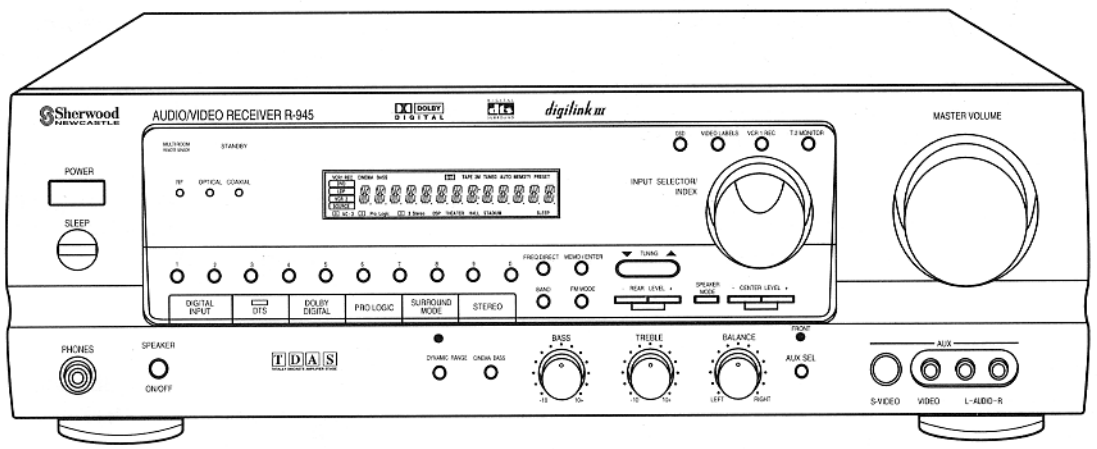
SERVICE MANUAL

R-945R/R-945RDS

DOLBY DIGITAL AC-3/DTS AUDIO/VIDEO RECEIVER

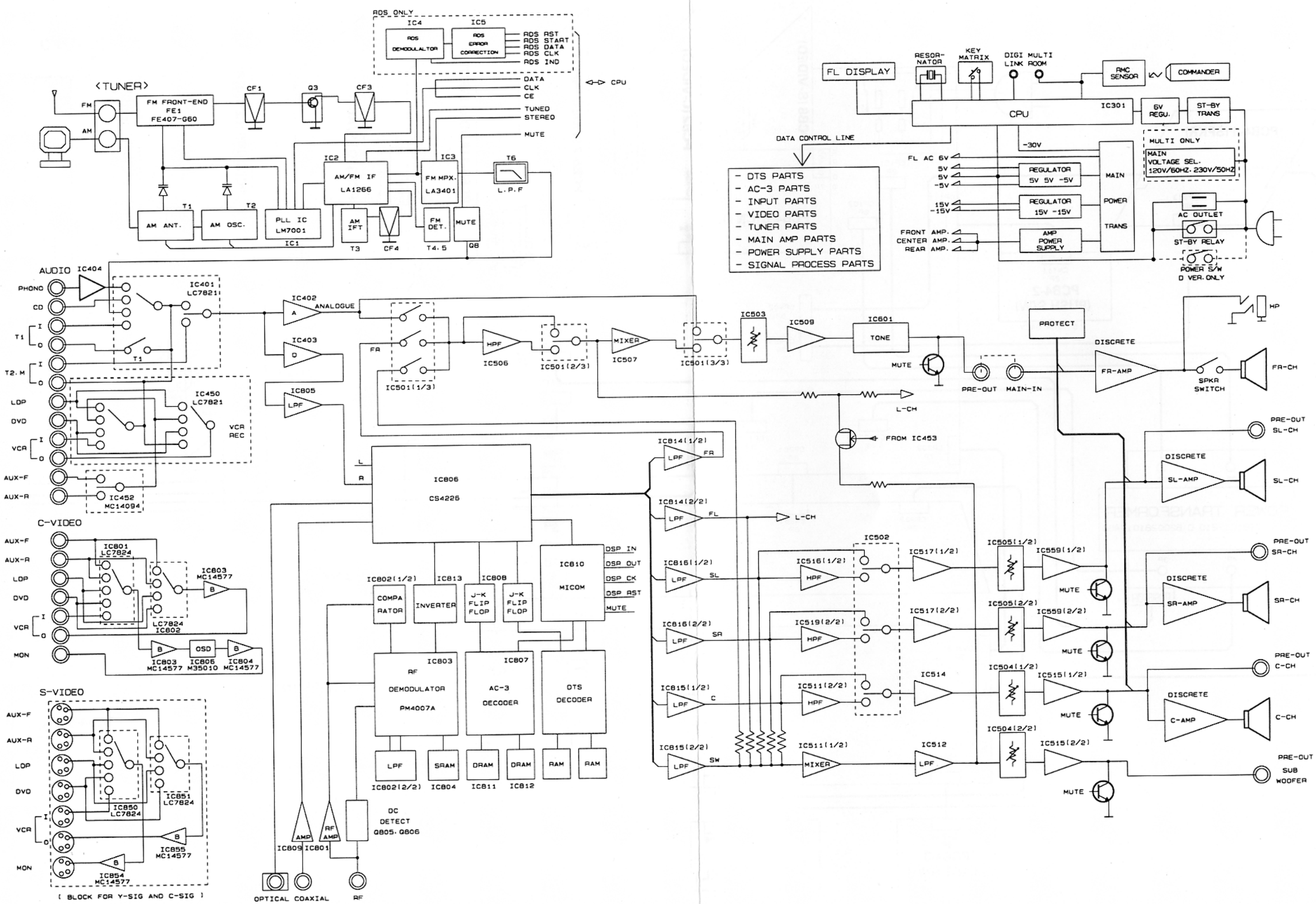


■ CONTENTS ■

Sherwood®

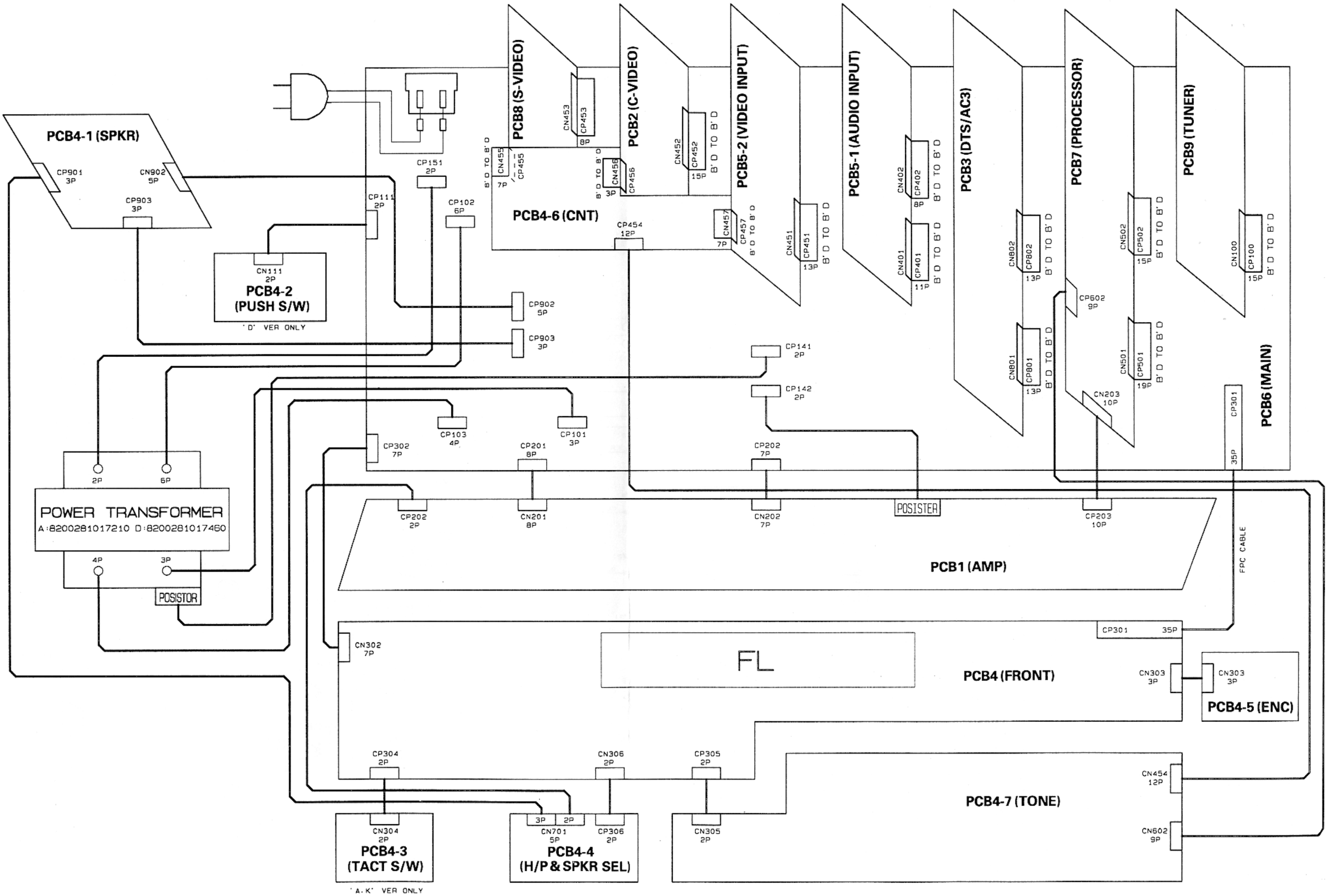
BLOCK DIAGRAM

Model No. : R-945R/R-945RDS



WIRING DIAGRAM

Model No. : R-945R/R-945RDS



ALIGNMENT PROCEDURES

TUNER

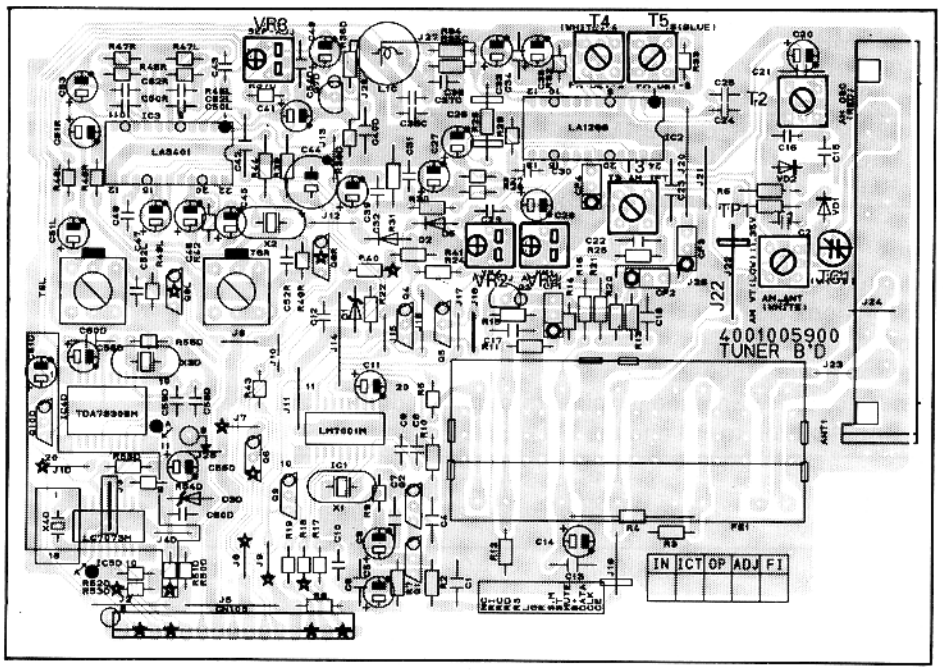
1. Equipment Required

- AM Standard Signal Generator (AM SSG)
- Oscilloscope
- AC Voltmeter
- FM Standard Signal Generator (FM SSG)
- Stereo Modulator
- Audio Generator
- Distortion Meter
- DC Voltmeter
- Frequency Counter

Note : Disconnect external FM antenna prior to alignment.

2. Alignment

2-1. Alignment and Test Point



2-2. AM Alignment

- Output of signal generator should not be greater than necessary to obtain an optimum output reading.
- Signal generator modulation : 30 %
- RF signal frequency : 400 Hz
- Switch : Press the BAND button to AM

Step	Subject	Signal Generator Frequency	Set Frequency Setting	Equipment Connection	Adjustment Point	Adjust for
1	Tuning Voltage	520kHz (522kHz)	520kHz 1) (522kHz)	DC Voltmeter to J22 (TP1)	T2 AM OSC(R)	DC 1.5V±0.2V
2	USABLE sensitivity	600kHz (594kHz)	600kHz 1) (594kHz)	AC voltmeter and oscilloscope to speaker terminal of L or R channel	T 1 MW ANT(W)	Maximize audio output
		1400kHz (1404kHz)	1400kHz 2) (1404kHz)		TC1	
		* Feed signal should be fed to loop antenna through the test loop antenna 60 cm distant from the appliance. * Repeat the step 1) and 2) until no further improvement occurs.				

3	IF	1000kHz (999kHz)	1000kHz (999kHz)	Ac voltmeter and oscilloscope to speaker terminal of L or R channel	T3 AM IFT	Maximize audio output
4	Tuned Level	1000kHz(999kHz) 800 μV/m	1000kHz (999kHz)		VR1	"Tuned" flag in the FL display light on

3-3. FM Alignment

