADIAL	4	4	C44,C48		
I81087870201	Amp Board WI	I213203381600	3300UF/16V	6	4	C62-63,C78-79		
I81087870201	Amp Board WI	I213233021006	330UF/100V	4	4	C49-50,64-67,80-83		
I81087870201	Amp Board WI	I213268028000	6800 UF/80V RADIAL	2	4	C92-95		
I81087870201	Amp Board WI	I24000055005	.5 OHM 5W 5%	2	4	R137-142,R185-190,		
I81087870201	Amp Board WI	I29200101004	100 OHM TOP ADJ POT	6	4	R128,R176		
I81087870201	Amp Board WI	I29200200004	200 OHM T.A. TRIM POT	29	4	R147,R195		
I81087870201	Amp Board WI	I30003300000	330 PF 500V S.MICA CAP	4	4	C76-77,C90-91		
I81087870201	Amp Board WI	I30100471000	47 UF 100V ELECT CAP	4	4	C72,C74,C86,C88		
I81087870201	Amp Board WI	I310301302151	SJ7158	1	4	Q67-69,Q94-96		
I81087870201	Amp Board WI	I310303281151	SJ7157	31	4	Q64-66,Q91-93		
I81087870201	Amp Board WI	I48500150030	MJF15030 XSTR	29	4	Q25,Q70,Q72,Q97,Q99,		
I81087870201	Amp Board WI	I48500150031	MJF 15031 XSTR	1	4	Q26,Q71,Q98		
I81087870201	Amp Board WI	I48705408000	IN 5408 DIODE	4	4	D78-79,D92-93		
I81087870201	Amp Board WI	I49003508000	BRIDGE RECTIFIER	1	4			
I81087870201	Amp Board WI	I51500012032	12 AMP 32V FUSE	4	4			
I81087870201	Amp Board WI	I61404014007	4-40 X 1/4 SHCS	6	4			
I81087870201	Amp Board WI	I61803214013	6-32 X 1/4 PLSC	6	4			
I81087870201	Amp Board WI	I69706321000	KFH-632-10 PEM	4	4			
I81087870201	Amp Board WI	I730120061621	6PIN SOCKET W/SPACER	16	4	J9		
I81087870201	Amp Board WI	I730120081521	8PIN SOCKET W/SPACER	1	4			

Sub Assembly Part No	Sub Assembly Description	Component No	Component Description	Qty Per	Sub Assembly Level	Reference Designators			
I81087870201	Amp Board WI	I770101010050	SIL PAD	2	4				
I81087870201	Amp Board WI	I78702600033	KAV-300i HEATSINK	6	4				
I81087870201	Amp Board WI	I80400736000	NYLON SPACER(TALL)	2	4				
I81087870201	Amp Board WI	I860310632000	6-32 SM PATT SS KEPNUT	4	4				
I81087870201	Amp Board WI	I870316321042	6-32X1 1/2 HEX	16	4				
I81087870300	Preamp Board CV	I10000087002	KAV-300i PREAMP	1	3				
I81087870300	Preamp Board CV	I114001031025	10K OHM 1/4 WATT	1	3	R22,R41-42,R54,76,R91-92			
I81087870300	Preamp Board CV	I21200100012	100 OHM CMF60-70	1	3	R46,R97			
I81087870300	Preamp Board CV	I21200150012	150 OHM CMF60-70	1	3	R26-27,R30-31,R79-80,R83-84			
I81087870300	Preamp Board CV	I21300100013	1K OHM CMF60-70	1	3	R34-35,45,87-88,93-96,98,99,100			
I81087870300	Preamp Board CV	I21500100015	100K OHM CMF60-70	24	3	R28-29,R32-33,R81-82,R85-86			
I81087870300	Preamp Board CV	I21500210015	210K OHM CMF60-70	1	3	R36-37,R89-90			
I81087870300	Preamp Board CV	I217101045005	.1 UF 50V CERAMIC	1	3	C25,C31,C33,C35-36,C38,C96			
I81087870300	Preamp Board CV	I23000002002	2 OHM 2W RESISTOR	6	3	R75			
I81087870300	Preamp Board CV	I251014001000	IN4001 DIODE	6	3	D60-66			
I81087870300	Preamp Board CV	I30000625000	62 PF 500V S.MICA CAP	5	3	C1-2,C15-16			
I81087870300	Preamp Board CV	I30001006001	100 PF 500V S.MICA CAP	4	3	C5,29			
I81087870300	Preamp Board CV	I30100011000	.1 UF @ 100V RAD.CAP.	6	3	C103,104,105,106			
