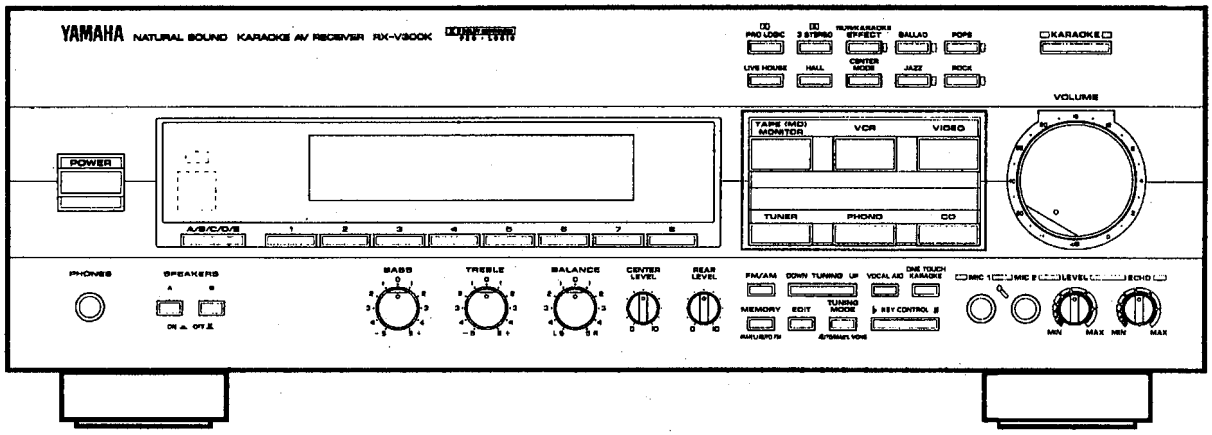
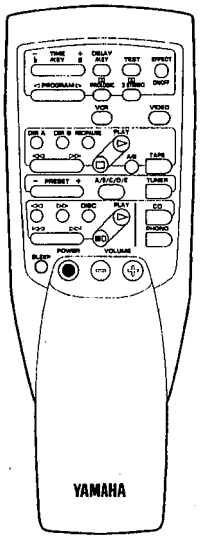
AV RECEIVER

RX-V300K/R-V302K

SERVICE MANUAL





IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel.
It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual of firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

■ CONTENTS

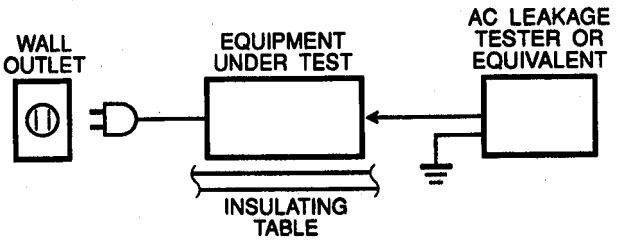
100607

YAMAHA
YAMAHA CORPORATION
P.O.Box1,Hamamatsu,Japan
1.05K-4521 Printed in Japan '97.10

■ TO SERVICE PERSONNEL

1. Critical Components information.
   Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
2. Leakage Current Measurement (For 120V Model only).
   When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohm shunted by 0.15 µF.
- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.



"CAUTION"

"F101 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,REPLACE ONLY WITH SAME TYPE 5.0A,125V FUSE (U,R models), 1.6A 125V FUSE (L model)"

"F102 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,REPLACE ONLY WITH SAME TYPE 2.5A,250V FUSE (L model)"

"F103 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,REPLACE ONLY WITH SAME TYPE 1.6A,250V FUSE (R model)"

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (Where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

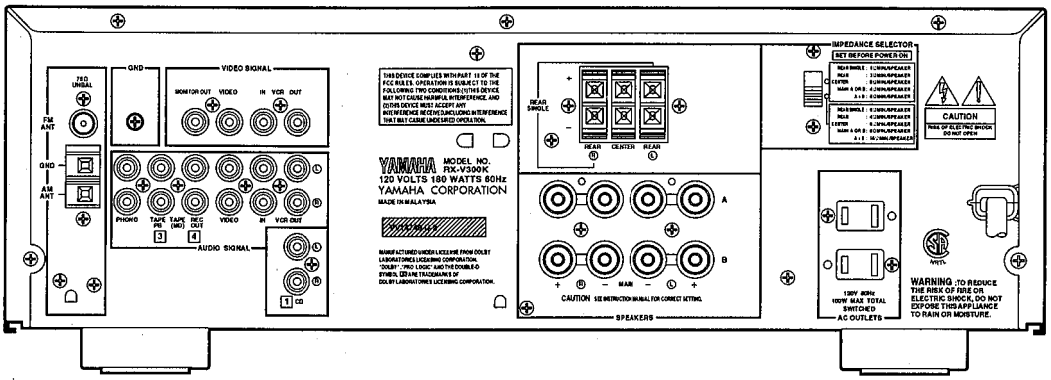
DO NOT PLACE SOLDER, ELECTRICAL/ERECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

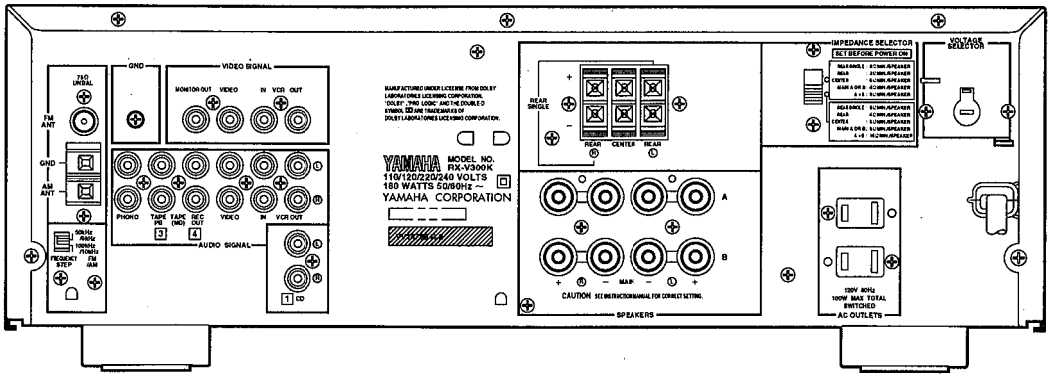
If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ REAR PANELS

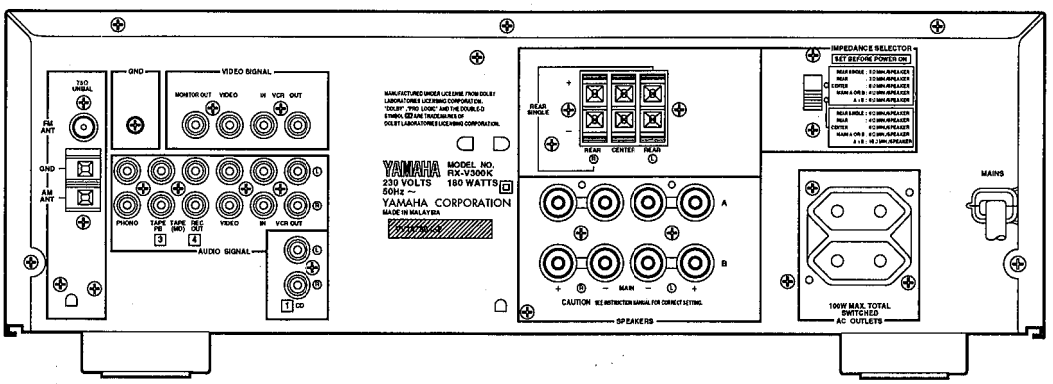
▼RX-V300K U model



▼RX-V300K/R-V302K R, T models



▼RX-V300K L model



■SPECIFICATIONS

■AUDIO SECTION

Minimum RMS output Power per Channel
Main L, R
8 Ohms, 20 Hz to 20 kHz, 0.04% THD
U model 60W + 60W
R,L,T models 55W + 55W
Center
8 ohms, 1 kHz, 0.1% THD
U model 60W
R,L,T models 55W
Rear
8 ohms, 1kHz, 0.7% THD 20W

Dynamic Power Per Channel (IHF)
8/6/4/2Ω 80/100/120/140W

Power Band Width
0.1% THD, 30W,8Ω 10Hz to 50kHz

Damping Factor (SP A)
20Hz to 20kHz, 8Ω 80 or more

Maximum Power (EIAJ)
R,T models
MAIN 2, R, 1kHz, 10% THD, 8Ω 85W+85W
CENTER, 1kHz, 10% THD, 8Ω 85W
REAR, 1kHz,10% THD, 8Ω 35W

Input Sensitivity/Impedance
PHONO MM 2.5mV/47kΩ
CD/TAPE(MD)/VIDEO/VCR 150mV/47kΩ
MIC 1, 2 45μV/32kΩ

Maximum Input Signal Level (1kHz)
PHONO MM, 0.04% THD 90mV
MIC1, 2,0.1% THD 30mV

Headphones Jack Rated Output/Impedance
0.04% THD, 8Ω 0.49V/330Ω

Frequency Response (20Hz to 20kHz)
CD/TAPE(MD)/VIDEO/VCR 0±0.5dB

RIAA Equalization Deviation
PHONO MM 0±0.5dB

Total Harmonic Distortion (20Hz to 20kHz)
PHONO MM to REC OUT (1V) 0.02%
CD/TAPE(MD)/VIDEO/VCR to SP OUT(30W/8Ω) 0.02%

Signal-to-Noise Ratio (IHF-A-Network)
PHONO MM,(5mV Input Shorted),REC OUT 82dB
CD/TAPE(MD)/VIDEO/VCR(Shorted), SP OUT 93dB

Residual Noise (IHF-A-Network)
MAIN L/R 140μV

Channel Separation (Vol.-30dB, EFFECT OFF)
PHONO MM(Input Shorted), 1kHz 60dB
CD/TAPE(MD)/VIDEO/VCR(Input 5.1kΩ terminated), 1kHz 60dB

Tone Control Characteristics
BASS :Boost/Cut ±10dB (50Hz)
:Turnover Frequency 350Hz
TREBLE :Boost/Cut ±10dB (20kHz)
:Turnover Frequency 3.5kHz

Key Control Pitch ±3 notes, 13 steps

Gain Tracking Error (0~-60dB) 3dB

Delay Time
MIC ECHO 150 msec.
BALLAD, POPS, JAZZ, ROCK 1 to 50 msec.
LIVE HOUSE, HALL 1 to 100 msec.
DD PRO LOGIC 15 to 30 msec.

