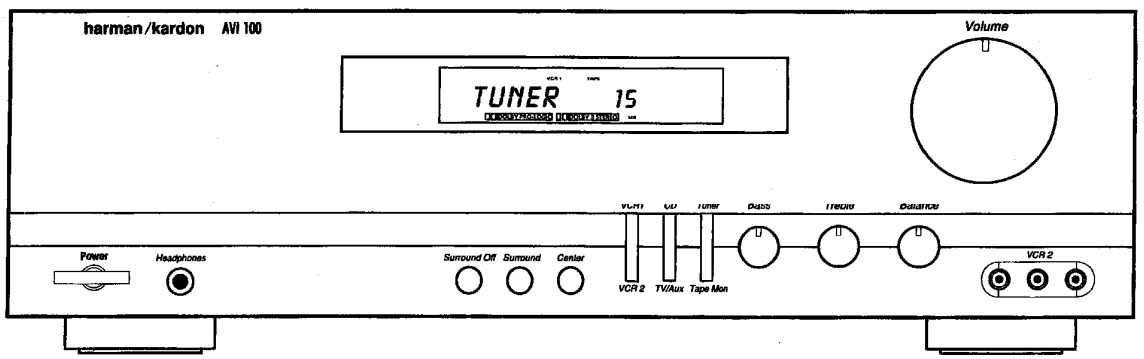
The Harman Kardon
Model AVI100

Manual A

AUDIO AND VIDEO AMPLIFIER

Technical Manual



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harman/kardon

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80 Crossways Park West, Woodbury, N.Y. 11797
1112-AVI100A G9603 1200 Printed in Korea

SPECIFICATIONS

● FRONT AMP SECTION

	Nominal	Limit
RMS Output Power		
THD 0.2 %, 8 ohms		
Both Channel Driven (20 Hz-20 kHz)		
	≧ 35 W	≧ 30 W
THD at 35 W, 8 ohms		
20 Hz	≦ 0.09 %	≦ 0.2 %
1 kHz	≦ 0.09 %	≦ 0.2 %
20 kHz	≦ 0.09 %	≦ 0.2 %
IM Distortion at 35 W, 8 ohms, 60:7000 Hz=4:1		
	≦ 0.1 %	≦ 0.2 %
Input Sensitivity at 35 W, 8 ohms		
CD, AUX, VCR	150 mV	150±30 mV
S/N Ratio Input Shorted at Volume Max.		
(WTD IHF-A) at 35 W, 8 ohms		
CD, AUX	≧ 95 dB	≧ 90 dB
TV, VCR1, 2	≧ 85 dB	≧ 80 dB
Tone Control		
Bass, 50 Hz	±10 dB	±10±2 dB
Treble, 10 kHz	±10 dB	±10±2 dB
Frequency Response at 1 W, 8 ohms		
CD/AUX		
20 Hz, 20 kHz	±1.0 dB	±1.5 dB
Channel Crosstalk Input Shorted at 35 W, 8 ohms		
1 kHz	≧ 60 dB	≧ 50 dB
10 kHz	≧ 47 dB	≧ 45 dB

● CENTER AMP SECTION

	Nominal	Limit
RMS Output Power.		
THD 0.9 %, 8 ohms, 1 kHz	≧ 32 W	≧ 30 W
Only Center Channel Driven		
S/N Ratio		
Input Shorted, IHF-A WTD	≧ 67 dB	≧ 65 dB
Frequency Response at -3 dB		
Normal	100 Hz-20 kHz	120 Hz-15 kHz
Wide	20 Hz-20 kHz	50 Hz-15 kHz