- Output of signal generator should not be greater than necessary to obtain an optimum output reading.
- Signal generator deviation : USA/Canada/Korea : 75kHz, Europe : 40kHz
- RF signal frequency : 1 kHz
- Switch : Press the BAND button to FM and the FM MODE button to MONO

Step	Subject	Signal Generator Frequency	Set Frequency Setting	Equipment Connection	Adjustment Point	Adjust for
1	Tuning Band Width	98.1MHz (98MHz)	98.1MHz (98MHz)	DC Voltmeter to R26(PCB1)	T4	Zero reading on DC Voltmeter
2	THD	98.1MHz (98MHz)	98.1MHz (98MHz)	Distortion meter to TAPE OUT jack of L or R channel	T5	Minimize distortion
3	Tuned Level	98.1MHz(98MHz) SSG output level: 10 μV/m	98.1MHz (98MHz)		VR2	"Tuned" flag in the FL display light on

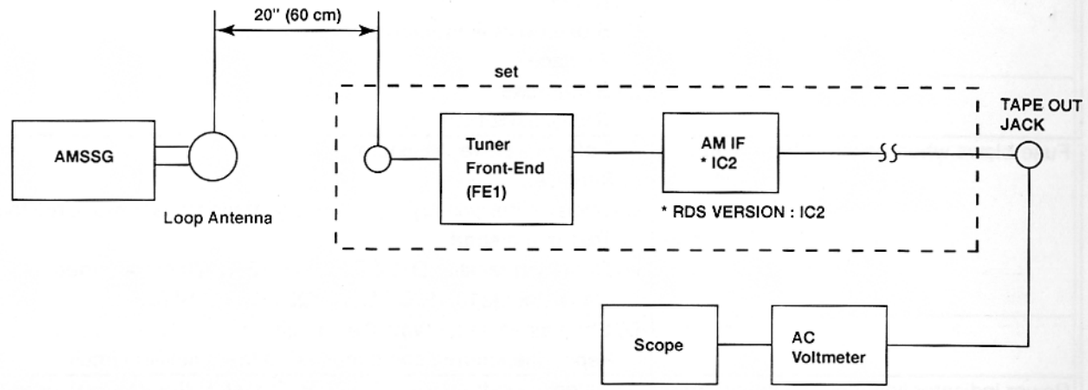
3-4. MPX Alignment

- Signal generator frequency : 98 MHz
- Signal generator deviation : USA : 75kHz, Europe : 40kHz
- RF signal frequency : 1 kHz
- Signal generator output level : 1000 μV/m
- Connect signal generator to FM antenna terminal through FM dummy antenna (75Ω)
- Switch : Press the BAND button to FM and the FM MODE button to STEREO

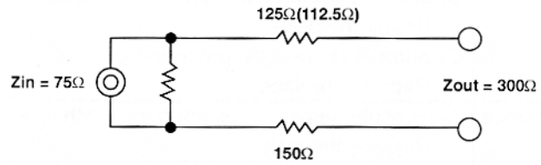
Step	Subject	19kHz Modulation Level	Set Generator Setting	Equipment Connection	Adjustment Point	Adjust for
1	Separation R → L	8% Modulation	Pilot on	AC voltmeter to speaker terminal of R channel	VR3	Set AC voltmeter to 0 dB
				AC voltmeter to speaker terminal of L channel		AC voltmeter reading should be at least 40 dB below
2	Separation L → R	8% Modulation	Pilot on	AC voltmeter to speaker terminal of L channel	VR3	Set AC voltmeter to 0 dB
				AC voltmeter to speaker terminal of R channel		AC voltmeter reading should be at least 40 dB below
If you could not obtain -40 dB readings in steps 1 and 2, readjust VR3 until you obtain -40 dB readings. Nominal is -45 dB. (Europe : Nominal -42 dB, Limit -37 dB)						