Tuner Output Level/Impedance (Fixed)
U,R,T models
FM (100% mod, 1kHz) 500mV/2.2kΩ
AM (30% mod, 1kHz) 150mV/2.2kΩ
L model (FM 40kHz Dev)
FM (100% mod, 1kHz) 400mV/2.2kΩ
AM (30% mod, 1kHz) 150mV/2.2kΩ

■FM SECTION

Tuning Range
U model 87.50 to 107.9MHz
R,L,T models 87.50 to 108.00MHz

50dB Quieting Sensitivity (IHF,75Ω)
U,R,T models
Mono 1.55μV (15.1dBf)
Stereo 21μV (37.7dBf)

Usable Sensitivity (75Ω)
U,R,T models
30dB S/N Quieting, 1kHz, 100% mod. 0.8μV (9.3dBf)
L model
DIN, Mono (S/N 26dB) 0.9μV
DIN, Stereo (S/N 46dB) 24μV

Image Response Ratio
U,R,T models 45dB
L model 80dB

IF Response Ratio 80dB

Spurious Response Ratio 70dB

AM Suppression Ratio 55dB

Capture Ratio 1.5dB

Alternate Channel Selectivity
U,R,T models 85dB
Selectivity (two signals, 40kHz Dev. ±300kHz)
L model 70dB

Signal-to-Noise Ratio
Mono/Stereo(IHF)
U,R,T models 80/75dB
Mono/Stereo(DIN-weighted, 40kHz Dev.)
L models 74/69dB

Harmonic Distortion
Mono/Stereo (1kHz) 0.1/0.2%

Stereo Separation (1kHz) 50dB

Frequency Response
30Hz to 15kHz 0±0.5dB

■AM SECTION

Tuning Range
U,R,T models 530 to 1710kHz
L model 531 to 1611kHz

Usable Sensitivity 100μV/m

Selectivity	32dB
Signal-to-Noise Ratio	50dB
Image Response Ratio	40dB
Spurious Response Ratio	50dB
Harmonic Distortion (1kHz)	0.3%

■VIDEO SECTION

Video Signal Type	
U model	NTSC
R,T models	NTSC/PAL
L model	PAL
Video Signal Level	1Vp-p/75Ω
Maximum Input Level	1.5Vp-p or more
Signal-to-Noise Ratio	50dB or more
Monitor Out Frequency Response (–3dB)	5Hz-10MHz

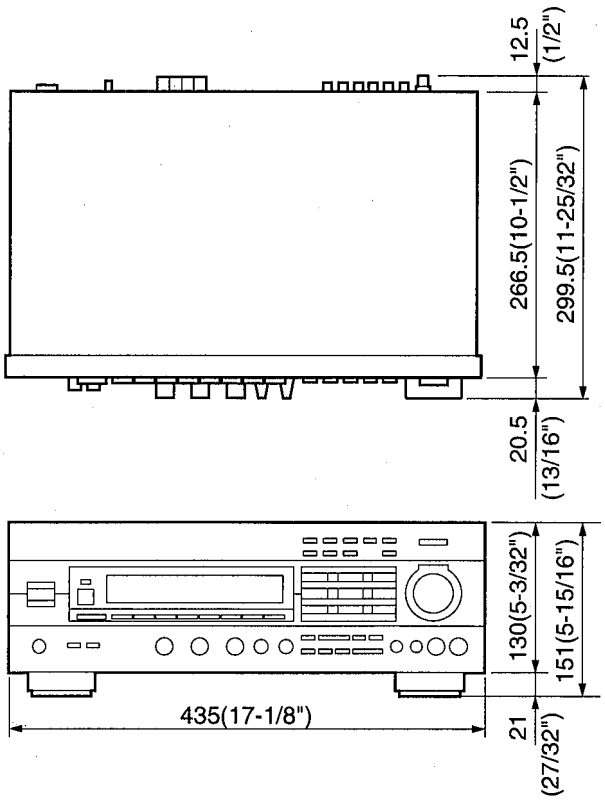
■GENERAL

Power Supply	
U model	AC120V, 60Hz
R,T models	AC110/120/220/240V, 50/60Hz
L model	AC230V, 50Hz
Power Consumption	180W
Maximum Power Consumption	
R,T models	
5CH Simultaneous output, 8Ω,1kHz,10%THD	500W
AC Outlet	
Switched x 2	100W max (Total)
Dimensions (W x H x D)	435 x 151 x 266.5mm (17/1/8" x 5-15/16" x 10-1/2")
Weight	7.8kg (17lbs. 3oz)
Accessorries	AM loop antenna x 1 Indoor FM antenna x 1 Remote Control Transmitter x 1 Battery (size "AA", "R06") Antenna adapter (U model only)

**Specifications subject to change without notice.*

U ***U.S.A model***
R ***General model***
L ***Singapore model***
T ***China model***

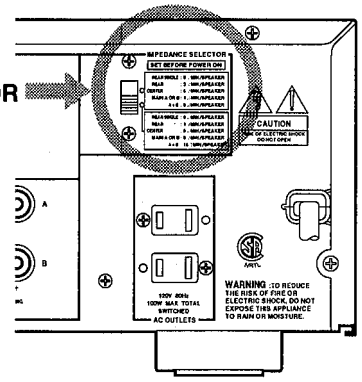
●DIMENSIONS



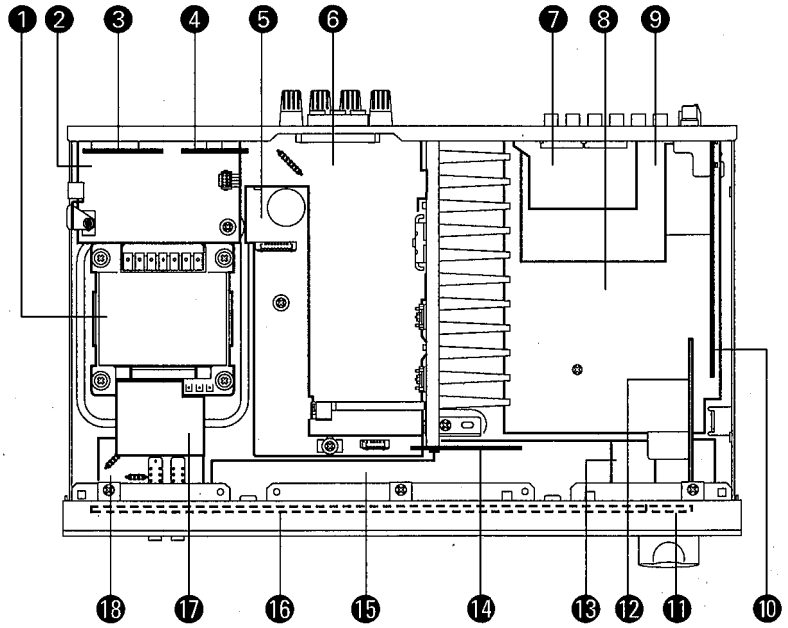
Units:mm (inch)

WARNING
Do not change the IMPEDANCE SELECTOR switch setting while the power to this unit is on. Otherwise this unit may be damaged.

IMPEDANCE SELECTOR



■INTERNAL VIEW



❶ POWER TRANSFORMER
❷ MAIN P.C.B. ASS'Y (2)
❸ MAIN P.C.B. ASS'Y (4) (R,T models)
❹ MAIN P.C.B. ASS'Y (5)
❺ MAIN P.C.B. ASS'Y (1)
❻ INPUT P.C.B. ASS'Y (4)
❼ OPERATION P.C.B. ASS'Y (3)
❽ INPUT P.C.B. ASS'Y (1)
❾ INPUT P.C.B. ASS'Y (2)
❿ TUNER P.C.B. ASS'Y
⓫ OPERATION P.C.B. ASS'Y (5)
⓬ OPERATION P.C.B. ASS'Y (4)
⓭ OPERATION P.C.B. ASS'Y (3)
⓮ OPERATION P.C.B. ASS'Y (6)
⓯ OPERATION P.C.B. ASS'Y (2)
⓰ OPERATION P.C.B. ASS'Y (1)
⓱ INPUT P.C.B. ASS'Y (5)
⓲ MAIN P.C.B. ASS'Y (3)

■DISASSEMBLY PROCEDURES (Remove parts in the order as numbered.)

1. Removal of Top Cover
Remove 4 screws (①) and 4 screws (②) in Fig. 1.

2. Removal of Front Panel
a. Remove 8 knobs.
b. Remove 6 screws (③) in Fig. 1.

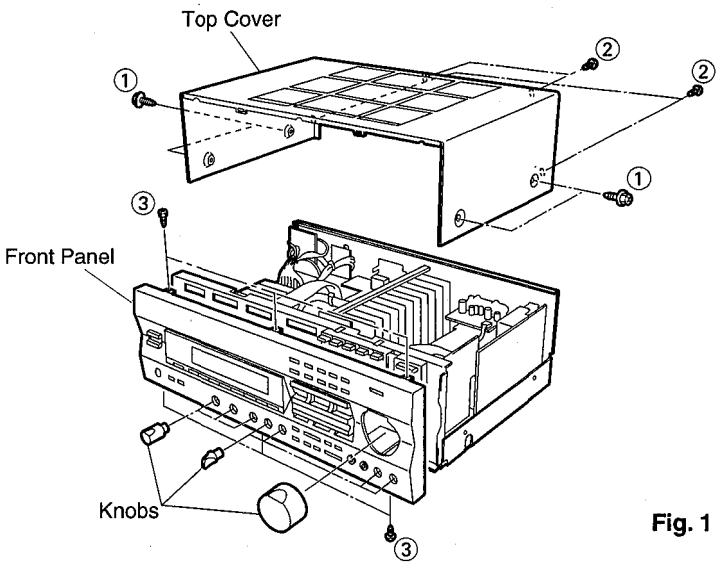


Fig. 1

3. Removal of Rear Pamel
Remove 23 (U, L models), 25 (R,T models) screws (④) in Fig. 2.
* The MAIN, INPUT, TUNER P. C. B. can be removed in this state.

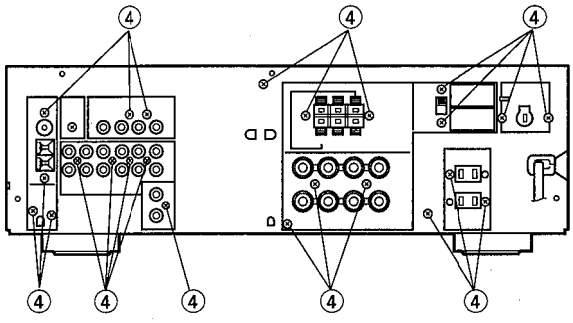


Fig. 2

4. Checking and Parts Replacement of Main Unit

a. Disconnect the power cord from the AC outlet.
b. Remove 2 screws (⑤)and 1 screw (⑥) in Fig. 3.
c. Detach 1 connector terminal (CB103) in Fig.3
d. Operating checks can be taken by shorting between following test points in Fig.3.

Short Point
TP101 and TP102
TP103 and TP104
TP105 and TP106

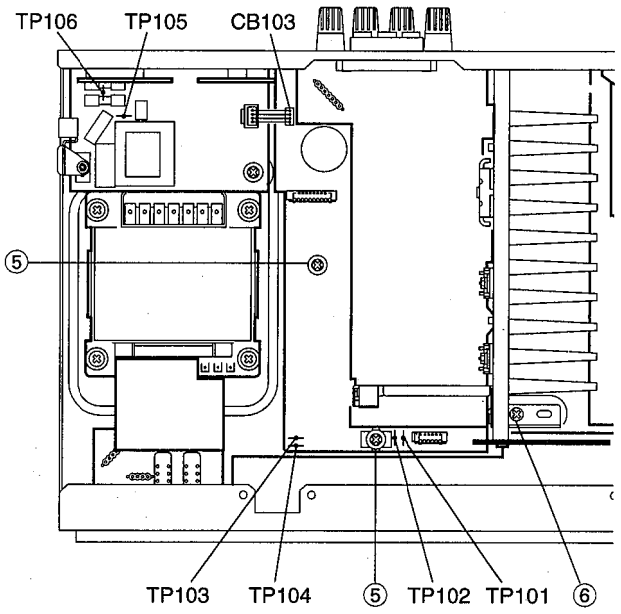


Fig. 3

e. Remove 3 screws (⑦) and 2 screws (⑧) in Fig. 4.
f. Place the Main Unit on its side as shown in Fig. 5.
g. Connect the power cord and turn ON the POWER switch.