● REAR AMP SECTION

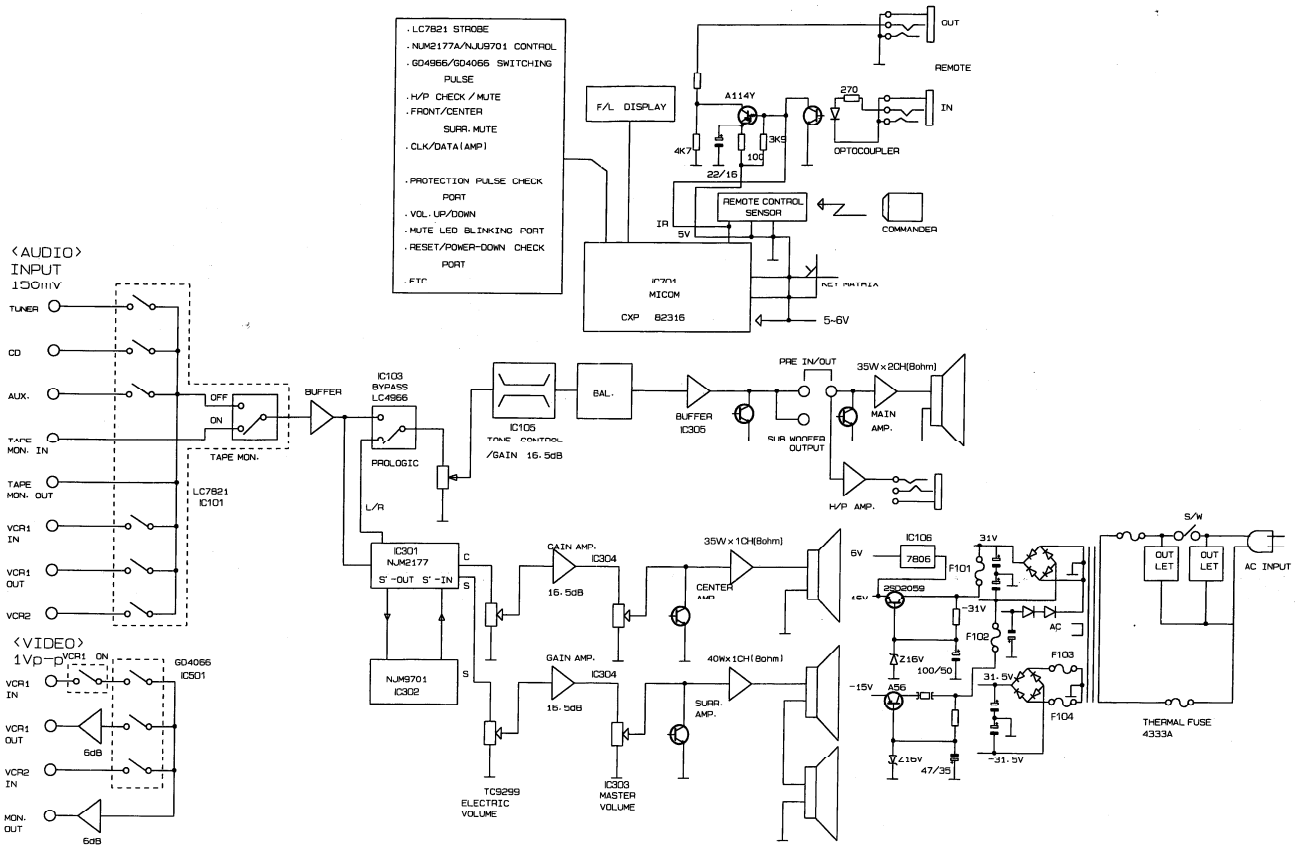
	Nominal	Limit
RMS Output Power.		
THD = 1 %, 8 ohms, 1 kHz	≧ 21 W x 2	≧ 20 W x 2
Both Rear Channel Driven		
S/N Ratio		
Input Shorted, (IHF-A WTD)		
Dolby	≧ 60 dB	≧ 55 dB
Frequency Response at -3 dB		
8 ohms, Dolby Pro-Logic	80 Hz-9 kHz	100 Hz-6 kHz

● VIDEO SECTION

	Nominal	Limit
Frequency Response at -3 dB		
	DC -10 MHz	5-6 MHz
Crosstalk at 1.0 MHz	≧ 50 dB	≧ 45 dB
Input Sensitivity/Impedance.		
VCR1, VCR2	1 Vp-p/75 Ω	1 Vp-p/75Ω
Output Level/Impedance		
VCR1, REC out, TV Monitor Out		
	1 Vp-p/75 Ω	1 Vp-p/75Ω