4. Equipment Connection

4-1. AM Alignment Connection

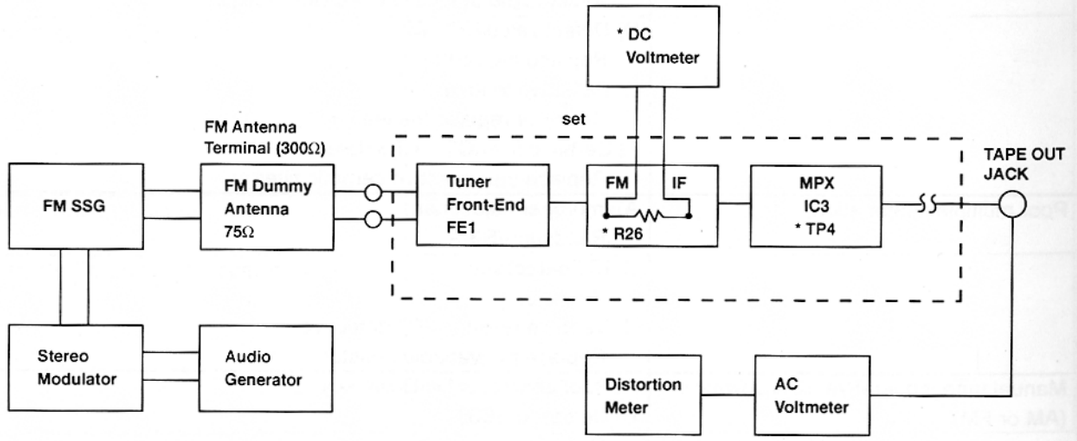


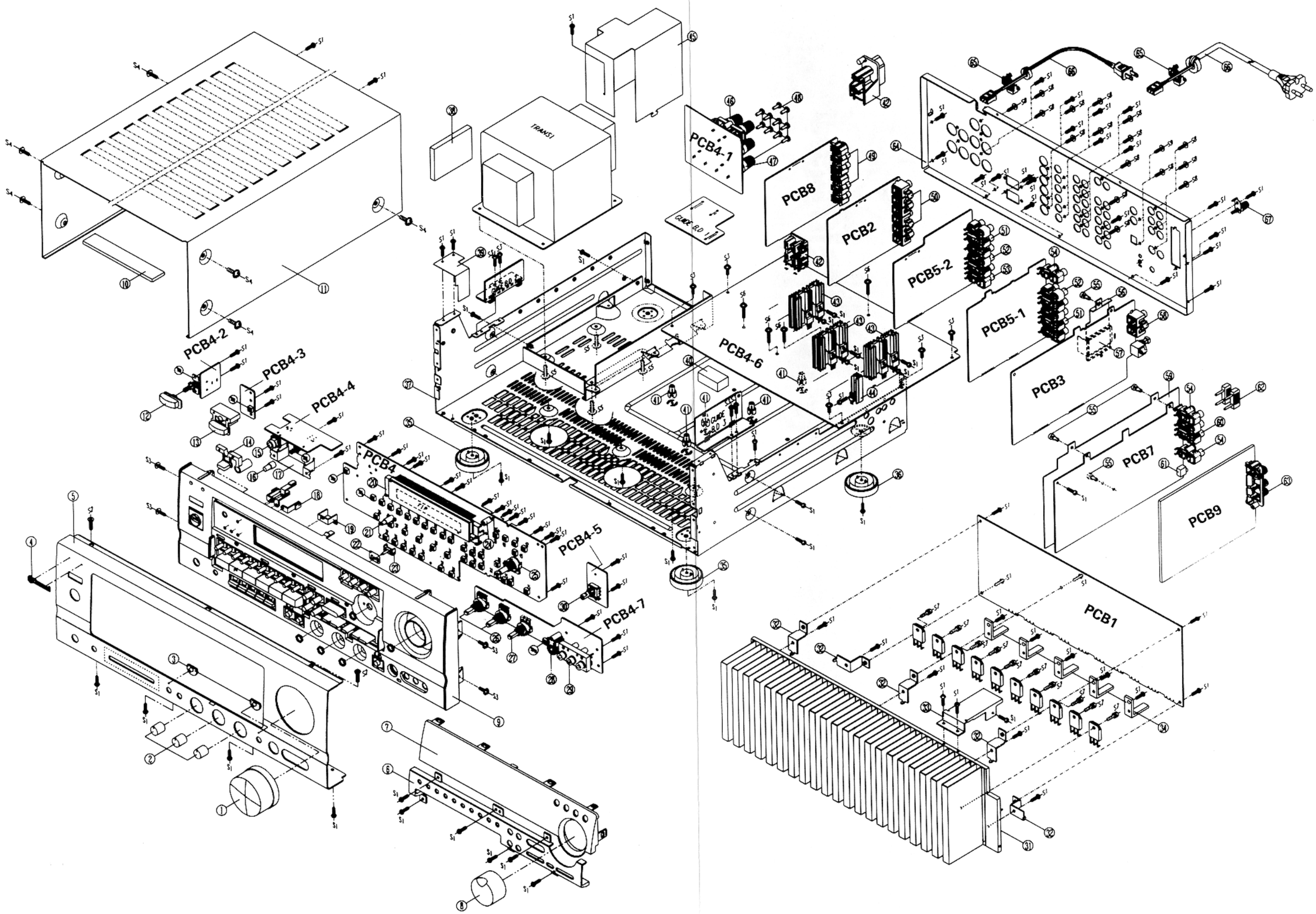
4-2. FM Dummy Antenna



FM Dummy Antenna to 300Ω Antenna terminal of system.

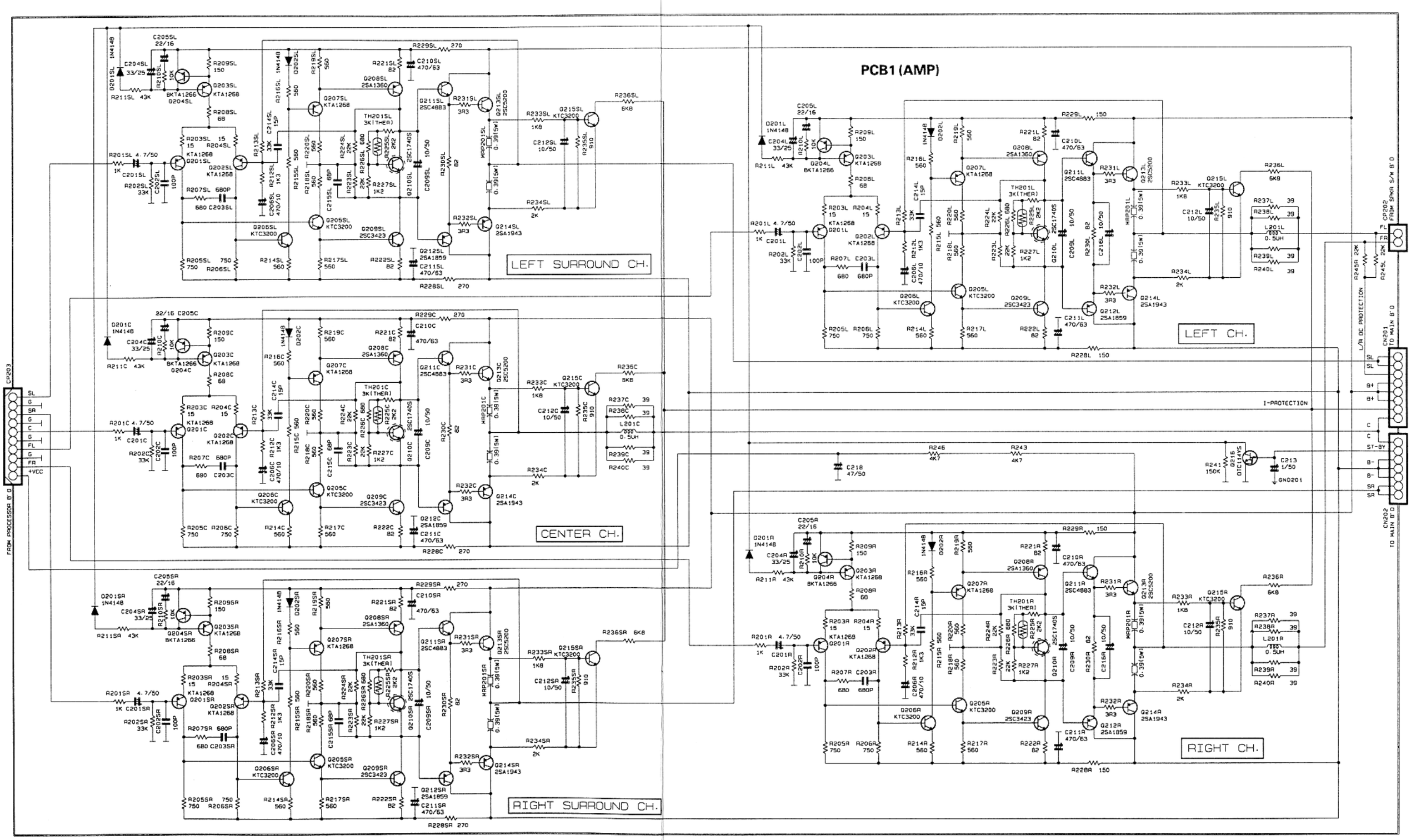
4-3. FM RF/IF and MPX Alignment Connection




PCB4-1
PCB4-2
PCB4-3
PCB4-4
PCB4
PCB4-5
PCB4-7
PCB4-6
PCB8
PCB2
PCB5-2
PCB5-1
PCB3
PCB7
PCB9
PCB1
TRANS

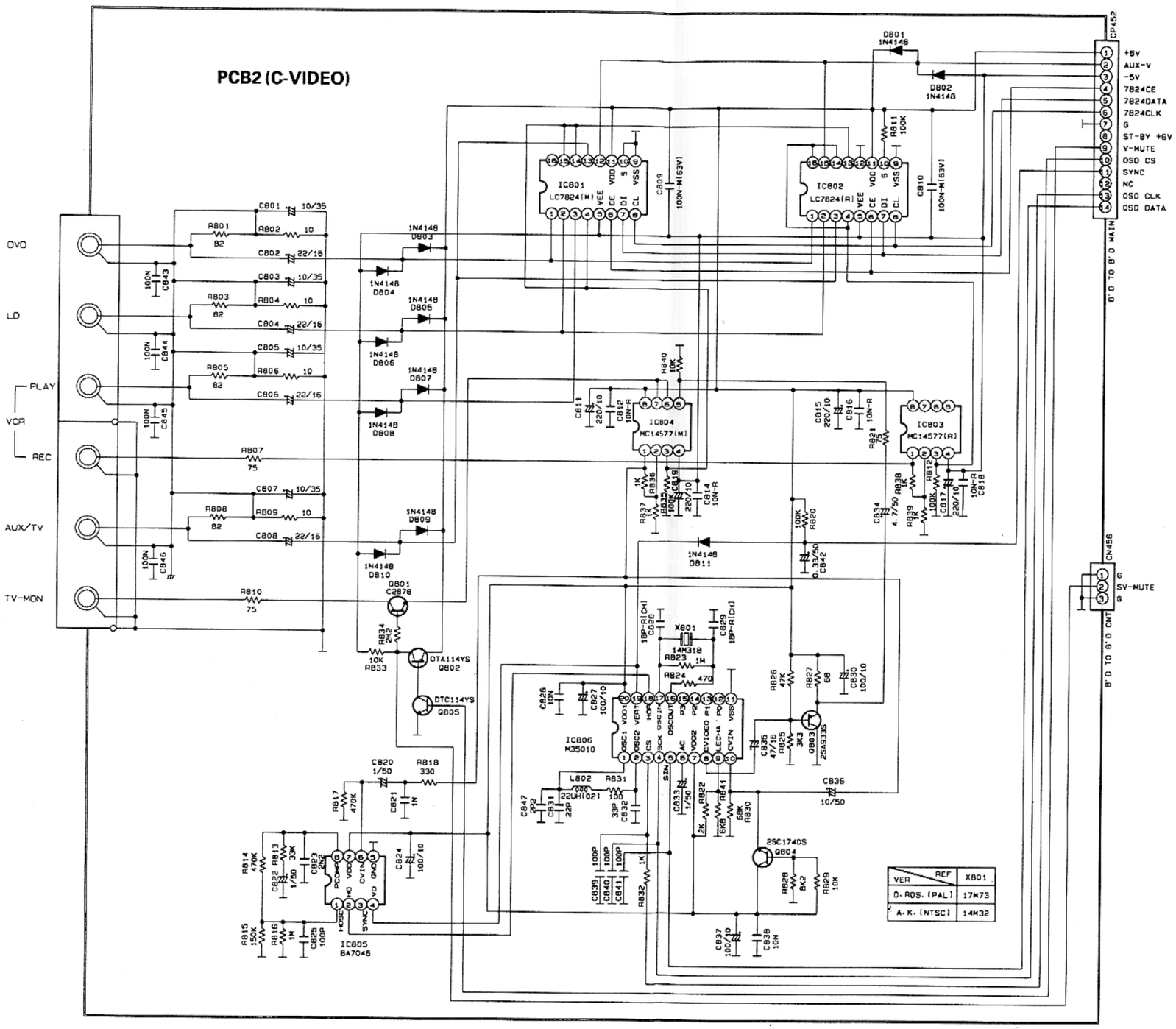
SCHEMATIC DIAGRAM (I)