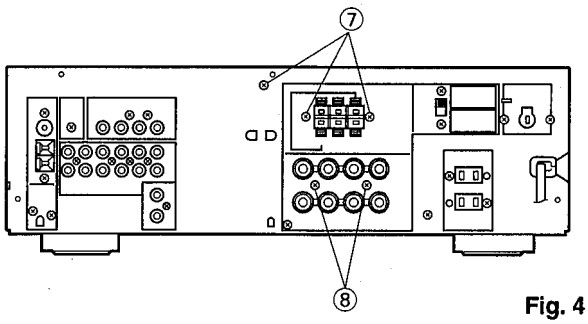


Fig. 4

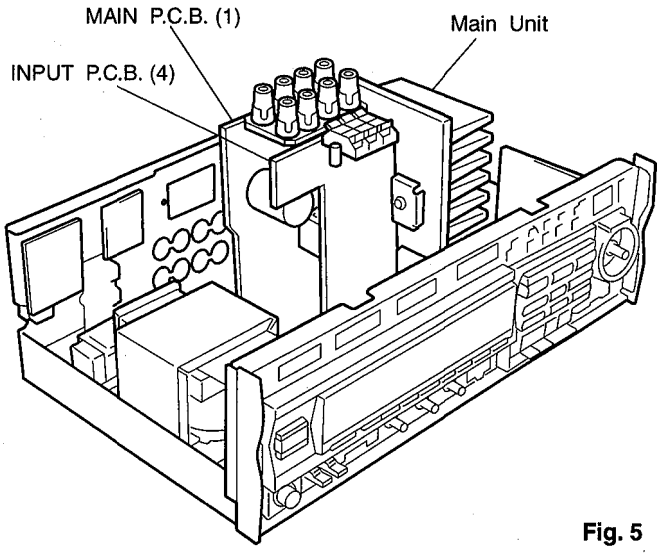


Fig. 5

■ SELF CHECK MODE

1. STARTING

Turn ON the POWER switch while pressing LIVE HOUSE key & CENTER MODE key simultaneously, and then the unit enters DIAG1 MODE.

2. INDEX OF DIAG MODE

DIAG1	AUDIO SECTION MODE	
	DIAG1-1	ALL CHANNEL OUTPUT MODE All channels have output.
	DIAG1-2	EFFECT OFF MODE ONLY L & R channels have output.
DIAG2	PRO LOGIC MODE	
DIAG3	KARAOKE TEST MODE	
	DIAG3-1	KARAOKE EFFECT OFF MODE L, R & S channels have output through YSS-205B.
	DIAG3-2	VOCAL CUT MODE Vocal eliminated when MIC INPUT is added.
	DIAG3-3	MPX Lch MODE The Rch INPUT is eliminated and the Lch INPUT is sent to both Lch and Rch output when MIC INPUT is added.
	DIAG3-4	MPX Rch MODE The Lch INPUT is eliminated and the Rch INPUT is sent to both Lch and Rch output when MIC INPUT is added.
	DIAG3-5	KEY CONTROL +6 MODE
	DIAG3-6	KEY CONTROL –6 MODE
DIAG4	MIC INPUT TEST MODE	
	DIAG4-1	MIC DIRECT MODE MIC INPUT is sent to L,R output directly.
	DIAG4-2	MIC ECHO MODE MIC INPUT is sent to L,R output through YSS-205B. Under this condition, ECHO LEVEL VOLUME is effective.
DIAG5	TEST TONE MODE	
DIAG6	FL TEST MODE	
	DIAG6-1	ALL SEGMENT ON MODE All segments of FL are lighted up.
	DIAG6-2	ALL SEGMENT OFF MODE All segments of FL are extinguished.
DIAG7	MAKER PRESET MODE	
DIAG8	INDICATION OF DESTINATION MODE	

3. CHANGE OF DIAG MODE

Press P1-P8 key.

DIAG1	P1
DIAG2	P2
DIAG3	P3
DIAG4	P4
DIAG5	P5
DIAG6	P6
DIAG7	P7
DIAG8	P8

● **Protection circuit (description of messages)**

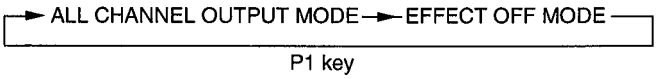
When the DIAG mode is entered, two types of the final message will appear.

1. I..... Overcurrent
2. DC

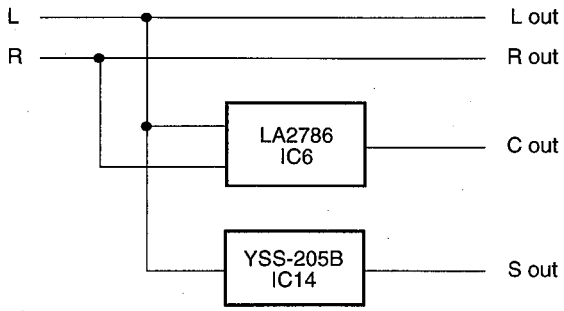
To initialize the message:

(1) Note the frequencies preset to the tuner which have been set by user in advance.
(2) Discharge backup capacitor C311.

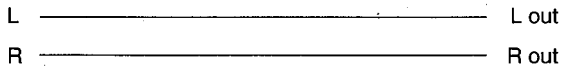
DIAG1 AUDIO SECTION MODE



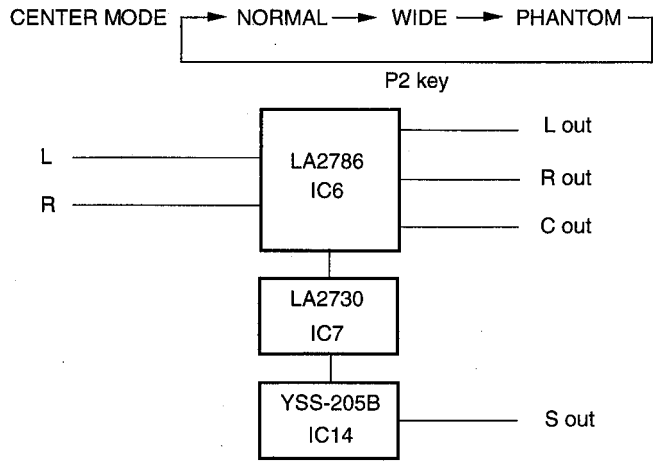
• DIAG1-1 ALL CHANNEL OUTPUT MODE



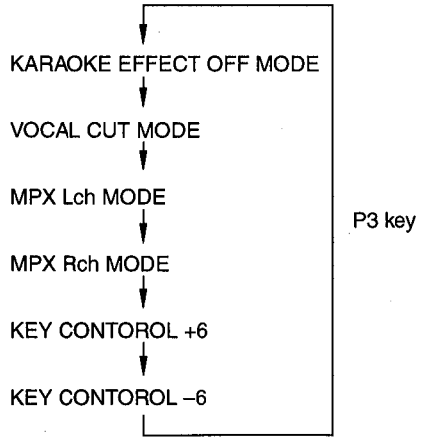
• DIAG1-2 EFFECT OFF MODE



DIAG2 PRO LOGIC MODE

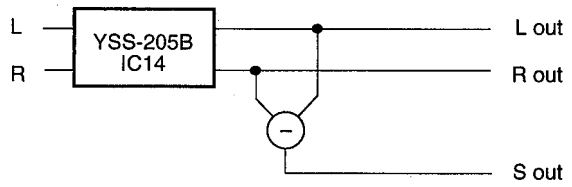


DIAG3 KARAOKE TEST MODE



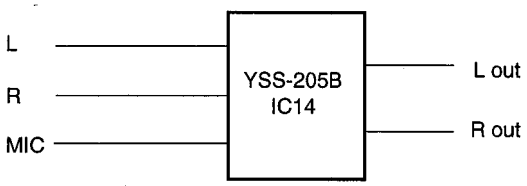
• DIAG3-1

KARAOKE EFFECT OFF MODE



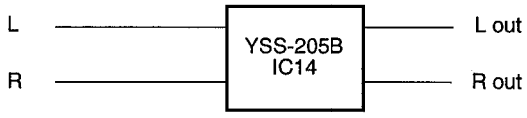
• DIAG3-2, 3-3, 3-4

VOCAL CUT MODE,MPX Lch MODE, MPX Rch MODE

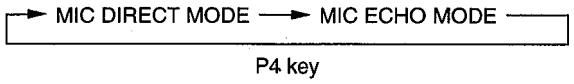


• DIAG3-5, 3-6

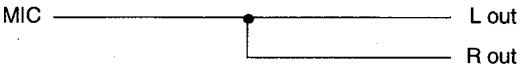
KEY CONTROL +6 MODE, KEY CONTROL –6 MODE



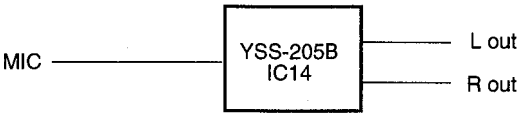
DIAG4 MIC TEST MODE



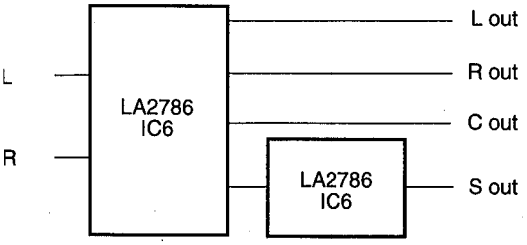
• DIAG4-1 MIC DIRECT MODE



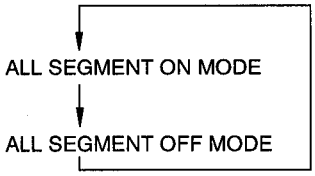
• DIAG4-2 MIC ECHO MODE



DIAG5 TEST TONE MODE



DIAG6 **FL TEST MODE**



DIAG7 **FACTORY PRESET MODE**

If POWER is switched off under DIAG7, Factory preset is set. (User programming is erased.)

DIAG8 **INDICATION OF DESTINATION**

Destination is indicated. If P8 key is pushed,DIAG MODE is finished and goes to normal operation mode.

● Factory Preset

1) TUNER section

Preset group	P1	P2	P3	P4	P5	P6	P7	P8
A,C,E	87.5MHz	90.1MHz	95.1MHz	98.1MHz	U,R,T :107.9MHz R,L :108.0MHz	88.1MHz	106.1MHz	U,R,T :107.9MHz R,L,T :108.0MHz
B,D	630kHz	1080kHz	1440kHz	U,R,T:530kHz L,R,T :531kHz	U,R :1710kHz L,R,T :1611kHz	900kHz	1350kHz	U,R,T :1400kHz L,R,T :1404kHz

All tuning modes are AUTO TUNING and AUTO STEREO.

2) SURROUND section

DELAY TIME : ⧠⧠PRO LOGIC 20ms
(Factory-set surround mode)
LIVE HOUSE 20ms
HALL 20ms
BALLAD 20ms
POPS 20ms
JAZZ 20ms
ROCK 20ms

CENTER MODE : NORMAL

3) SELECTOR section

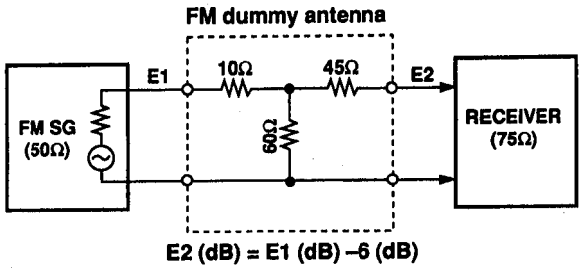
INPUT : CD
MONITOR OUT : LD

■ADJUSTMENTS

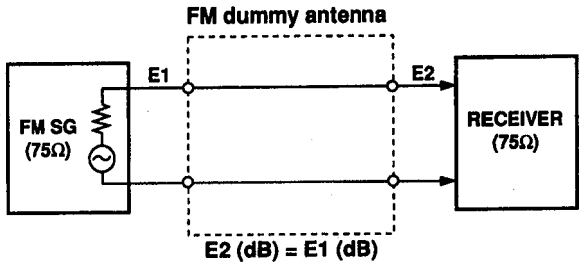
●Measuring Instruments

FM signal generator (FM SG)
Stereo signal generator (SSG)
AM signal generator (AM SG)
Distortion meter (DIST. M)
AC voltmeter (ACVM)
DC voltmeter (DCVM)
Oscilloscope
Low pass filter (YLF-15, fc=15kHz)
Oscillator