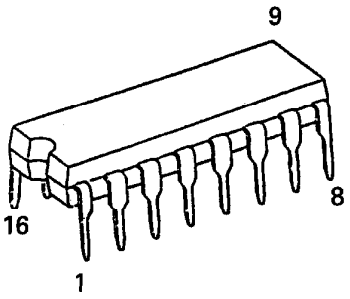
Note : Nominal speces represent the design specs. All units should be able to approximate these. Some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable ; in no case should a unit fail to meet limit specs. This manual is based on the Europe Standard wiring diagram, and information on regional component variations through use of parts list. Design and specifications are subject to change without notice for improvement.

BLOCK DIAGRAM

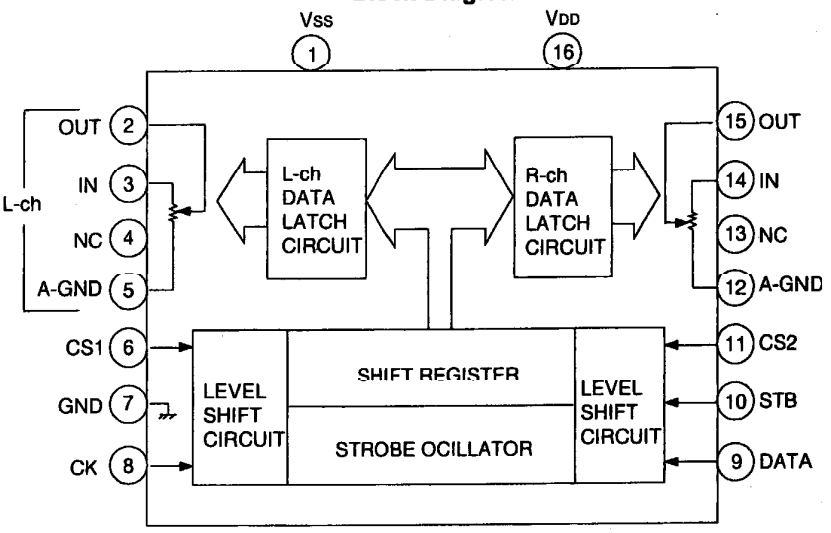


TC9299P : IC303

Package Outline

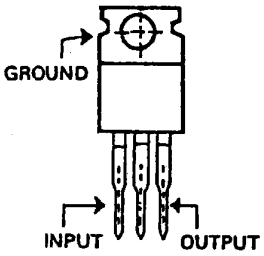


Block Diagram



GD78XX : IC105

Fironf View



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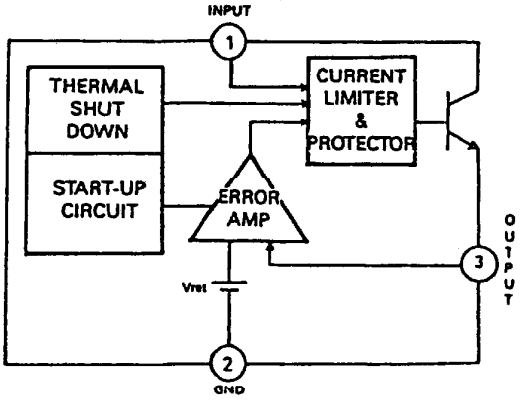
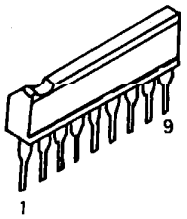