I81087870300	Preamp Board CV	I30102100000	2 UF 100V CAP	4	3	C13-14,C23-24			
I81087870300	Preamp Board CV	I420900420680	OP-42 GP	6	3	U4-5			
I81087870300	Preamp Board CV	I423180430800	LTC 8043 ENE	2	3	U3,U6			
I81087870300	Preamp Board CV	I48600042000	MPSW42	6	3	Q16,19-20,23,52,45,48-49			
I81087870300	Preamp Board CV	I48600080099	MPS 8099 RLRA	8	3	Q1-2,Q4-6,Q24			
I81087870300	Preamp Board CV	I48600085099	MPS 8599 RLRA	1	3	Q27			
I81087870300	Preamp Board CV	I48600092000	MPS W92	10	3	Q17-18,Q21-22,Q46-47,Q50-51			
I81087870300	Preamp Board CV	I48700914000	1N 914 DIODE	1	3	D28-35			
I81087870300	Preamp Board CV	I80403122050	SILVER MICA SPACER	8	3				
I81087870300	Preamp Board CV	I81087870301	KAV 300i PREAMP W.I	1	3				
I81087870301	Preamp Board WI	I212204761005	47 UF 10V TANTALUM	6	4	C11			
I81087870301	Preamp Board WI	I213201015017	10 UF/50 V	4	4	C6,C26,C30,C32,C37			
I81087870301	Preamp Board WI	I48700914000	1N 914 DIODE	1	4	D67-70			
I81087870301	Preamp Board WI	I530100602040	ZETTLER RELAY	2	4	RL1-7			
I81087870301	Preamp Board WI	I710320013010	HORIZONTAL F XLR CONN	2	4	J7-8			
I81087870301	Preamp Board WI	I710320020021	DOUBLE RCA JACK	2	4	J1-5,11			
I81087870301	Preamp Board WI	I730110081120	8 PIN INLINE HEADER	2	4	J18-19			
I81087870301	Preamp Board WI	I730210061120	6 PIN INLINE HEADER	4	4	J15			
I81087870301	Preamp Board WI	I730510140020	14 PIN DUAL ROW HEADER	4	4	J13			
I81087870500	AC Input	I10000087009	KAV 300i POWER BRD	1	3				
I81087870500	AC Input	I24000000000	SURGE-GARD THERMISTOR	10	3	R1			
I81087870500	AC Input	I680200401011	WAGO SINGLE W/ENDCAP	1	3	J13-14			
I81087870500	AC Input	I680200401031	WAGO X3 W/ENDCAP	1	3	J1-2			
I81087870500	AC Input	I861381287140	PC MT 1/4 IN SPADE LUG	4	3	J3-12			
I91087870100	Face Plate	I253092434027	RED LED STANLEY	2	2	D1,41-48			
I91087870100	Face Plate	I464040560004	IR DETECTOR	4	2	U12			
I91087870100	Face Plate	I49000004022	SMALL LED-BLUE	2	2	D4			

Sub Assembly Part No	Sub Assembly Description	Component No	Component Description	Qty Per	Sub Assembly Level	Reference Designators			
I91087870100	Face Plate	I61803214013	6-32 X 1/4 PLSC	3	2				
I91087870100	Face Plate	I76101200001	KRC-3 WINDOW	1	2				
I91087870100	Face Plate	I76121100033	KRC-3 END CAP	1	2				
I91087870100	Face Plate	I78701100008	KAV-300i FRONT	1	2				
I91087870100	Face Plate	I78702400001	KAV-300i BUTTON	1	2				
I91087870100	Face Plate	I81087870100	KAV-300i F/P BRD CV	3	2				
I91087870100	Face Plate	I840206320730	BSOS-632-14	1	2				
I91087870100	Face Plate	I840904400230	CLS-440-2 PEM NUT	1	2				
I91087870100	Face Plate	I850111044003	SHCS 4-40 X 3/16 PCH	3	2				
I91087870100	Face Plate	I851165044004	4-40 X 1/4 FH TORX	1	2				
I91087870100	Face Plate	I880690621641	#621 BRACKET	2	2				
I91087870200	Chassis	I30100001035	.01UF 3.5KV CAP	2	2				
I91087870200	Chassis	I54000002064	DUAL BINDING POST	1	2				
I91087870200	Chassis	I57001614010	#10 16-14 RING TERM	16	2				