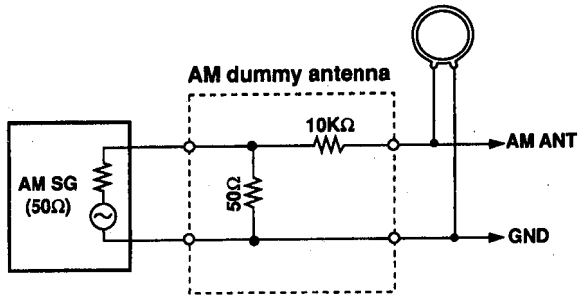
●Dummy antenna



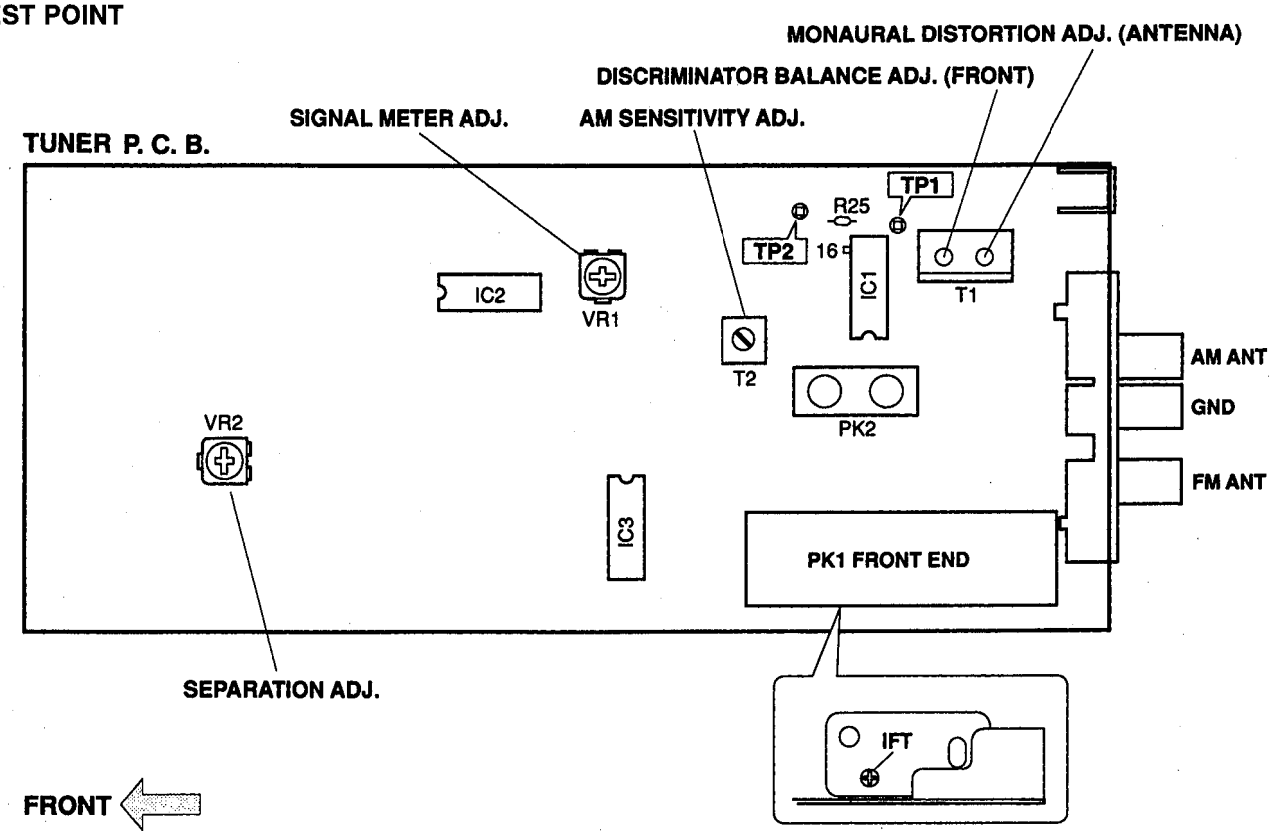
E2 (dB) = E1 (dB) –6 (dB)



E2 (dB) = E1 (dB)



●TEST POINT



FM Adjustment

●Before Adjustment

1) For dB, 1μV=0dBμ applies
Example : 60dBμ =1mV

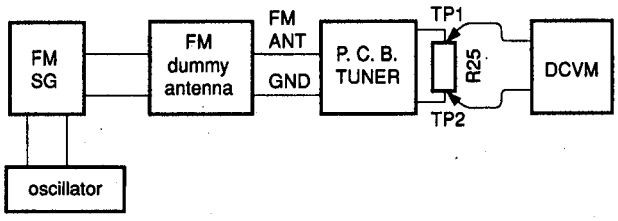
2) 100% modulation means that the frequency deviation is 75kHz.

3) Install the Matching Transformer and connect FM SG.

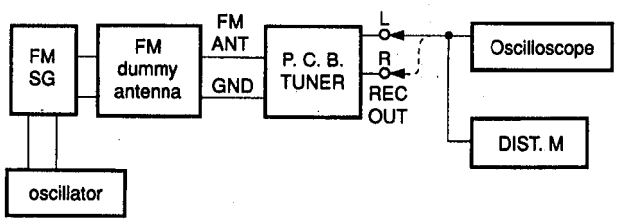
4) Set each switch to the following position unless otherwise specified.
INPUT SELECTOR ..... TUNER
TUNING MODE ..... AUTO

●Connection diagram (Measuring instruments)

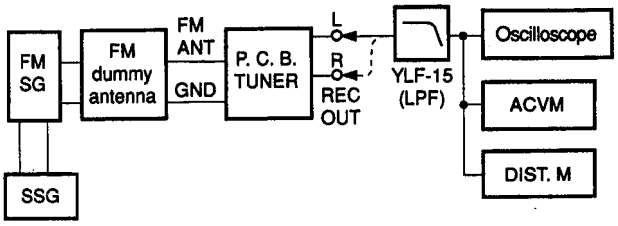
1) Discriminator balance adjustment



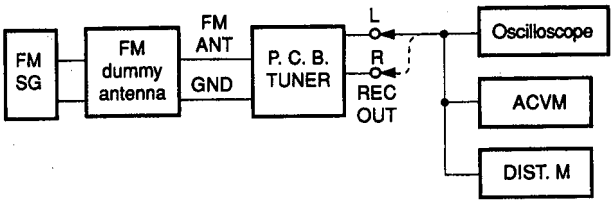
2) Monaural distortion adjustment



3) Stereo distortion verification/separation adjustment



4) Sensitivity Verification



See page 10 for TP locations & adjustment points.

Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjustment point	Test point	Rating
1	Rough adjustment of discriminator balance	FM ANT (75Ω) 98.1MHz 70dBμ MONO 100Hz 100% modulation	98.1MHz *(A-4)	T1 (Front side core)	Both ends of R25 (Between TP1 and TP2)	DC 0V ±100mV
2	Rough adjustment of monaural distortion	Same as Step 1.	98.1MHz *(A-4)	T1 (Antenna side core)	REC OUT L,R	Minimize the distortion.
3	Fine adjustment of discriminator balance	Same as Step 1.	98.1MHz *(A-4)	T1 (Front side core)	Both ends of R25 (Between TP1 and TP2)	DC 0V ± 50mV
4	Fine adjustment of monaural distortion	Same as Step 1.	98.1MHz *(A-4)	T1 (Antenna side core)	REC OUT L,R	Minimize the distortion (to 0.25% or less).
5	Verification of discriminator balance	Same as Step 1.	98.1MHz *(A-4)	T1 (Front side core)	Both ends of R25 (Between TP1 and TP2)	DC 0V±50mV

*: Execution of MAKER PRESET (Refer to SELF CHECK MODE on pages 7,8 and 9.) will facilitate setting reception frequency for adjustment.

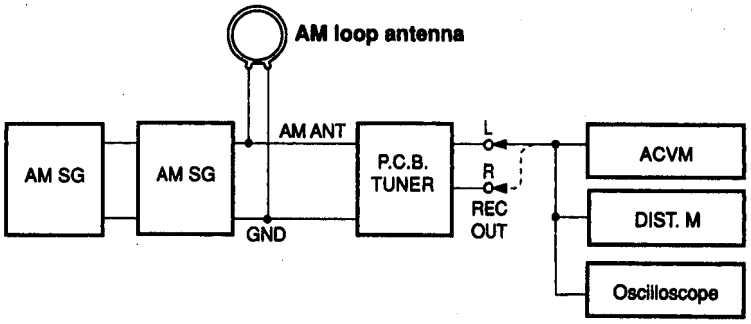
Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjustment point	Test point	Rating
6	Adjustment of front end IFT	FM ANT (75Ω) 98.1MHz 30dBμ MONO 1kHz, 100% modulation	98.1MHz *(A-4)	Front end IFT	Pin 16 of IC1	Adjust so that the DC voltage is maximum. **CAUTION:** Over-adjustment of the IFT core will reduce the sensitivity. Maximum ± 90°
7	Verification of monaural distortion	FM ANT (75Ω) 98.1MHz 70dBμ MONO 1kHz, 100% modulation	98.1MHz *(A-4)		REC OUT L,R	0.4% or less
8	Verification of stereo distortion	FM ANT (75Ω) 98.1MHz 70dBμ Stereo L or R 1kHz, 100% modulation	98.1MHz *(A-4) Tuning mode should be AUTO		REC OUT L,R	1% or less • STEREO indicator should light.
9	Verification of sensitivity	FM ANT (75Ω) 88.1MHz 98.1MHz 106.1MHz	88.1MHz *(A-6) 98.1MHz *(A-4) 106.1MHz *(A-7)		ANT (75Ω)	1) Set the tuning mode to MAN'L MONO. 2) S/N should be 30dB at each frequency of 88.1MHz, 98.1MHz, and 106.1MHz. 3) Check to ensure that the voltage at the ANT terminal is 3dBμ (14.25dBf)or less.
10	Adjustment of Separation	FM ANT (75Ω) 98.1MHz 70dBμ Stereo L or R 1kHz, 100% modulation	98.1MHz *(A-4)	VR 2	REC OUT L,R	With SSG output at L or R, the signal leakage level at the other channel should be minimized. 36dB or more
11	Adjustment of signal meter	FM ANT (75Ω) 98.1MHz, 45dBμ MONO 1kHz 30% modulation	98.1MHz *(A-4)	VR 1		Adjust so that all signal meters light.
		–10dBμ or less				Check to ensure that signal meters turn OFF.
12	Varification of auto tuning	FM ANT (75Ω) 98.1MHz 23dBμ Stereo L or R 1kHz, 30% modulation	98.1MHz *(A-4)			• Automatic reception should be available when the tuning key is moved UP and DOWN. • The stereo indicator should light. • Audio muting should be applied during tuning.

*: Execution of MAKER PRESET (Refer to SELF CHECK MODE on pages 7,8 and 9.) will facilitate setting reception frequency for adjustment.

AM adjustment (This should be done after FM adjustment.)

●Connection Diagram (Measuring instruments)

1) Adjustment of sensitivity



See page 8 for TP locations & adjustment points.

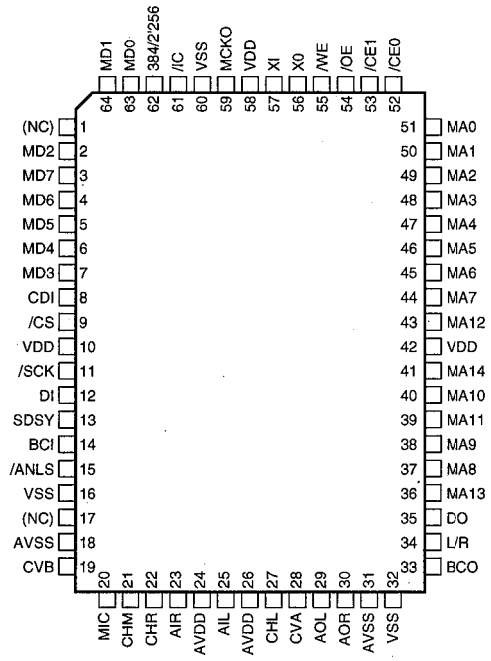
Step	Adjustment item	Signal(ANT IN)	Reception frequency	Adjustment point	Test point	Rating
1	Adjustment of sensitivity (1440kHz)	AM ANT 1440kHz 50dBμ 1kHz, 30% modulation	1440kHz *(B-3)	T2	REC OUT	Audio output should be maximized.
2	Adjustment of sensitivity (630kHz)	AM ANT 630kHz 50dBμ 1kHz, 30% modulation	630kHz *(B-1)	T2	REC OUT	Audio output should be maximized.
3	Verification of sensitivity	AM ANT 630kHz 1080kHz 1440kHz 1kHz, 30% modulation	630kHz *(B-1) 1080kHz *(B-2) 1440kHz *(B-3)		AM ANT	Repeat the Step 1 and 2. Distortion should be 10% or less at each frequency. Check to ensure that the voltage at the ANT terminal is 54dBμ or less.
4	Verification of auto tuning	AM ANT 60dBμ				Auto reception should be available when the tuning key is pressed UP and DOWN.