TA7291S : IC700

Package Outline



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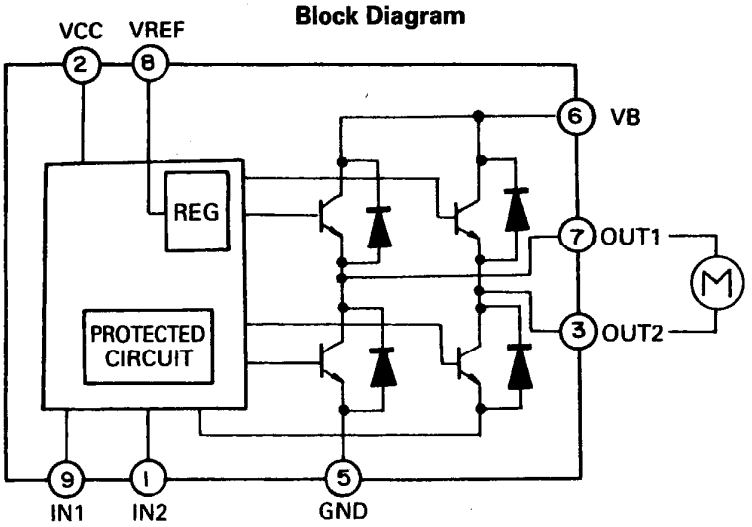

NJM2177A : IC301

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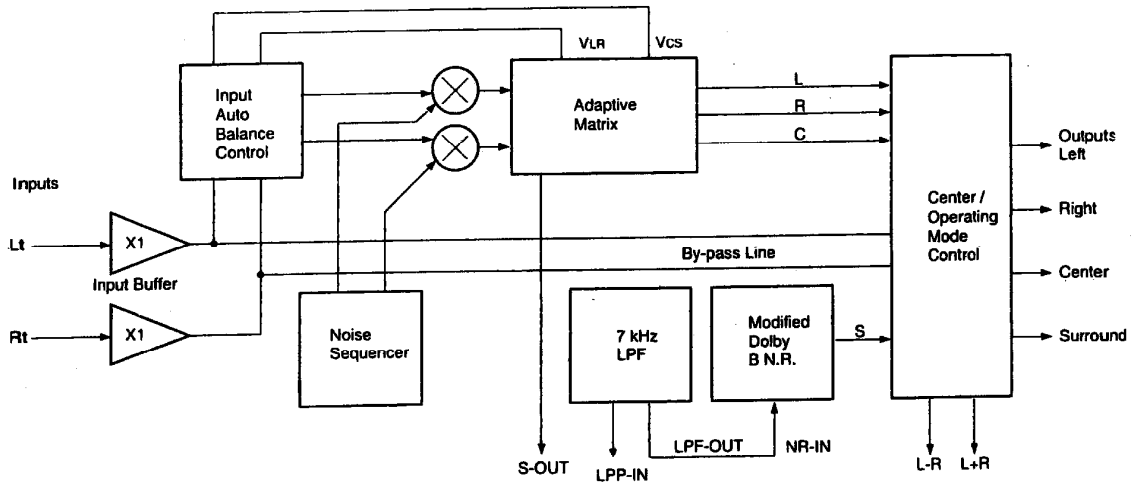

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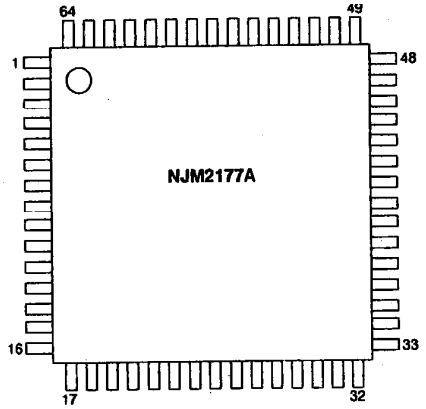
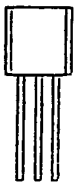
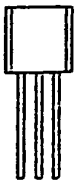
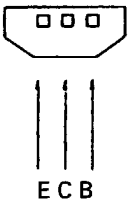
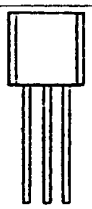
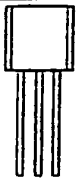
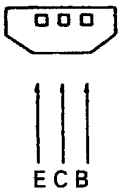
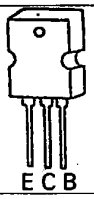
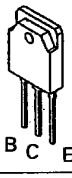