Model No. : R-945R/R-945RDS

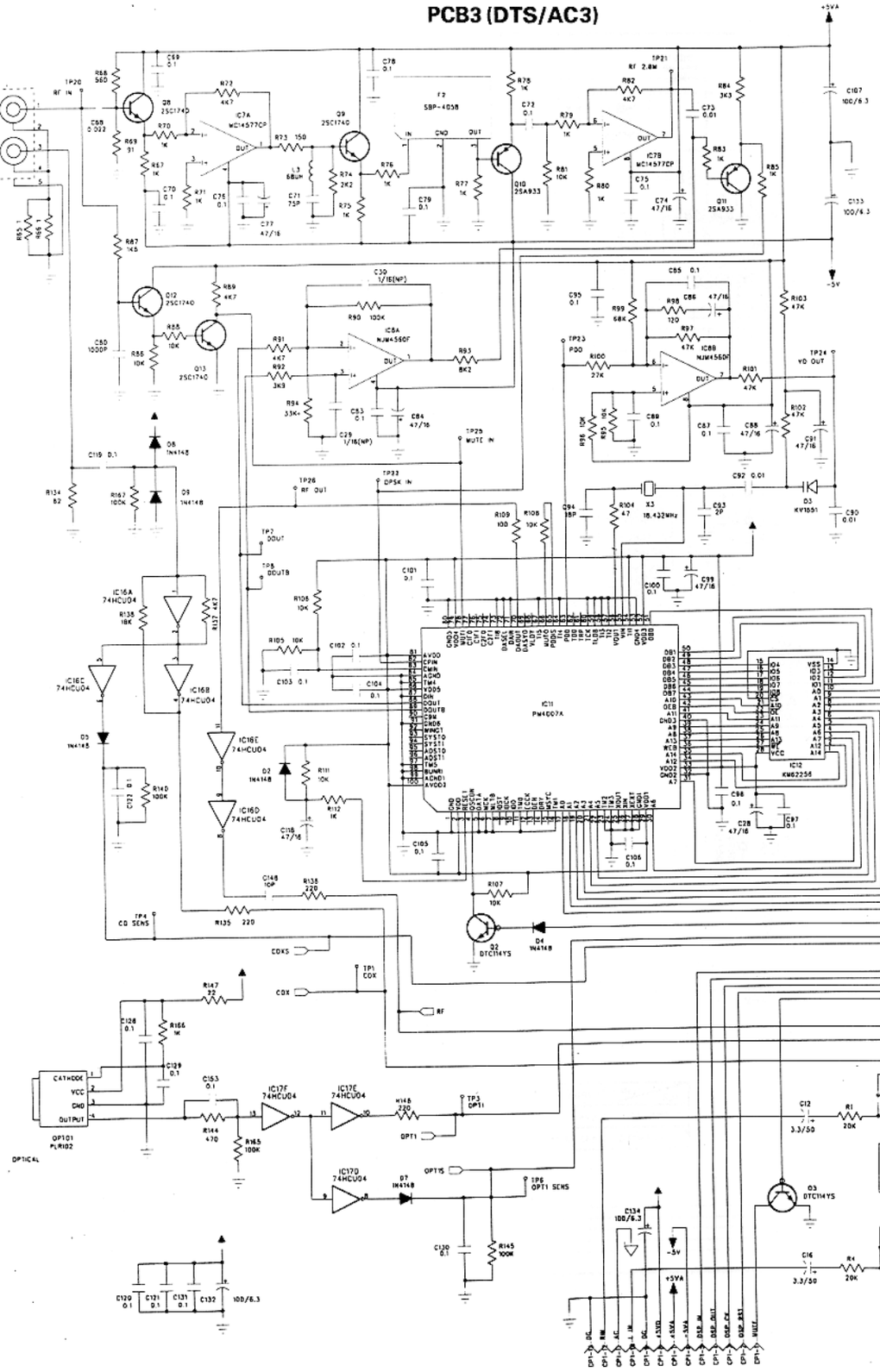


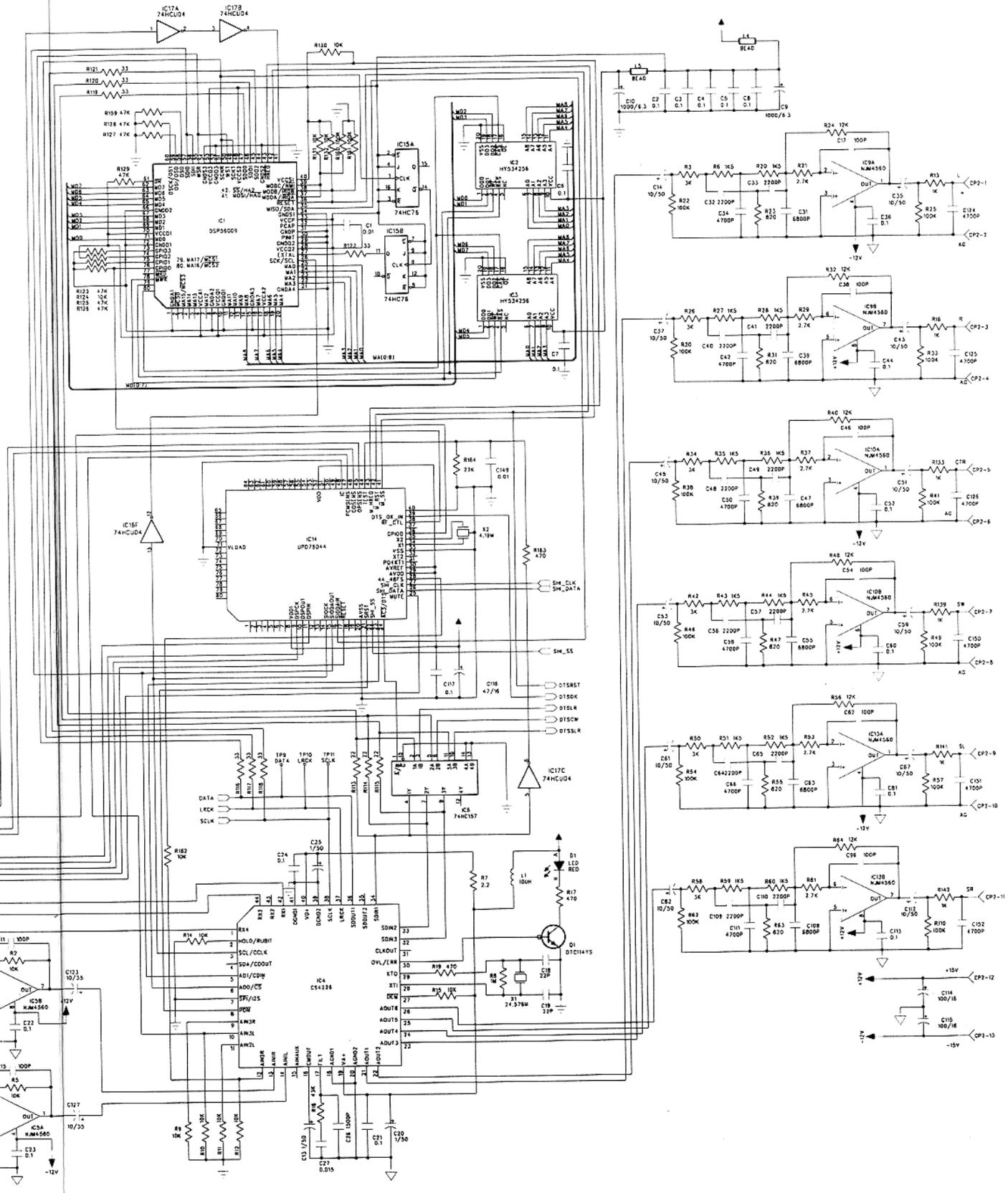
SCHEMATIC DIAGRAM (II)