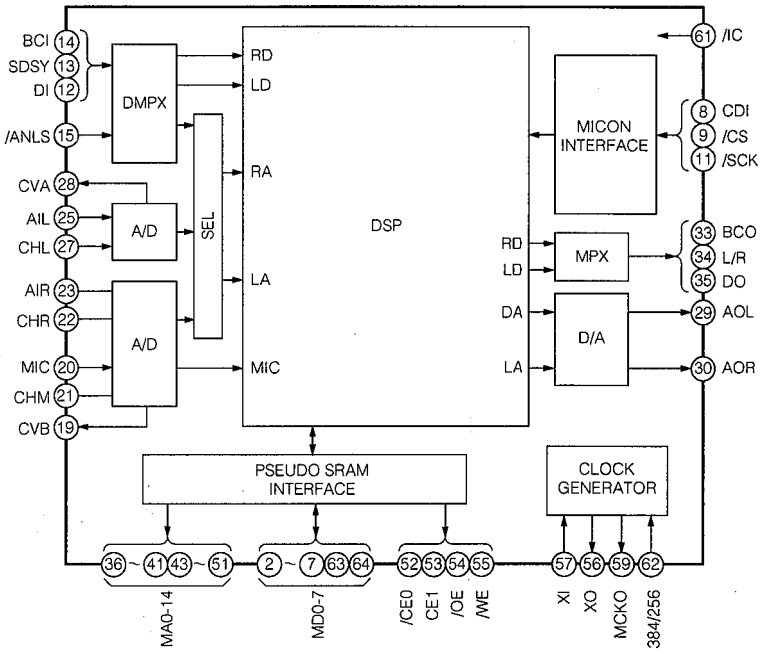
*: Execution of MAKER PRESET (Refer to SELF CHECK MODE on pages 7,8 and 9.) will facilitate setting reception frequency for adjustment.

■IC DATA

IC14 : YSS205B-F

Digital Dolby Pro Logic Decoder with Auto Input Balance





No.	Name	I/O	Function
1	(NC)		(Not to be connected externally)
2	MD2	I/O	External pseudo SRAM interface data terminal
3	MD7	I/O	External pseudo SRAM interface data terminal
4	MD6	I/O	External pseudo SRAM interface data terminal
5	MD5	I/O	External pseudo SRAM interface data terminal
6	MD4	I/O	External pseudo SRAM interface data terminal
7	MD3	I/O	External pseudo SRAM interface data terminal
8	CDI	I	Microprocessor interface serial data
9	/CS	I	Microprocessor interface chip select
10	YDD	–	+5V power supply (for digital system)
11	/SCK	I	Microprocessor interface serial clock
12	DI	I+	Digital audio input serial data
13	SDSY	I+	Digital audio input L/R clock
14	BCI	I+	Digital audio input bit clock
15	/ANLS	I+	YM7110 interface serial data
16	VSS	–	Ground (for digital system)
17	(NC)		(Not to be connected externally)
18	AVSS	A-	Ground (for A/D and D/A systems, to be connected to VSS externally)
19	CYB	A-	R channel, MIC channel ADC center voltage
20	MIC	AI	Analog audio MIC channel ADC input
21	CHM	A-	For the connection of a MIC input sample/ hold capacitor
22	CHR	A-	For the connection of an AIR input sample/ hold capacitor
23	AIR	AI	Analog audio R channel ADC input
24	AVDD	A-	+5V power supply (for A/D and D/A systems, to be connected to VDD externally)
25	AIL	AI	Analog audio L channel ADC input

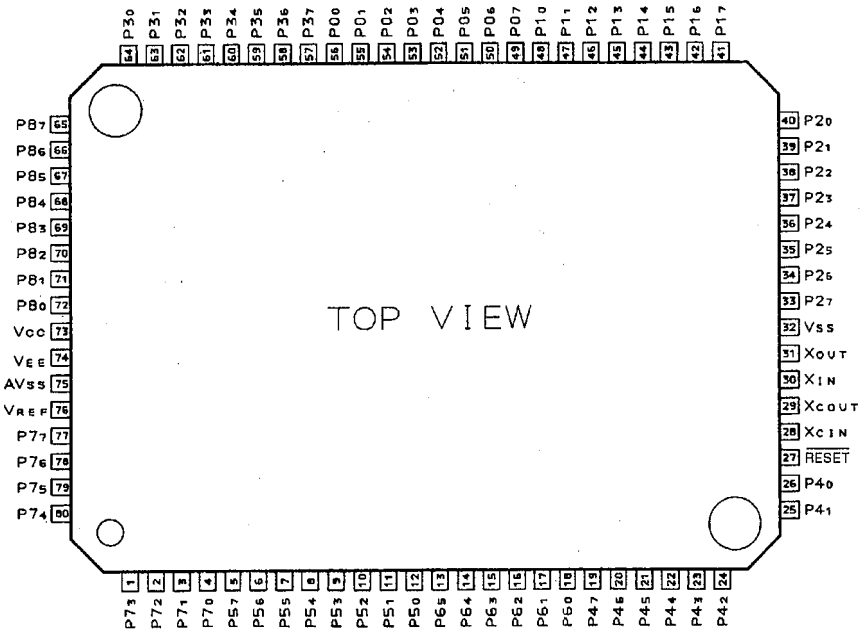
No.	Name	I/O	Function
26	AVDD	A-	+5V power supply (for A/D and D/A systems, to be connected to VDD externally)
27	CHL	A-	For the connection of an AIL input sample/ hold capacitor
28	CVA	A-	L channel ADC center voltage
29	AOL	AO	Analog audio L channel DAC output
30	AOR	AO	Analog audio R channel DAC output
31	AVSS	A-	Ground (for A/D and D/A systems, to be connected to VSS externally)
32	VSS	–	Ground (for digital system)
33	BCO	O	Digital audio output bit clock
34	L/R	O	Digital audio output L/R clock
35	DO	O	Digital audio output serial data
36	MA13	O	External pseudo SRAM interface address terminal
37	MA8	O	External pseudo SRAM interface address terminal
38	MA9	O	External pseudo SRAM interface address terminal
39	MA11	O	External pseudo SRAM interface address terminal
40	MA10	O	External pseudo SRAM interface address terminal
41	MA14	O	External pseudo SRAM interface address terminal
42	VDD	–	Ground (for digital system)
43	MA12	O	External pseudo SRAM interface address terminal
44	MA7	O	External pseudo SRAM interface address terminal
45	MA6	O	External pseudo SRAM interface address terminal
46	MA5	O	External pseudo SRAM interface address terminal
47	MA4	O	External pseudo SRAM interface address terminal
48	MA3	O	External pseudo SRAM interface address terminal
49	MA2	O	External pseudo SRAM interface address terminal
50	MA1	O	External pseudo SRAM interface address terminal
51	MA0	O	External pseudo SRAM interface address terminal

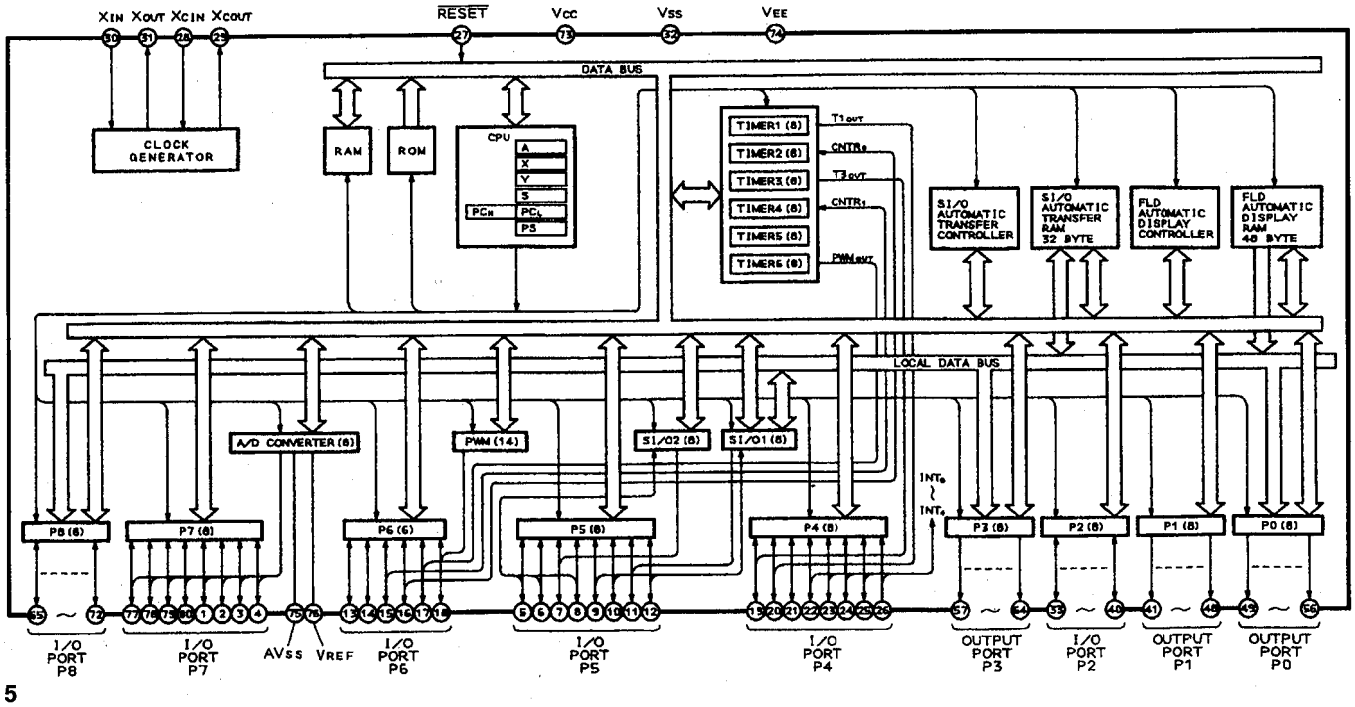
No.	Name	I/O	Function
52	/CEO	O	External pseudo SRAM interface chip select #0
53	/CEI	O	External pseudo SRAM interface chip select #1 (effective when two SRAMs are connected)
54	/OE	O	External pseudo SRAM interface OE terminal
55	/WE	O	External pseudo SRAM interface We terminal
56	XO	O	For the connection of a crystal oscillator
57	XI	I	For the connection of a crystal oscillator, or external clock input

No.	Name	I/O	Function
58	VDD	–	+5V power supply (for digital system)
59	VCKO	O	Master clock (XI clock) output
60	VSS	–	Ground (for digital system)
61	/IC	I	Initial clear terminal
62	384/256	I+	Master clock rate switching ("H" : 384 fs, "L" : 256 fs)
63	MDO	I/O	External pseudo SRAM interface data terminal
64	MDI	I/O	External pseudo SRAM interface data terminal