Pin Description

PIN No.	Pin Name	PIN No.	Pin Name	PIN No.	Pin Name
1	NC	23	NOISE-HPF	45	LPF-INV-IN
2	L-RECT-TC	24	NOISE-LPF	46	LPF-NINV-IN
3	R-BPF-OUT	25	S-OUT	47	NR-TC
4	R-BPF-IN	26	CENTER-CNT	48	NC
5	R-RECT-TC	27	MODE-CNT	49	NC
6	GND	28	L-OUT	50	VLR-TC3
7	AB-GATE	29	R-OUT	51	VCS-TC3
8	AB-HOLD-TC	30	L+R-OUT	52	VCS-TC2
9	L-AB-IN	31	L-R-OUT	53	VCS-TC1
10	L-AB-OUT	32	NC	54	VCS-T1
11	L-IN	33	NC	55	VLR-TC2
12	L-INBUF-OUT	34	CENTER-MODE	56	S-RECT-OUT
13	R-INBUF-OUT	35	Vcc	57	C-RECT-OUT
14	R-IN	36	C-OUT	58	R-RECT-OUT
15	R-AB-OUT	37	S'-OUT	59	L-RECT-OUT
16	NC	38	IREF	60	S-RECT-TC
17	NC	39	NR-VCF	61	C-RECT-TC
18	R-AB-IN	40	NR-IN	62	L-BPF-OUT
19	NOISE-CNT-E	41	VREF	63	L-BPF-IN
20	NOISE-CNT-A	42	VREF	64	NC
21	NOISE-CNT-B	43	NR-WT		
22	NOISE-REF	44	LPF-OUT		

TRANSISTORS LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
TDA 1302 KTC3200/KTC2240 KTC3198/KTC1815 KTC1923/KTC3194 KTA2400 KTA1268/KTA970 KTA1266/KTA1015		
DTC114YS DTA114YS		
MPSA06 MPSA56		
KTA1024 KTC3206		
2SC4137 KSC4883 KSA1859		
2SA 1265N-O 2SC3182N-O		
TERMINAL NAME		
B→BASE C→COLLECTOR E→EMITTER		

SCHEMATIC DIAGRAM

INKEL CAD TEAM			
MODEL NAME	AV3100	DESIGN	
BOARD NAME	FRONT	INSPECTION	
STEP	PILOT	APPROVAL	
SHEET NO.	3	DATE	95.3.8

FRONT B' D

COMMANDER B' D

AVR10/AVR100 H/P / PWR S/W B' D

HK3250 ONLY H/P / PWR S/W B' D

U.R LED B' D

PIN	65	66
VERSION		
USA/CAN	H	H
EUROPE	L	L

NOTES

1. Resistor values are indicated in ohms unless otherwise specified (K=1,000 M=1,000,000)
2. Capacitor values are indicated in microfarads unless otherwise specified. (p=micromicrofarads)

CAUTION

Safety precaution to be followed during servicing

1) Since those parts marked with ⚠ are critical parts for safety, use only the one described in the parts list.