Model No. : R-945R/R-945RDS

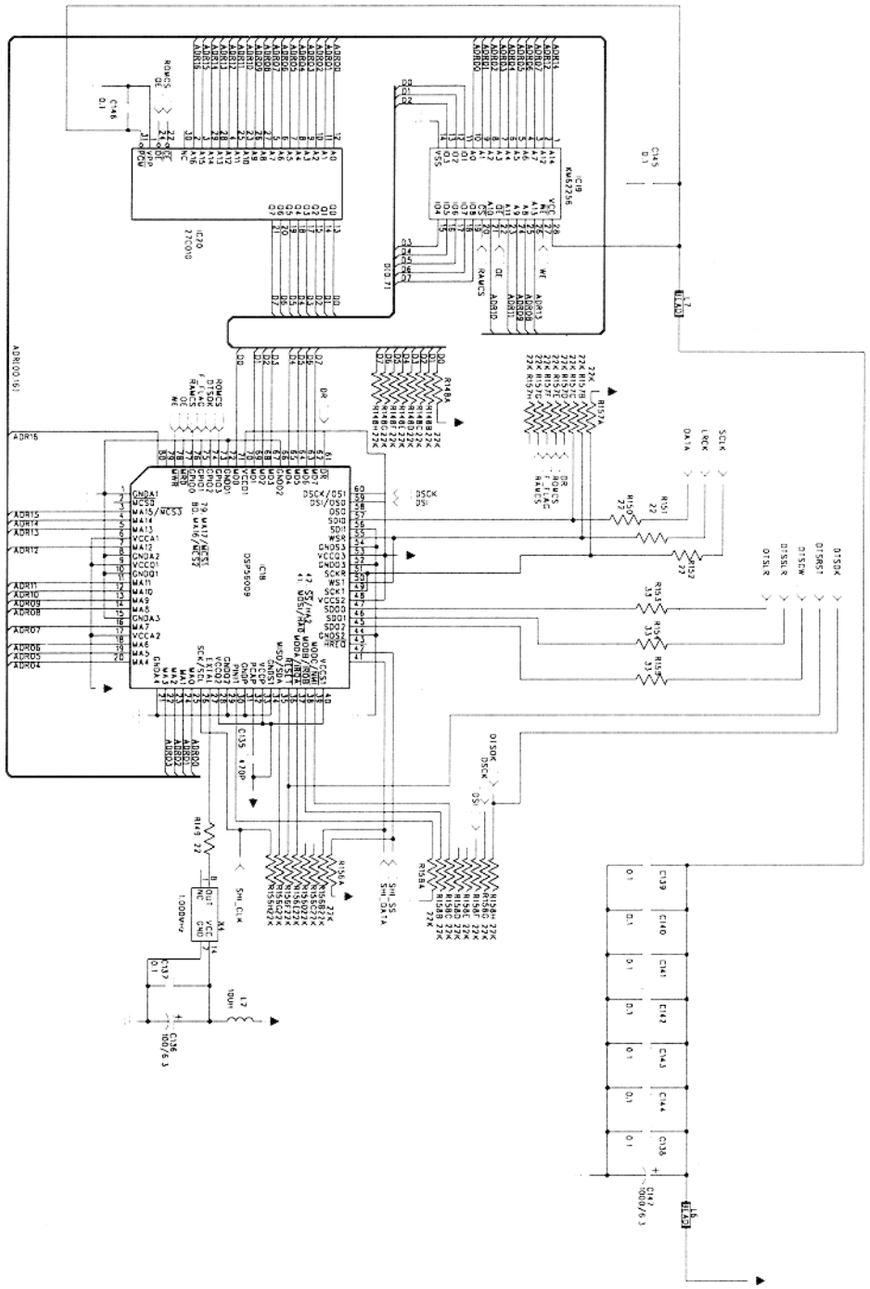


PCB3 (DTS/AC3)



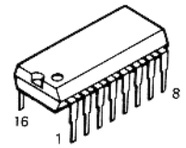


DTS BLOCK

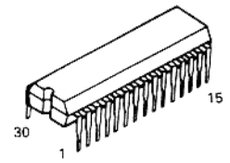


PIN CONNECTION DIAGRAM OF DIODES, TRANSISTORS AND ICS

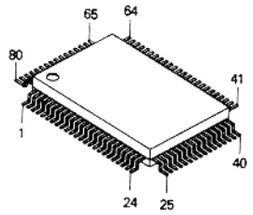
74HC76
MC14053
MC14094



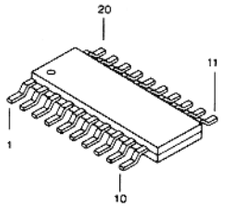
LC7821
LC7822
LC7536



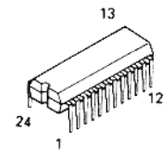
DSP56009



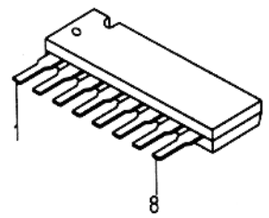
LM7001
TDA7330



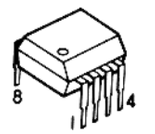
LA3401
LA1266



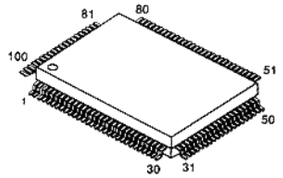
NJM2068



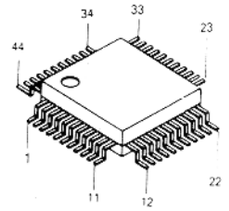
KIA4559P/KIA7555P
NJM4580L



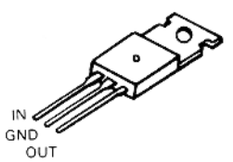
PM4007A



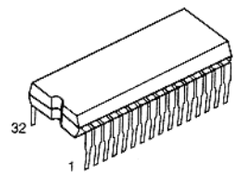
CS4226



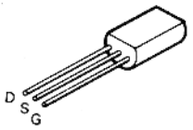
KA7815
KA7806
KA7805



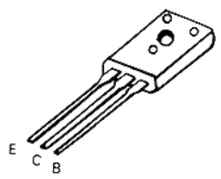
NM27C010



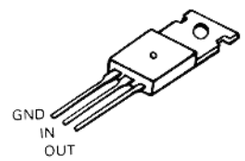
SK117



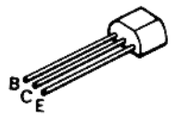
2SA1360
2SC3423



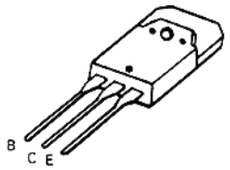
KA7915
KA7905



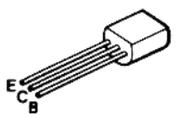
DTA114YS **KRA107M**
DTC114YS **DTC323TS**
2SC3199Y
2SC1740
KTA1267



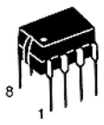
2SC5200
2SA1943



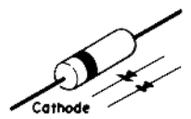
KTC2240/KTC3200
KTC1923Y/KTC3194
KTA1268