Note) + : Pull-up terminal, A: Analog terminal

IC302 : M38179M6-381FP
8 bit μ-COM

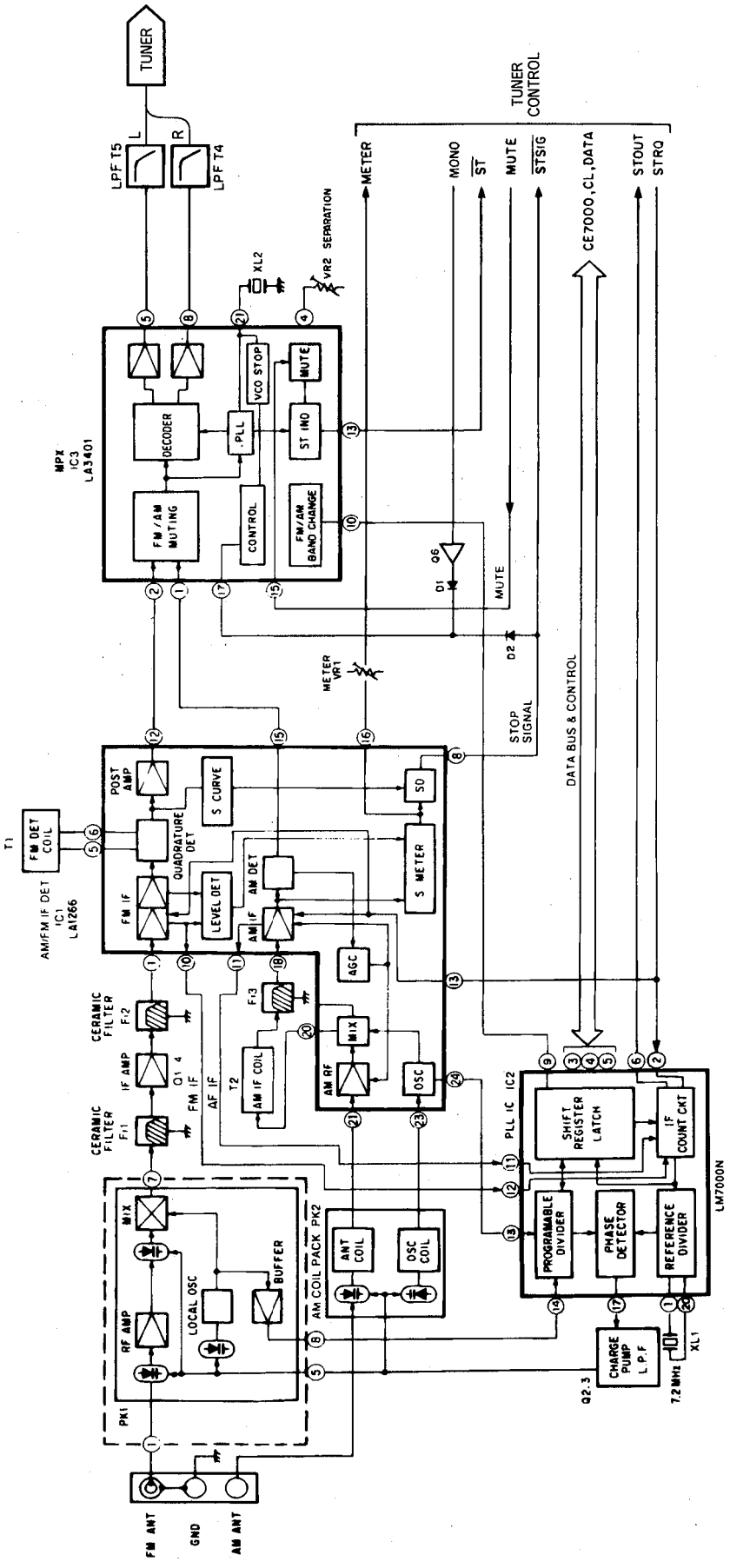




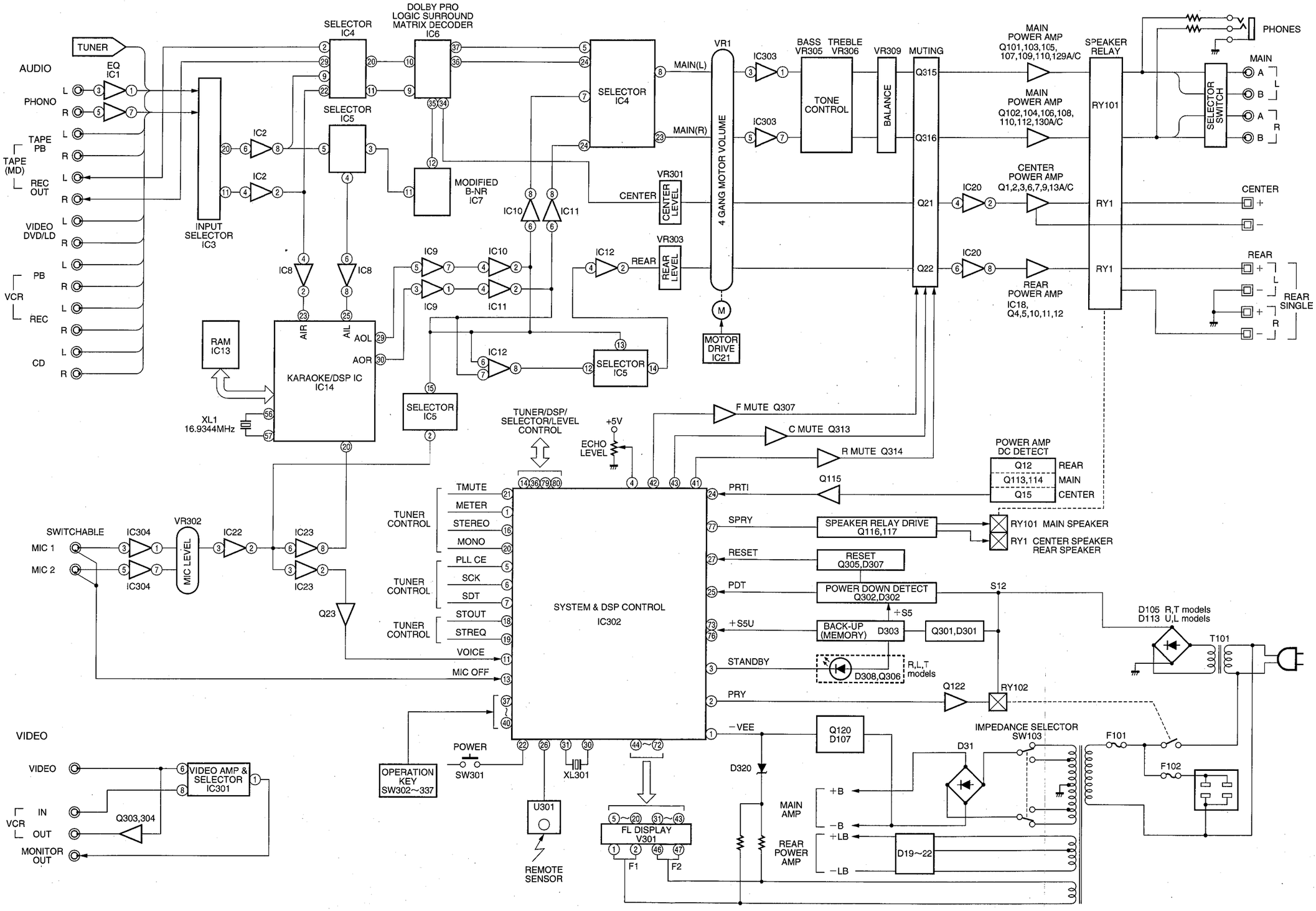
No.	Port	Name	I/O	Function
1	P73	METER	I	Tuner meter
2	P72	PON	O	Power relay
3	P71	STBY	O	LED for Stand by
4	P70	ECHO	I	Echo level
5	P57	PLLCE	O	LM7000 CE
6	P56	CLOCK	O	Serial clock
7	P55	DATA	O	Serial data
8	P54	KPCE	O	YSS-205 CE
9	P53	CE2785	O	LA2786 CE
10	P52		O	
11	P51	VOICE	I	Mic
12	P50	KPRES	O	YSS-205 Reset
13	P65	MICOFF	I	Connect/ Disconnect
14	P64	VSEL2	O	Video select 2
15	P63	CESEL	O	LC78211, 78212 CE
16	P62	ST	I	Stereo for Tuner
17	P61	STSIG	I	STOP SIGNAL
18	P60	STOUT	I	STOP OUT
19	P47	STREQ	O	STOP REQUEST
20	P46	MONO	O	AUTO/MONO
21	P45	TMUTE	O	Tuner mute
22	P44	PSW	I	Power switch key input
23	P43	PRTDC	I	AMP DC detect
24	P42	PRTI	I	Over current detect
25	P41	PDN	I	Power down detect
26	P40	REM	I	Remote control Signal
27	RES	RESET	I	Reset
28	XCIN			GND
29	XCOUT			N.C
30	XIN		I	6.3 MHz
31	XOUT		O	6.3 MHz
32	VSS			GND
33	P27	4052A, V1	I/O	µPD4053A V2
34	P26	4052B, V2	I/O	µPD4053B V1
35	P25	4052C	O	µPD4053C
36	P24	VSEL1	O	Video select 1
37	P23	KEY3	I	Key input 3
38	P22	KEY2	I	Key input 2
39	P21	KEY1	I	Key input 1
40	P20	KEY0	I	Key input 0

No.	Port	Name	I/O	Function
80	P74	VOL UP	O	Volume up
79	P75	VOL DN	O	Volume down
78	P76		I/O	
77	P77	SPRY	O	Speaker relay
76	VREF			+5V
75	AVSS			GND
74	VEE	VP		–24V
73	VCC			+5V
72	P80	P15	O	FL ANODE P15
71	P81	P14	O	FL ANODE P14
70	P82	P13	O	FL ANODE P13
69	P83	P12	O	FL ANODE P12
68	P84	P11	O	FL ANODE P11
67	P85	P10	O	FL ANODE P10
66	P86	P9	O	FL ANODE P9
65	P87	P8	O	FL ANODE P8
64	P30	P7	O	FL ANODE P7
63	P31	P6	O	FL ANODE P6
62	P32	P5	O	FL ANODE P5
61	P33	P4	O	FL ANODE P4
60	P34	P3	O	FL ANODE P3
59	P35	P2	O	FL ANODE P2
58	P36	P1	O	FL ANODE P1
57	P37	P0	O	FL ANODE P0
56	P00	0G	O	FL GRID 0
55	P01	1G	O	FL GRID 1
54	P02	2G	O	FL GRID 2
53	P03	3G	O	FL GRID 3
52	P04	4G, D0	O	FL GRID 4
51	P05	5G, D1	O	FL GRID 5
50	P06	6G, D2	O	FL GRID 6
49	P07	7G, D3	O	FL GRID 7
48	P10	8G, D4	O	FL GRID 8
47	P11	9G, D5	O	FL GRID 9
46	P12	10G, D6	O	FL GRID 10
45	P13	11G, D7	O	FL GRID 11
44	P14	12G, D8	O	FL GRID 12
43	P15	CMUTE	O	Center mute
42	P16	MMUTE	O	Main mute
41	P17	RMUTE	O	Rear mute

■BLOCK DIAGRAM (TUNER)



■BLOCK DIAGRAM (MAIN, INPUT, OPERATION)