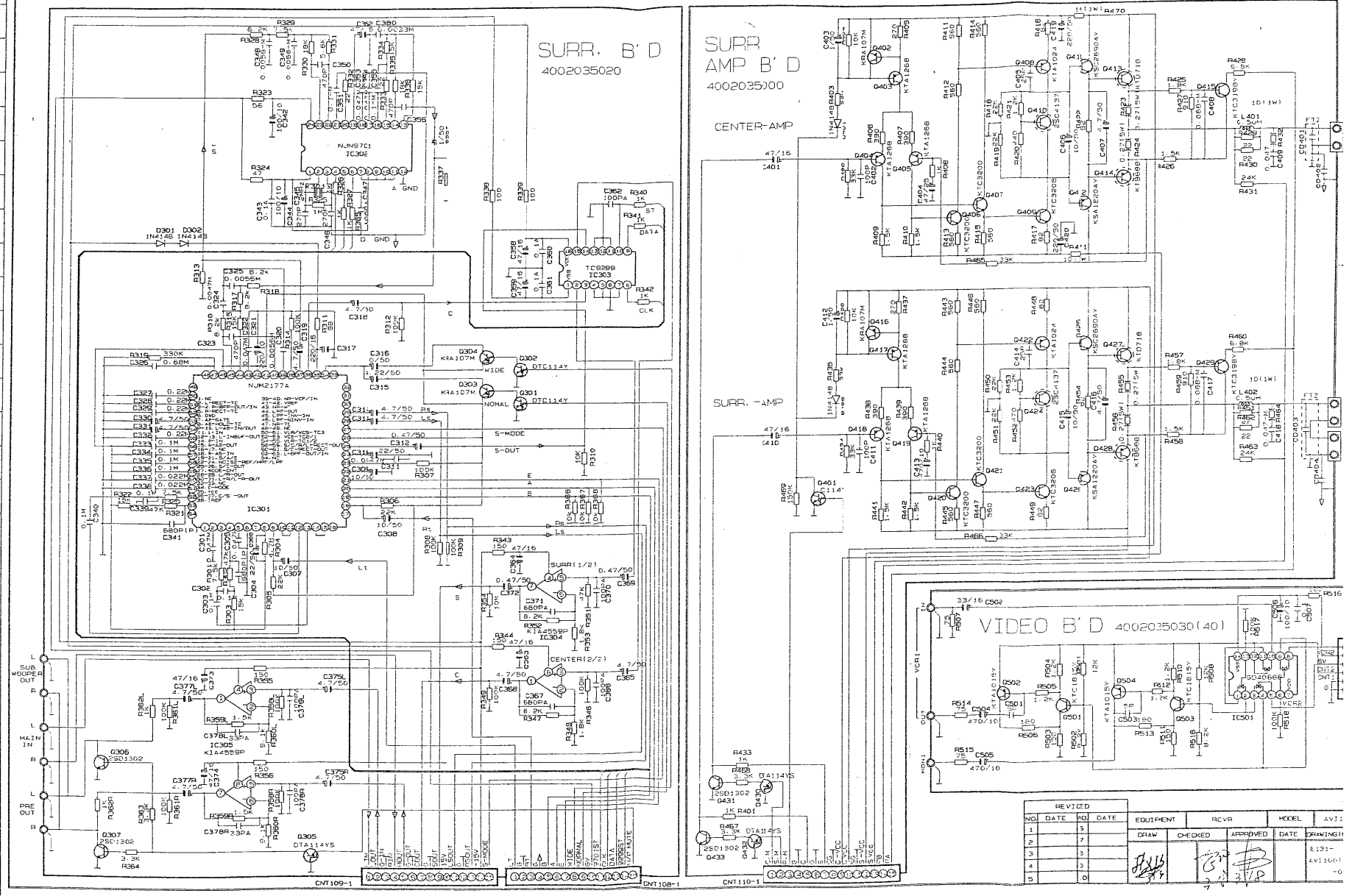
2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