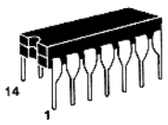
MC14577



IN4003
IN4148

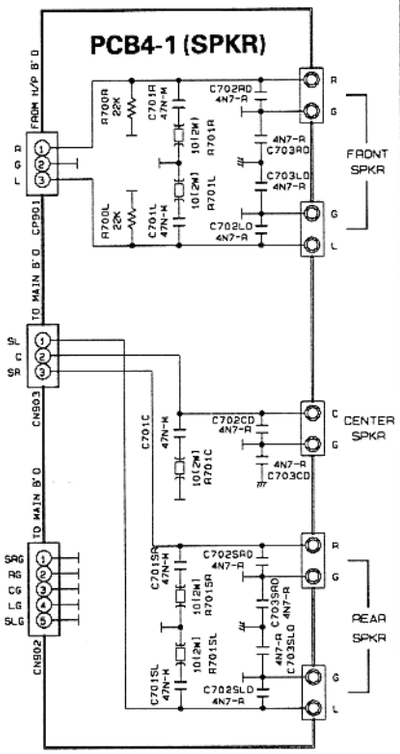


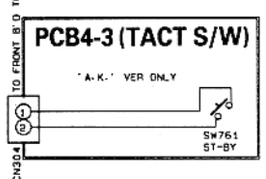
MC74HCU04

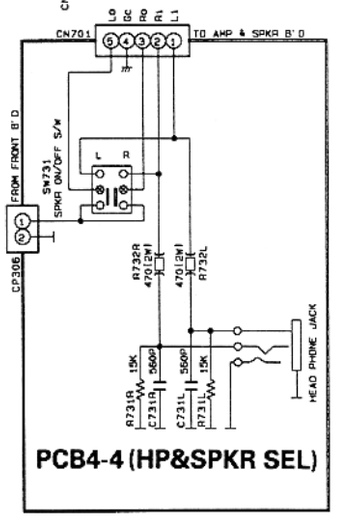


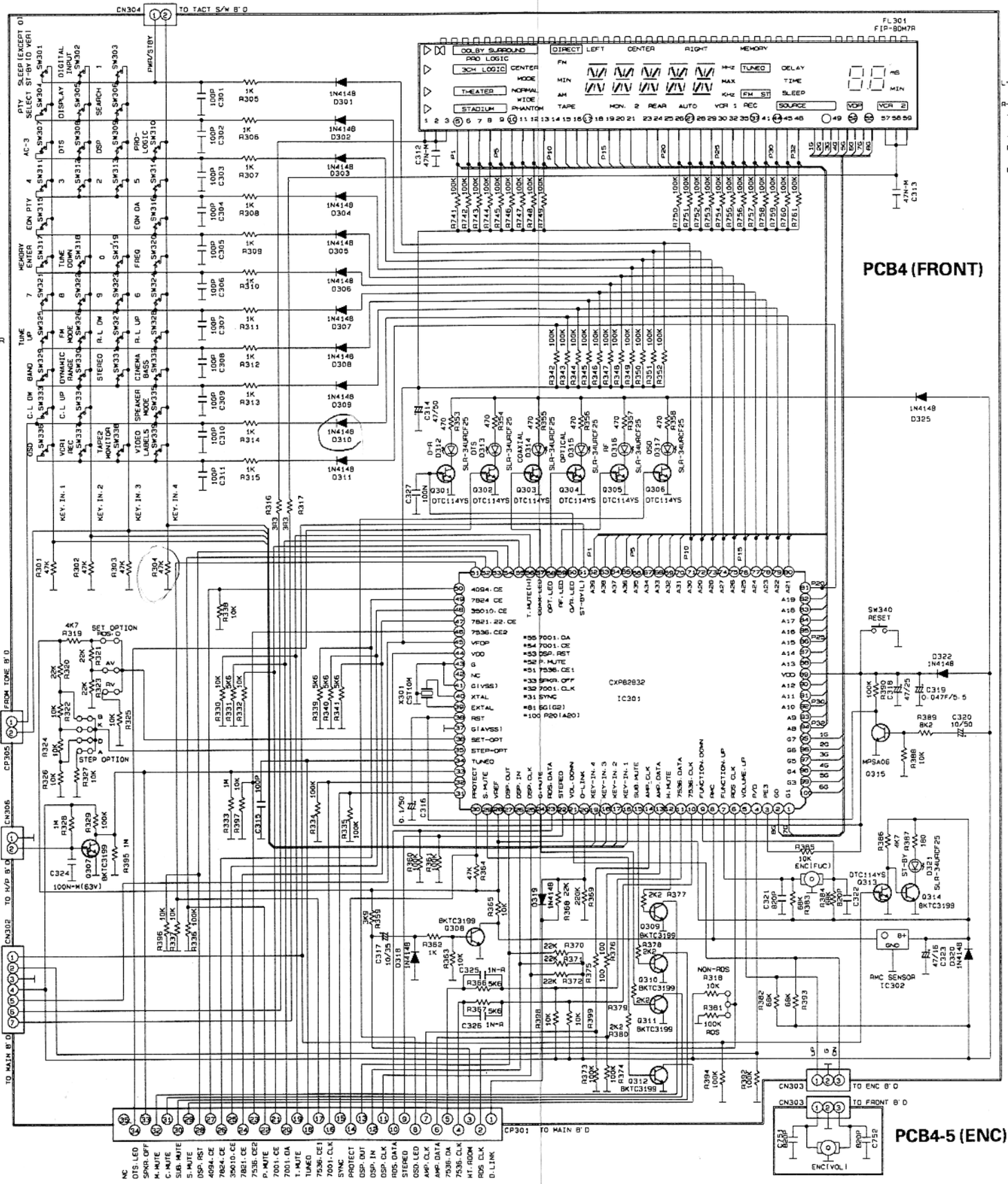
SCHEMATIC DIAGRAM (IV)