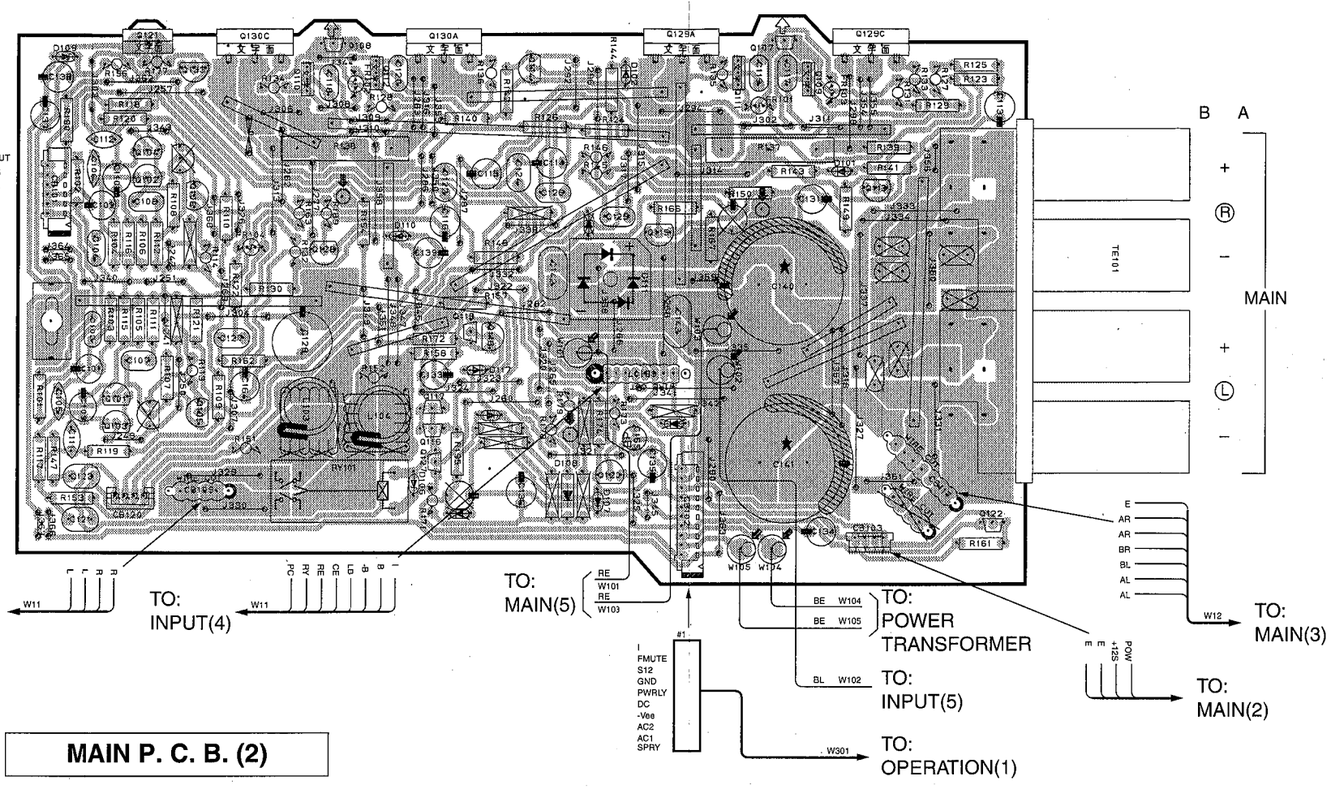


■PRINTED CIRCUIT BOARD (Foil side)

MAIN P. C. B. (1)

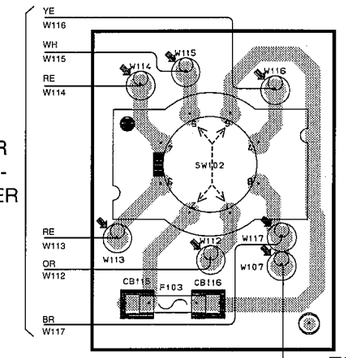
● Semiconductor Location

Ref No.	Location
Q101	C3
Q102	C2
Q103	C3
Q104	C2
Q105	C3
Q106	C2
Q107	E2
Q108	C2
Q109	E2
Q110	C2
Q111	E2
Q112	C2
Q113	E2
Q114	D2
Q115	D2
Q116	D3
Q117	D3
Q118	D2
Q119	D2
Q120	D3
Q121	C2
Q122	E3
Q123	B5
Q124	B5
Q127	D3
Q128	C2
Q129A	D2
Q129C	E2
Q130A	D2
Q130C	C2



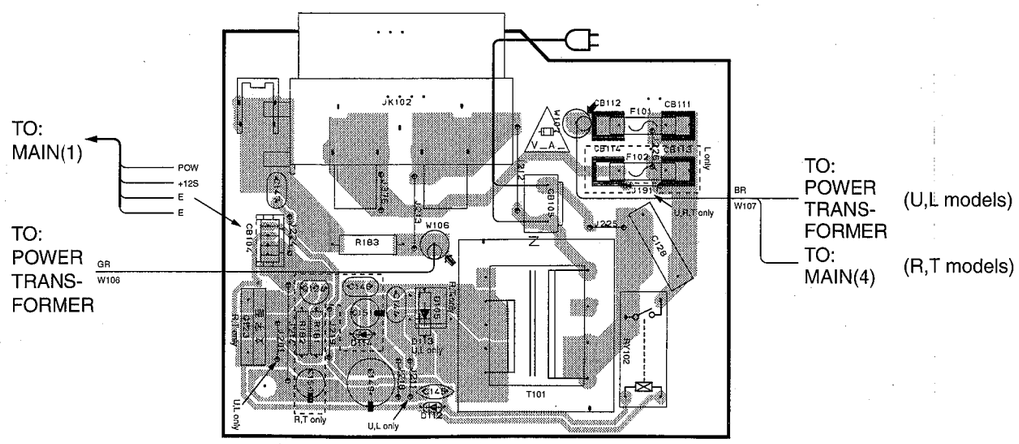
• R,T models only

MAIN P. C. B. (4)

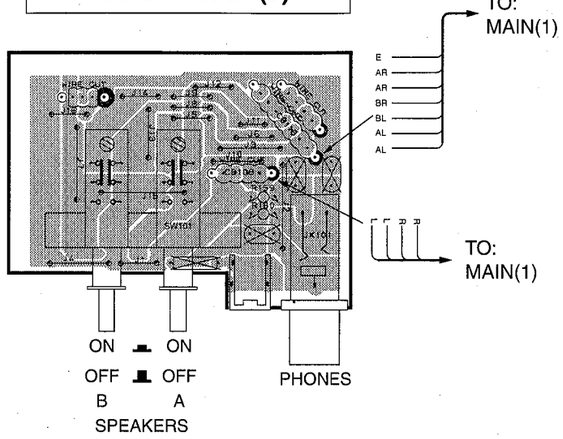


MAIN P. C. B. (2)

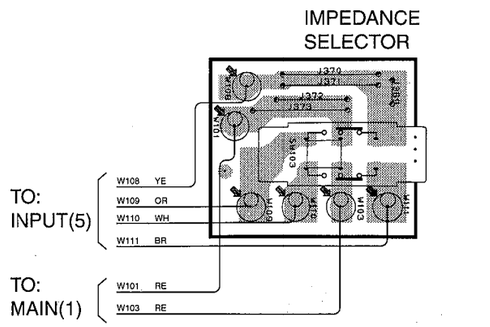
SWITCHED
100W MAX. TOTAL
AC OUTLETS



MAIN P. C. B. (3)



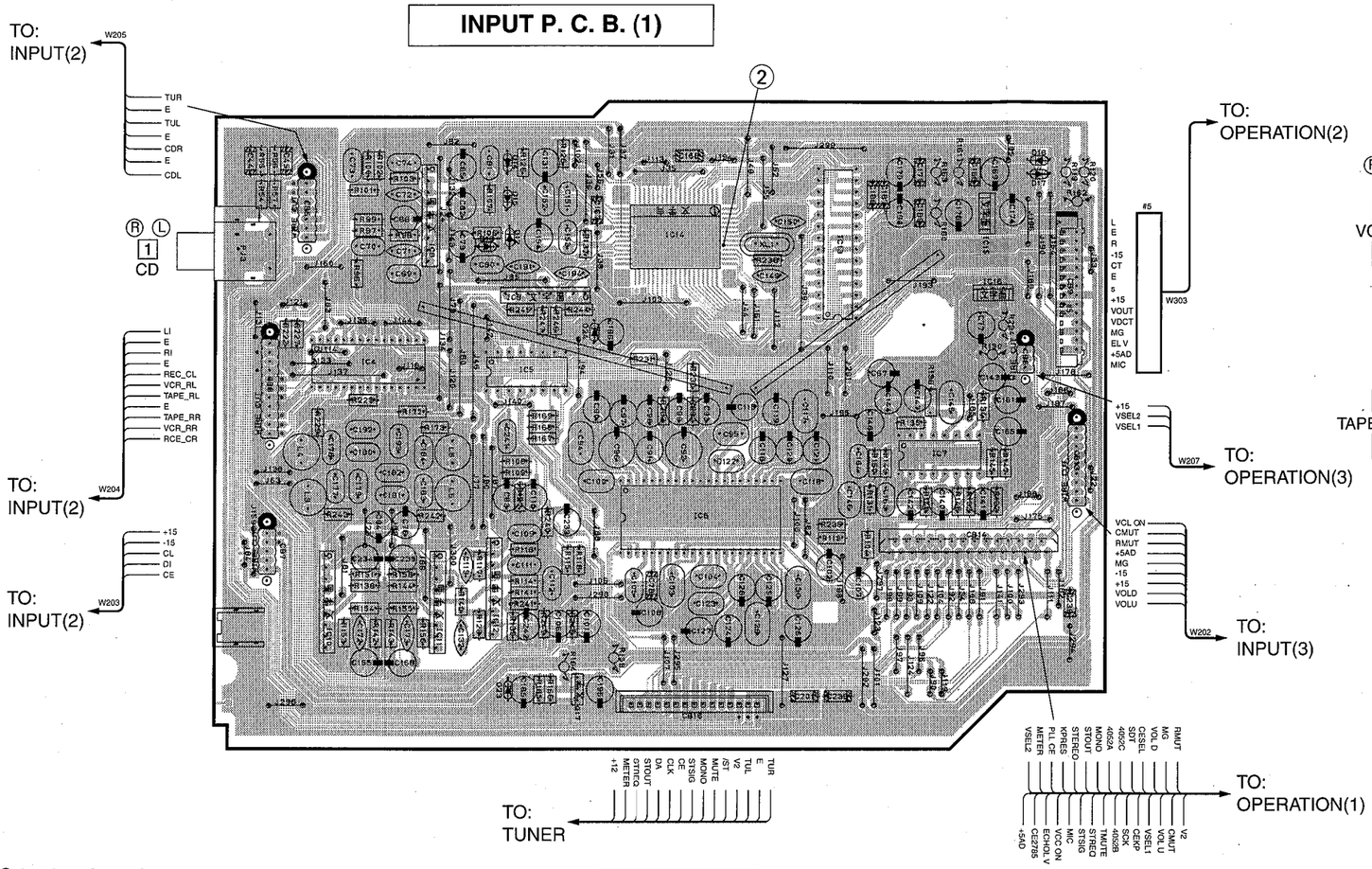
MAIN P. C. B. (5)



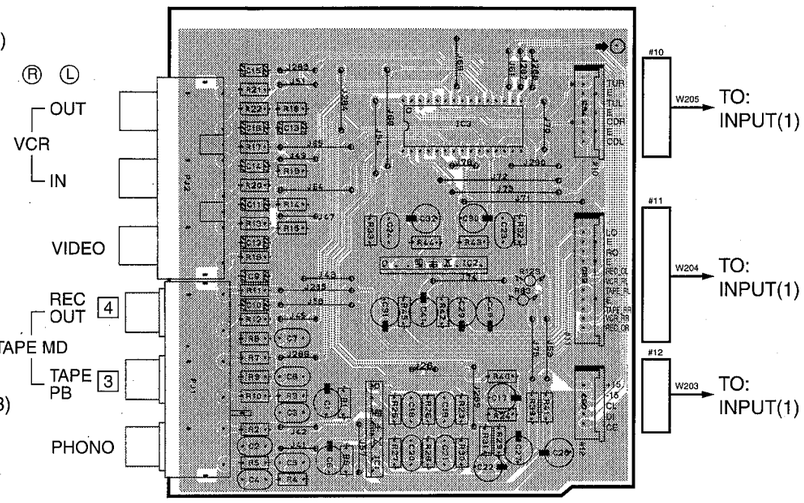
■PRINTED CIRCUIT BOARD (Foil side)

② : TEST POINT WAVEFORM (See page 29)