REVISED			
NO.	DATE	NO.	DATE
1		6	
2		7	
3		8	
4		9	
5		10	

EQUIPMENT	RCVR	MODEL	AV310
DRAW	CHECKED	APPROVED	DATE

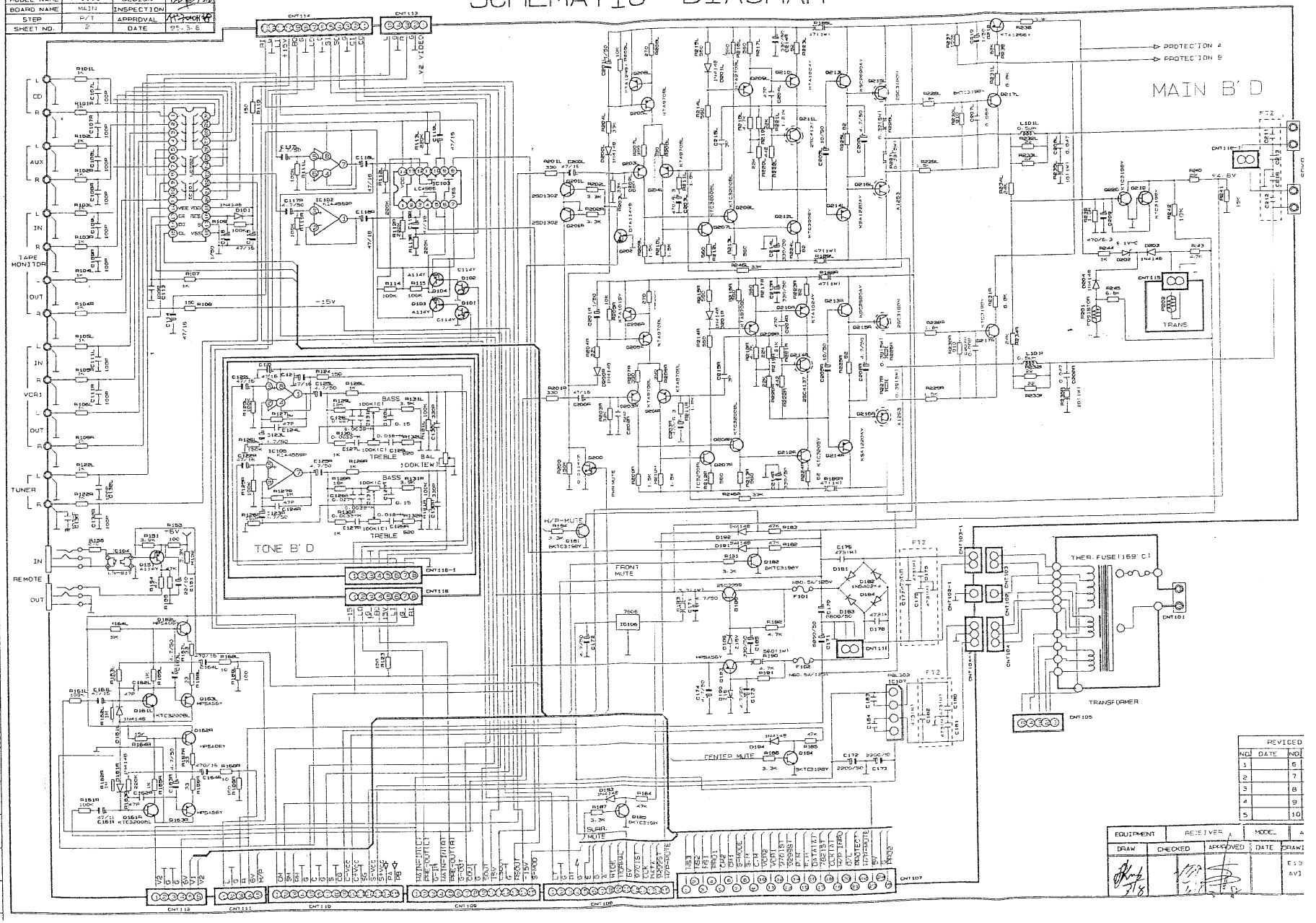
SCHEMATIC DIAGRAM

INKEL CAD TEAM			
MODEL NAME	AV3100	DESIGN	
BOARD NAME	SURROUND	INSPECTION	
STEP	P/T	APPROVAL	
SHEET NO.	3	DATE	95.2.27



SCHEMATIC DIAGRAM

INKEL CAD TEAM			
MODEL NAME	AV1100	DESIGN	
BOARD NAME	MAIN	INSPECTION	
STEP	P/T	APPROVAL	
SHEET NO.	2	DATE	95.5.6



REVICED			
NO	DATE	NO	
1		6	
2		7	
3		8	
4		9	
5		10	

EQUIPMENT	RECEIVER		MODEL	
DRAW	CHECKED	APPROVED	DATE	DRAWI
				E-3 AV1