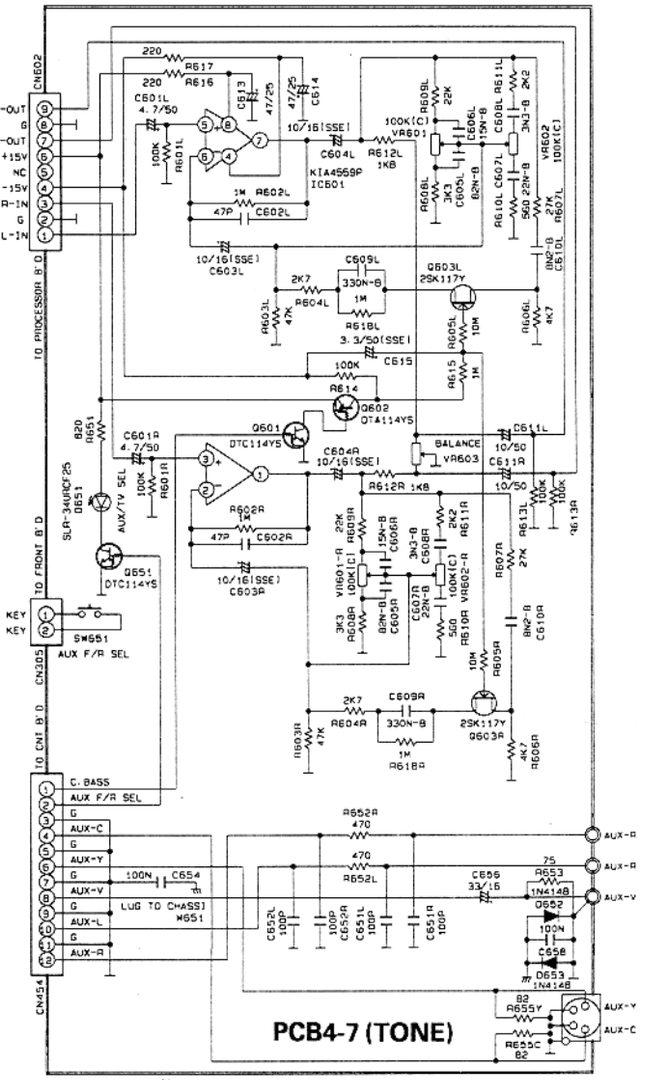
Model No. : R-945R/R-945RDS

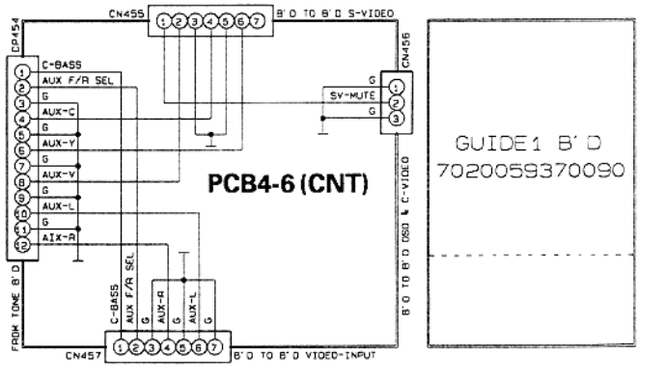








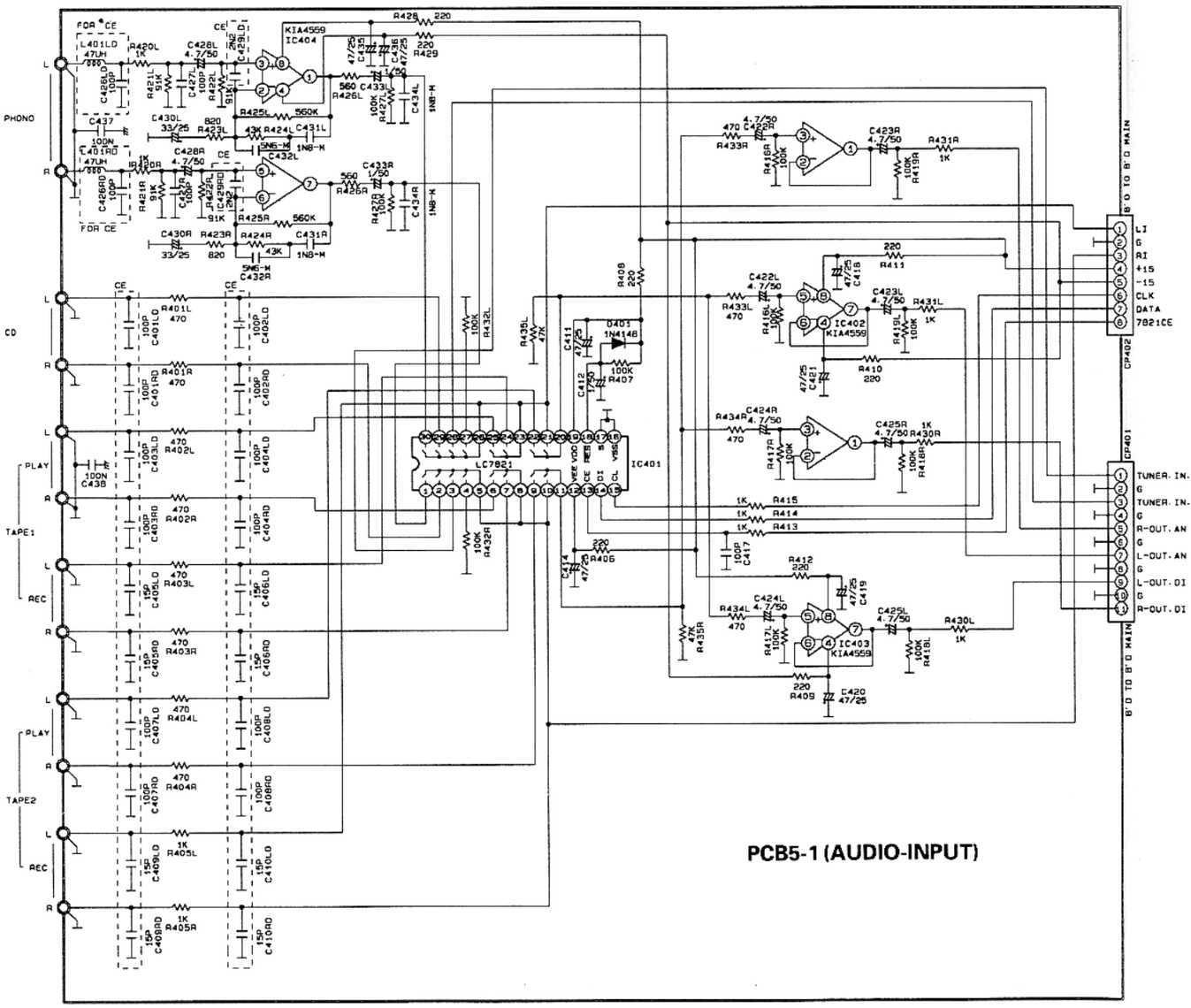




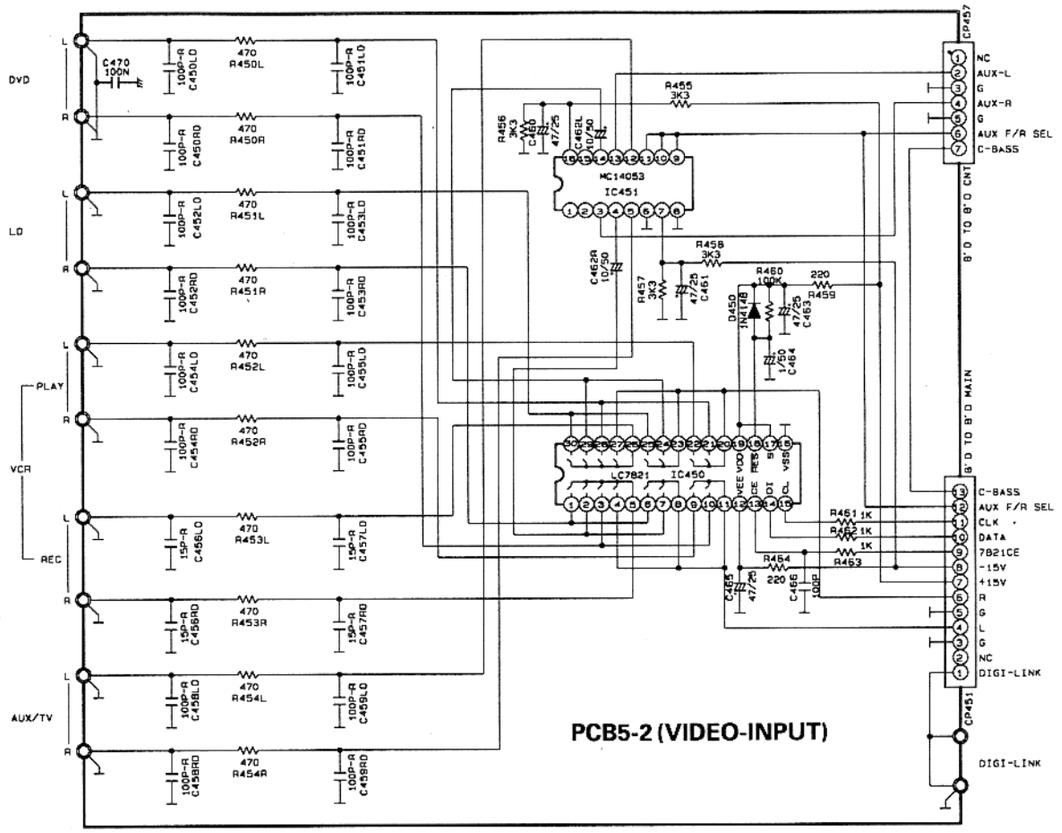
SCHEMATIC DIAGRAM (V)

Model No. : R-945R/R-945RDS

PCB5 (INPUT)



PCB5-1 (AUDIO-INPUT)

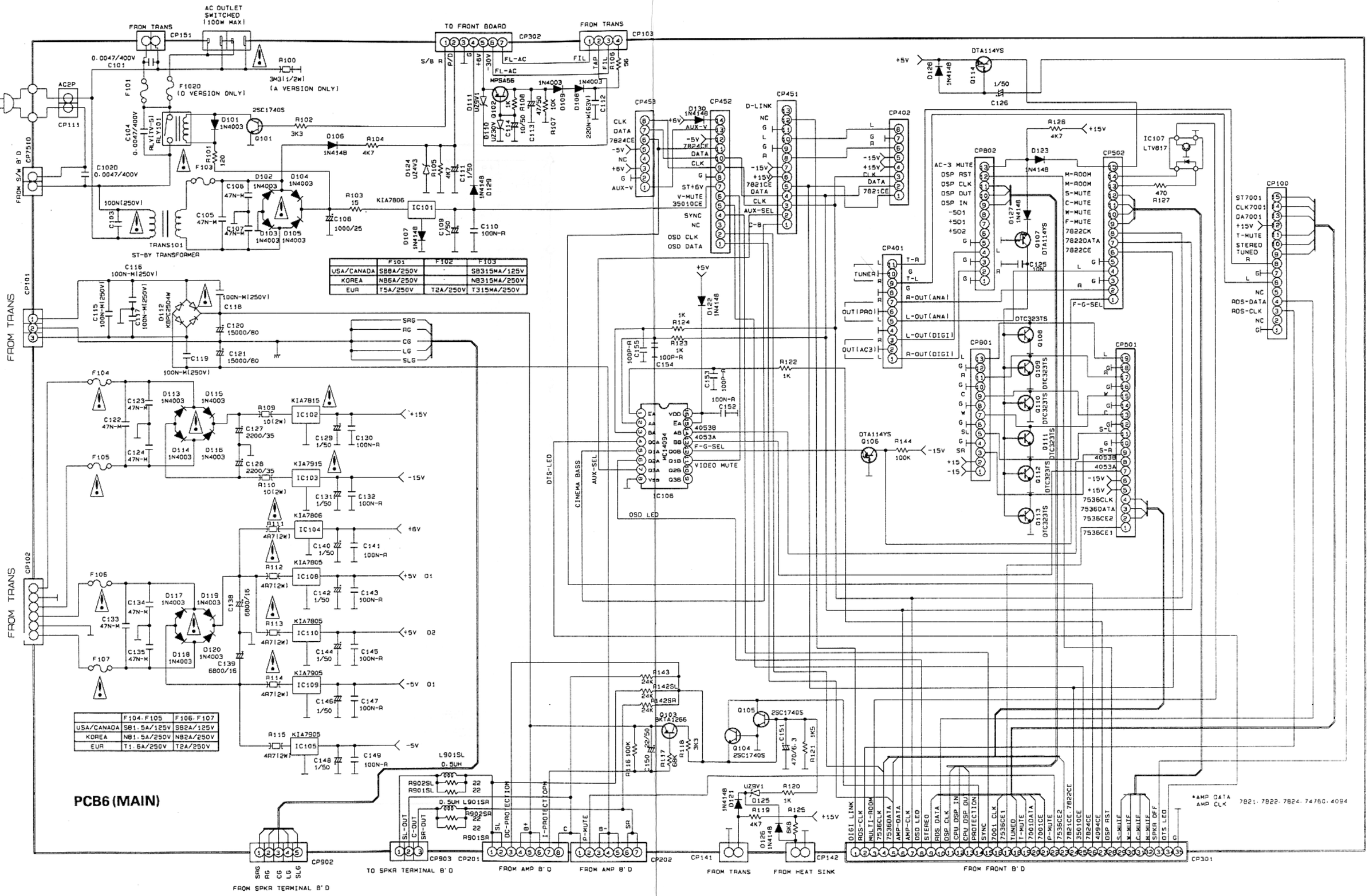


PCB5-2 (VIDEO-INPUT)

7020059380030 AMP GUIDE1 B' D	7020059380040 AMP GUIDE2 B' D

SCHEMATIC DIAGRAM (VI)