I91087870200	Chassis	I61503056007	M3X6 SCS W/ PATCH	22	2				
I91087870200	Chassis	I61803214013	6-32 X 1/4 PLSC	11	2				
I91087870200	Chassis	I619618000130	490 VA XFMR	1	2				
I91087870200	Chassis	I62303212014	10-32 X 1/2 PLTHMS	1	2				
I91087870200	Chassis	I62303238007	10-32 X 3/8 SHCS S.S.	1	2				
I91087870200	Chassis	I62303278006	10/32 X 7/8 THHMS	1	2				
I91087870200	Chassis	I651300400070	GDC 4 A FUSE	3	2				
I91087870200	Chassis	I651306300070	6.3 AMP FUSE	3	2				
I91087870200	Chassis	I681816503003	16-14 QUICK DISCONNECT	1	2				
I91087870200	Chassis	I69701420005	1/4-20 NYLOCK	1	2				
I91087870200	Chassis	I69800010006	#10 INTN STAR L/WASHER	2	2				
I91087870200	Chassis	I69903212007	6-32 X 1/2 SS HEX STND	1	2				
I91087870200	Chassis	I700621420152	SAMTEC 15" RIBBON CBLE	2	2				
I91087870200	Chassis	I710410003037	AC REC FUSEHOLDER	9	2				
I91087870200	Chassis	I76100500012	KRC3 TOP COVER	2	2				
I91087870200	Chassis	I770110084770	INSULATION COVER	1	2				
I91087870200	Chassis	I78700600012	KAV-300i SIDE	1	2				
I91087870200	Chassis	I78700800012	KAV-300i REAR	1	2				
I91087870200	Chassis	I81087870200	KAV300i AMP BRD C.V.	6	2				
I91087870200	Chassis	I81087870300	KAV300i PREAMP BRD C.V	15	2				
I91087870200	Chassis	I81096960500	KAV-300r AC-INPUT PC	1	2				
I91087870200	Chassis	I840904400230	CLS-440-2 PEM NUT	1	2				
I91087870200	Chassis	I850254041208	4X1/2 SELF TAPPING	2	2				
I91087870200	Chassis	I850773142025	1/4-20X2 3/4 HEXHEAD	1	2				
I91087870200	Chassis	I851165044004	4-40 X 1/4 FH TORX	1	2				
I91087870200	Chassis	I860211032000	10-32 S.S KEPNUT	1	2				
I91087870200	Chassis	I860597814000	7/8 X 1/4 FLATWASHER	3	2				
I91087870200	Chassis	I880701686131	LG. BLACK RUBBER FEET	1	2				
I91087870200	Chassis	I90108045000	SMALL TY-WRAPS	2	2				
I91087870200	Chassis	I910130970102	KAV-150a CHASSIS	1	2				
I91087870300	Shipping Supplies	I51500012032	12 AMP 32V FUSE	2	2				
I91087870300	Shipping Supplies	I580050000003	MULTIDEVICE SINGLE	1	2				
I91087870300	Shipping Supplies	I80100535000	POWER AMP LINE CORDS	4	2				

Sub Assembly Part No	Sub Assembly Description	Component No	Component Description	Qty Per	Sub Assembly Level	Reference Designators			
I91087870300	Shipping Supplies	I880440010030	T-10 TORX KEY	1	2				
I91087870300	Shipping Supplies	I94000000000	WARRANTY CARD	1	2				
I91087870300	Shipping Supplies	I94000087000	KAV 300i MANUAL	1	2				
I91087870300	Shipping Supplies	I94001300069	6 X 9 ZIP BAG	2	2				
I91087870300	Shipping Supplies	I94001699000	FRAGILE LABEL	1	2				
I91087870300	Shipping Supplies	I940801310120	KAV-300i/300r	4	2				
I91087870300	Shipping Supplies	I960650300087	KAV 300i PRODUCT LABEL	1	2				
I91087870400	Ready to Box	I91087870100	KAV-300i FACEPLATE S/A	4	1				
I91087870400	Ready to Box	I91087870200	KAV-300i CHASSIS S/A	1	1				
I91087870400	Ready to Box	I91087870300	KAV-300i SHIPPING SUPL	3	1				
I990087	KAV 300i FG	I91087870400	KAV 300i READY TO BOX	1	0				