Model No. : R-945R/R-945RDS

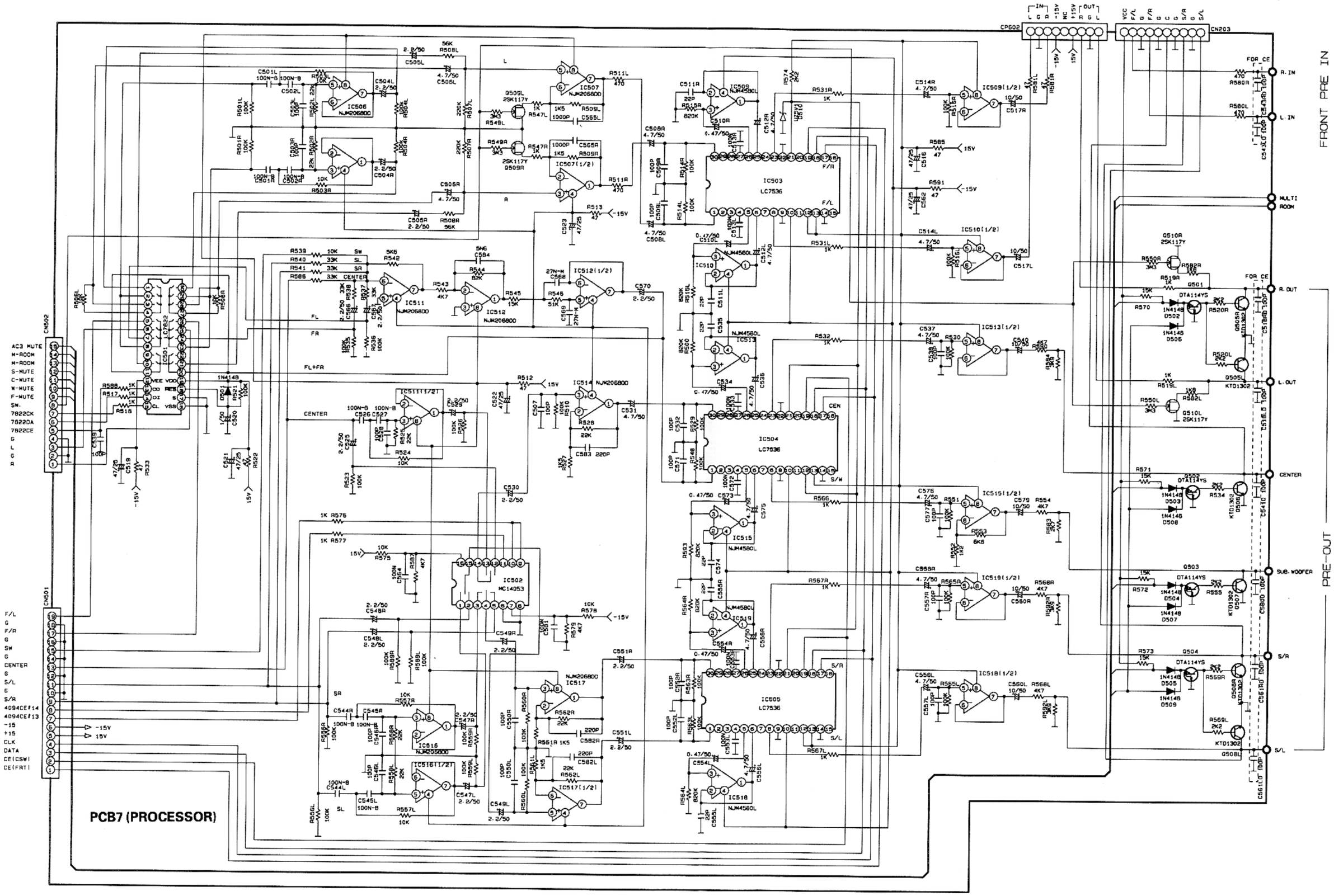


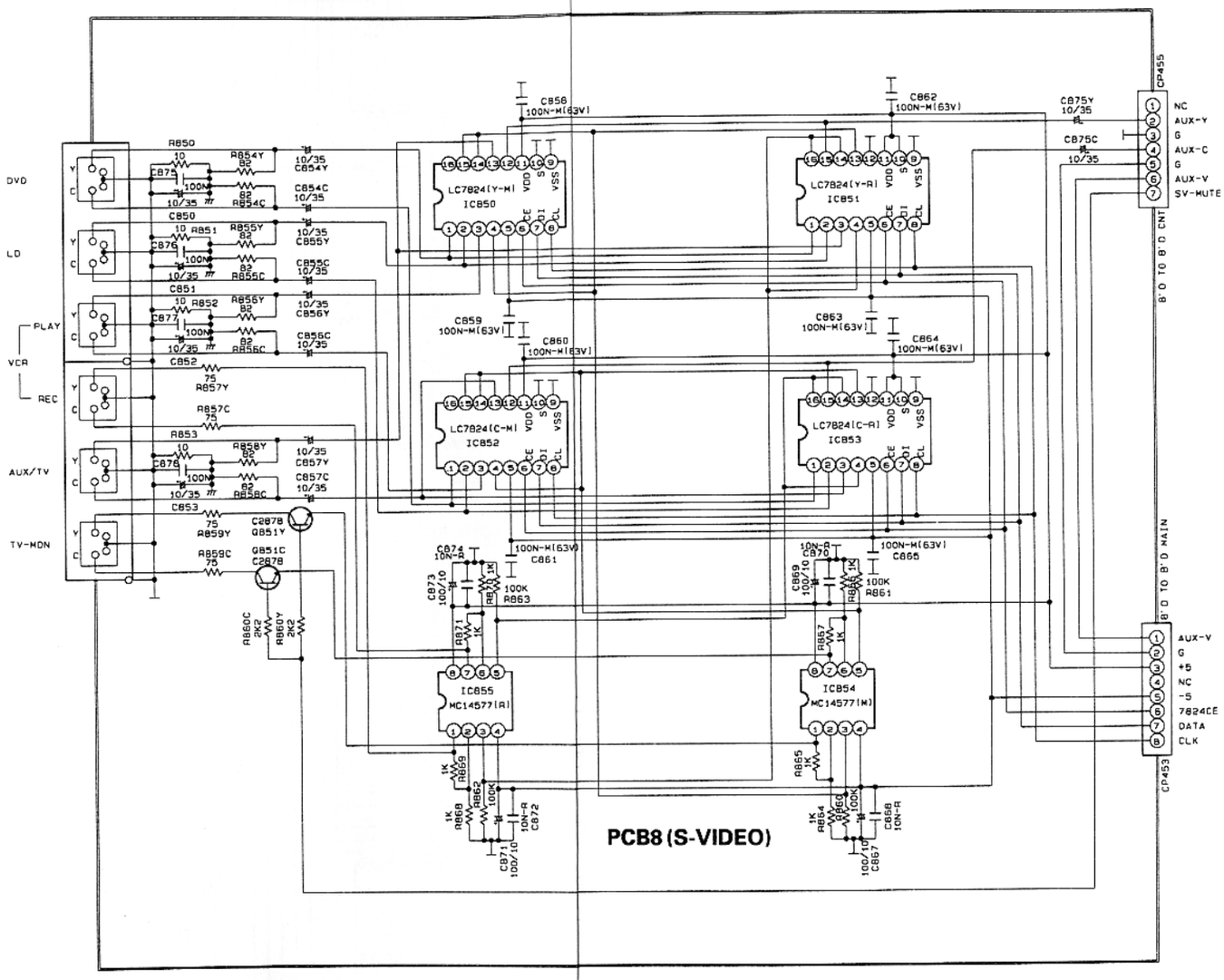
	F101	F102	F103
USA/CANADA	S8A/250V		S8315MA/125V
KOREA	N8A/250V		N8315MA/250V
EUR	T5A/250V	T2A/250V	T315MA/250V

	F104.F105	F106.F107
USA/CANADA	S81.5A/125V	S82A/125V
KOREA	N81.5A/250V	N82A/250V
EUR	T1.6A/250V	T2A/250V

SCHEMATIC DIAGRAM (VII)

Model No. : R-945R/R-945RDS



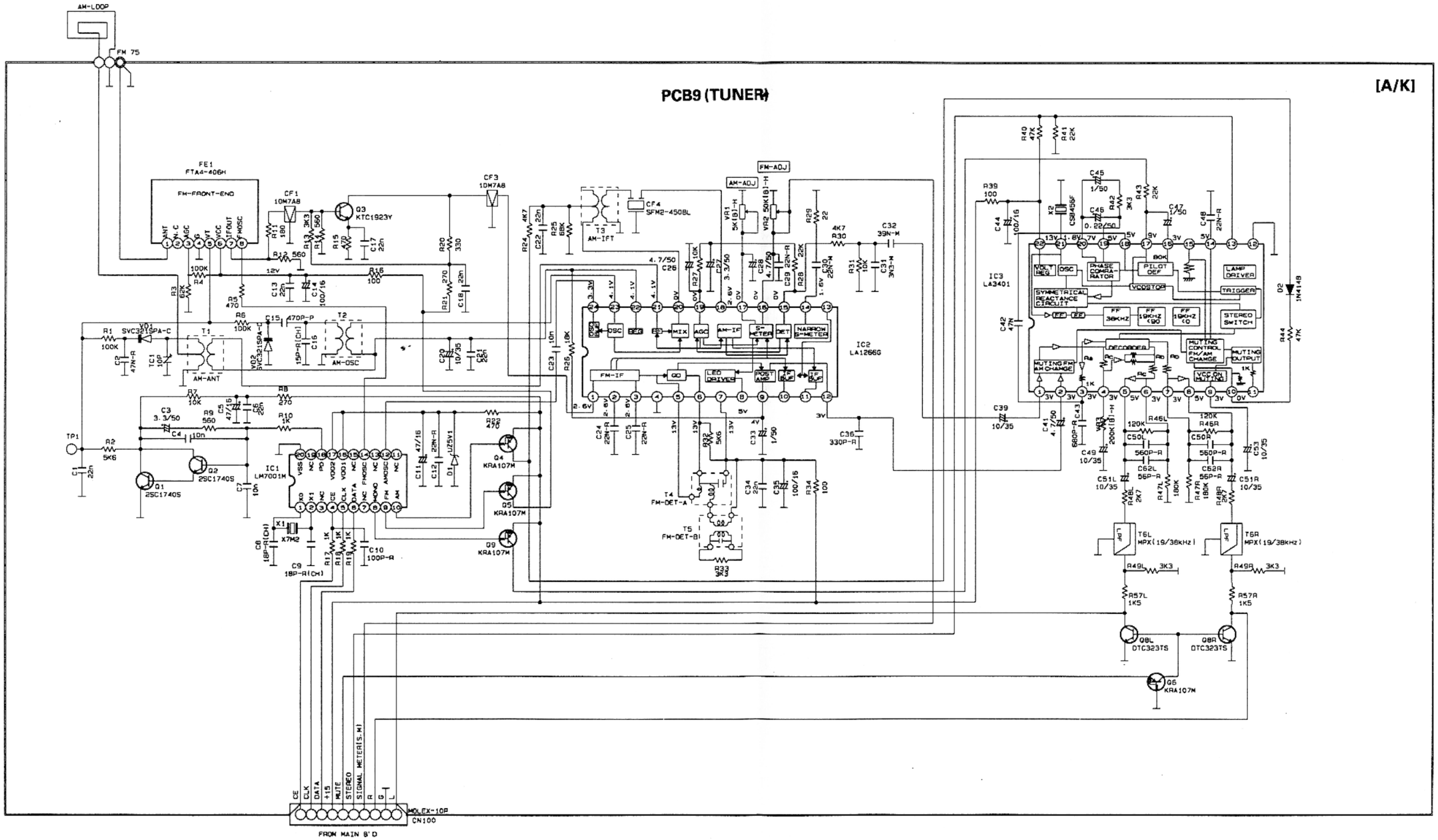

DVD
LD
PLAY
VCR
REC
AUX/TV
TV-MON
LC7824(Y-M)
IC850
LC7824(Y-R)
IC851
LC7824(C-M)
IC852
LC7824(C-R)
IC853
IC855
MC14577(R)
IC854
MC14577(M)
CP455
NC
AUX-Y
G
AUX-C
G
AUX-V
SV-MUTE
8'D TO 8'D CNT
8'D TO 8'D MAIN
AUX-V
G
+5
NC
-5
7824CE
DATA
CLK
CP453
PCB8 (S-VIDEO)

SCHEMATIC DIAGRAM (IX)

Model No. : R-945R/R-945RDS

PCB9 (TUNER)

[A/K]



SCHEMATIC DIAGRAM (X)

Model No. : R-945R/R-945RDS

[D/RDS]

PCB10 (TUNER)