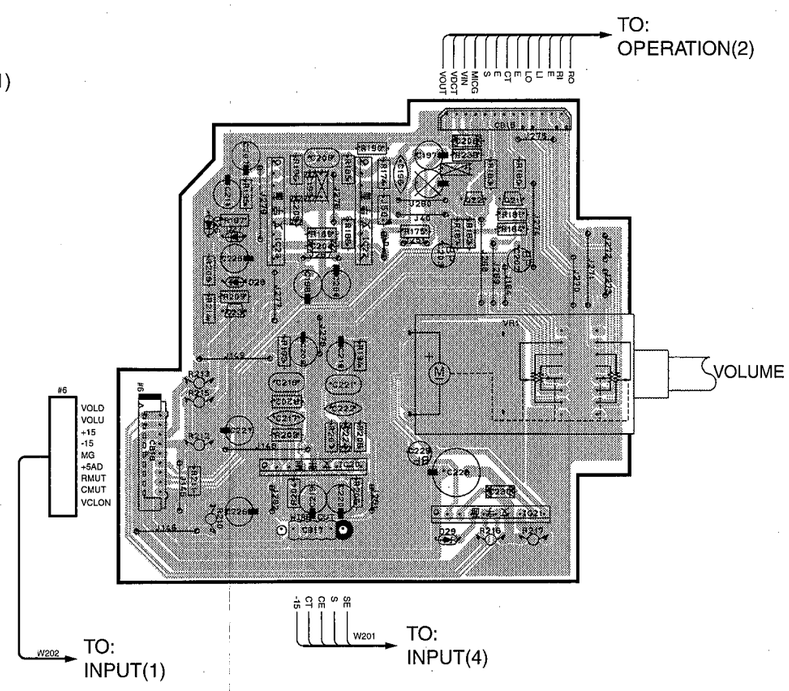
INPUT P. C. B. (1)



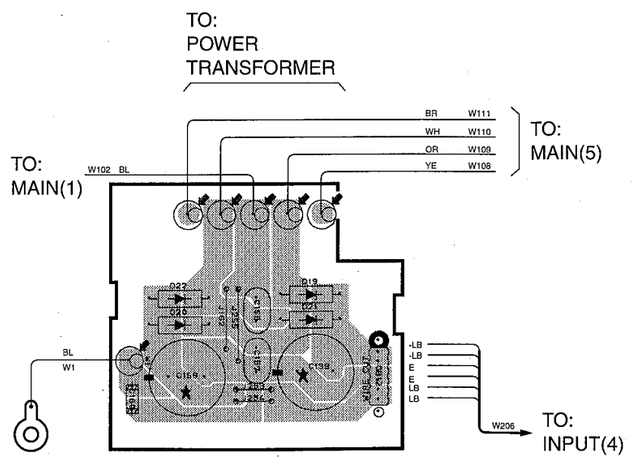
INPUT P. C. B. (2)



INPUT P. C. B. (3)



INPUT P. C. B. (5)



● **Semiconductor Location**

Ref No.	Location
Q17	C3
Q21	G4
Q22	G4
Q23	F5

Ref No.	Location
IC1	G3
IC2	G2
IC3	G2
IC4	B2
IC5	C2
IC6	C3
IC7	D3
IC8	B2
IC9	C2
IC10	B3
IC11	B3
IC12	B3
IC13	D2
IC14	C2
IC15	D2
IC16	D2
IC20	G5
IC21	G5
IC22	G4
IC23	F4

■PRINTED CIRCUIT BOARD (Foil side)

① : TEST POINT WAVEFORM (See page 29)

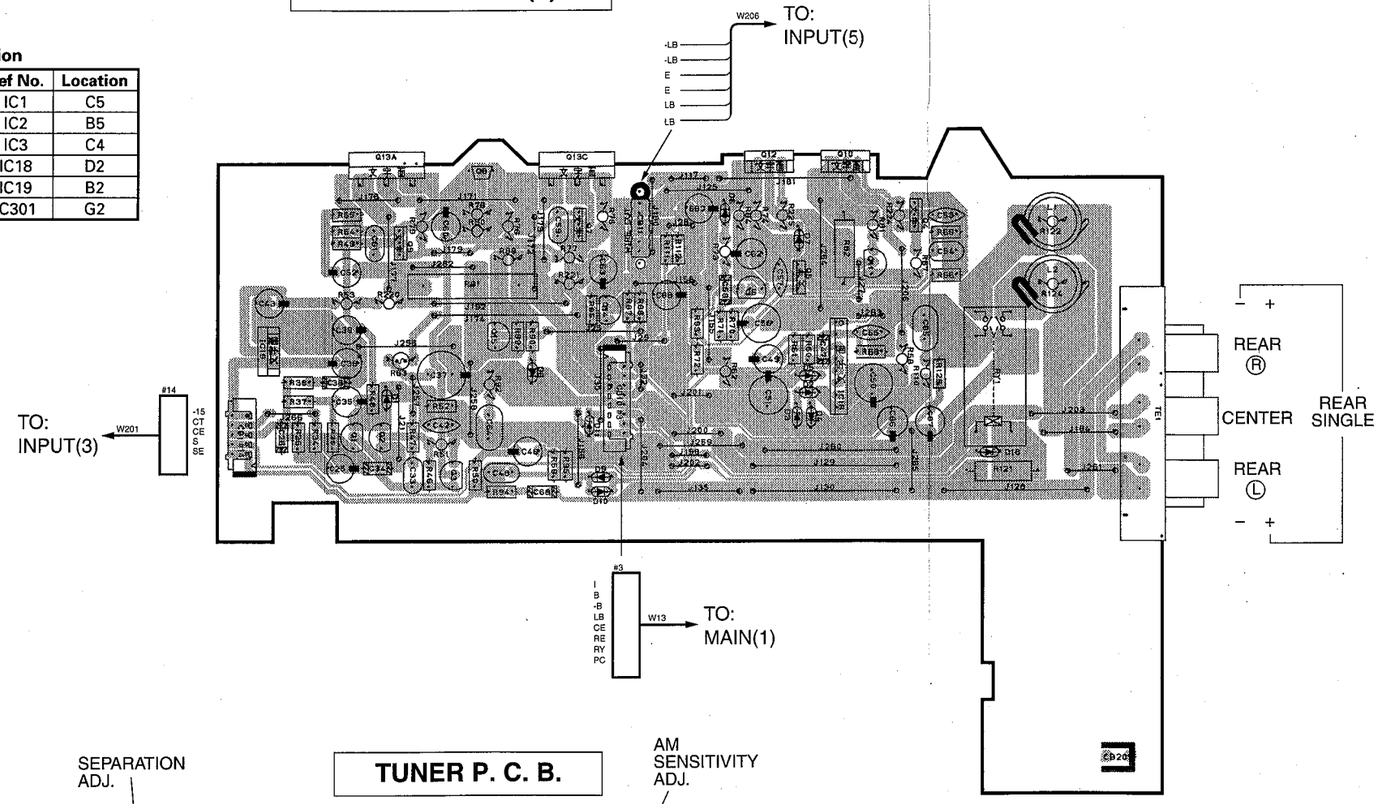
INPUT P. C. B. (4)

● Semiconductor Location

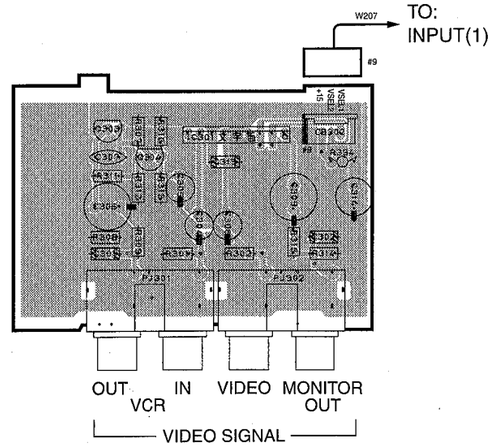
Ref No.	Location
Q1(*)	C3
Q1(※)	D5
Q2(*)	C3
Q2(※)	C5
Q3(*)	C3
Q3(※)	C5
Q4(*)	D2
Q4(※)	D5
Q5(*)	D2
Q5(※)	C5
Q6(*)	D2
Q6(※)	D4
Q7(*)	C2
Q7(※)	B5
Q8	C2
Q9	C2
Q10	D2
Q11	D2
Q12	D2
Q13A	C2
Q13C	C2
Q14	C2
Q15	C2
Q303	G2
Q304	G2

Ref No.	Location
IC1	C5
IC2	B5
IC3	C4
IC18	D2
IC19	B2
IC301	G2

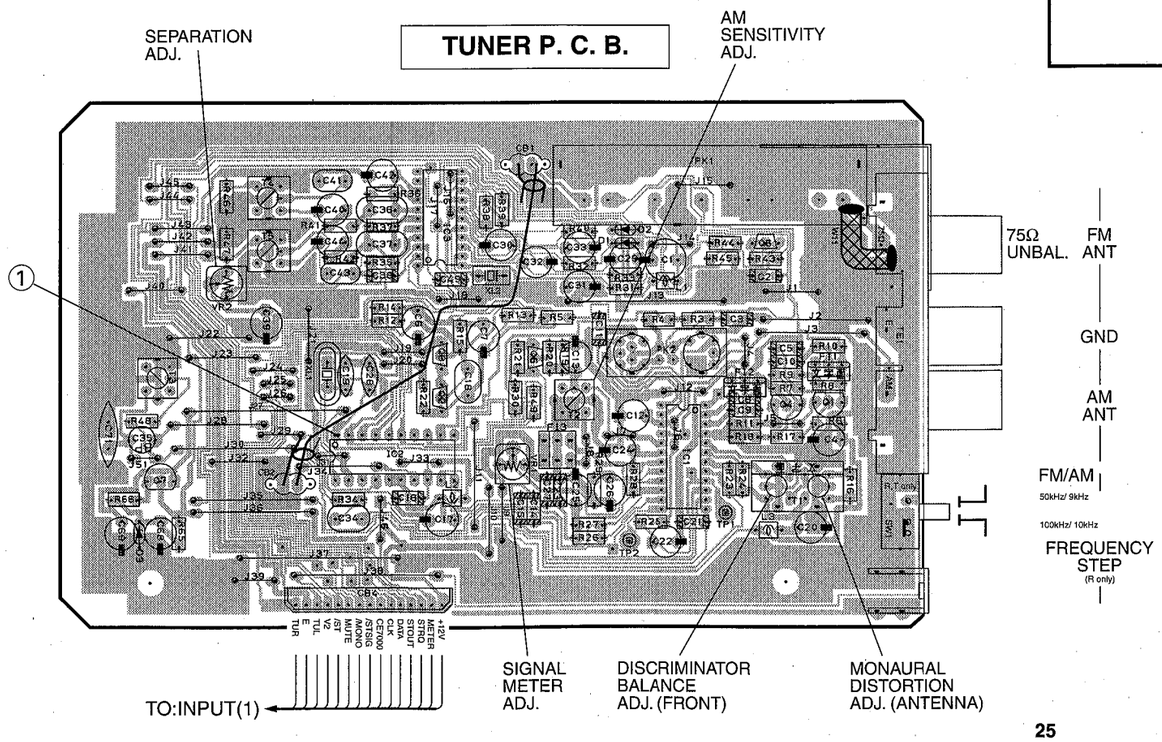
(*) : INPUT P.C.B. (4)
(※) : TUNER P.C.B.



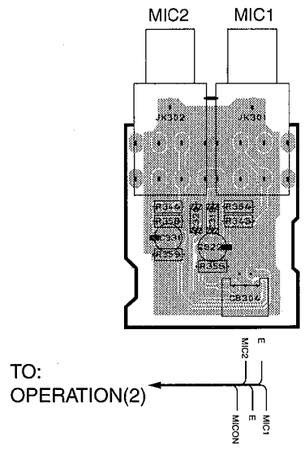
OPERATION P. C. B. (3)



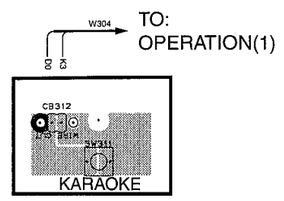
TUNER P. C. B.



OPERATION P. C. B. (4)



OPERATION P. C. B. (5)



■PRINTED CIRCUIT BOARD (Foil side)

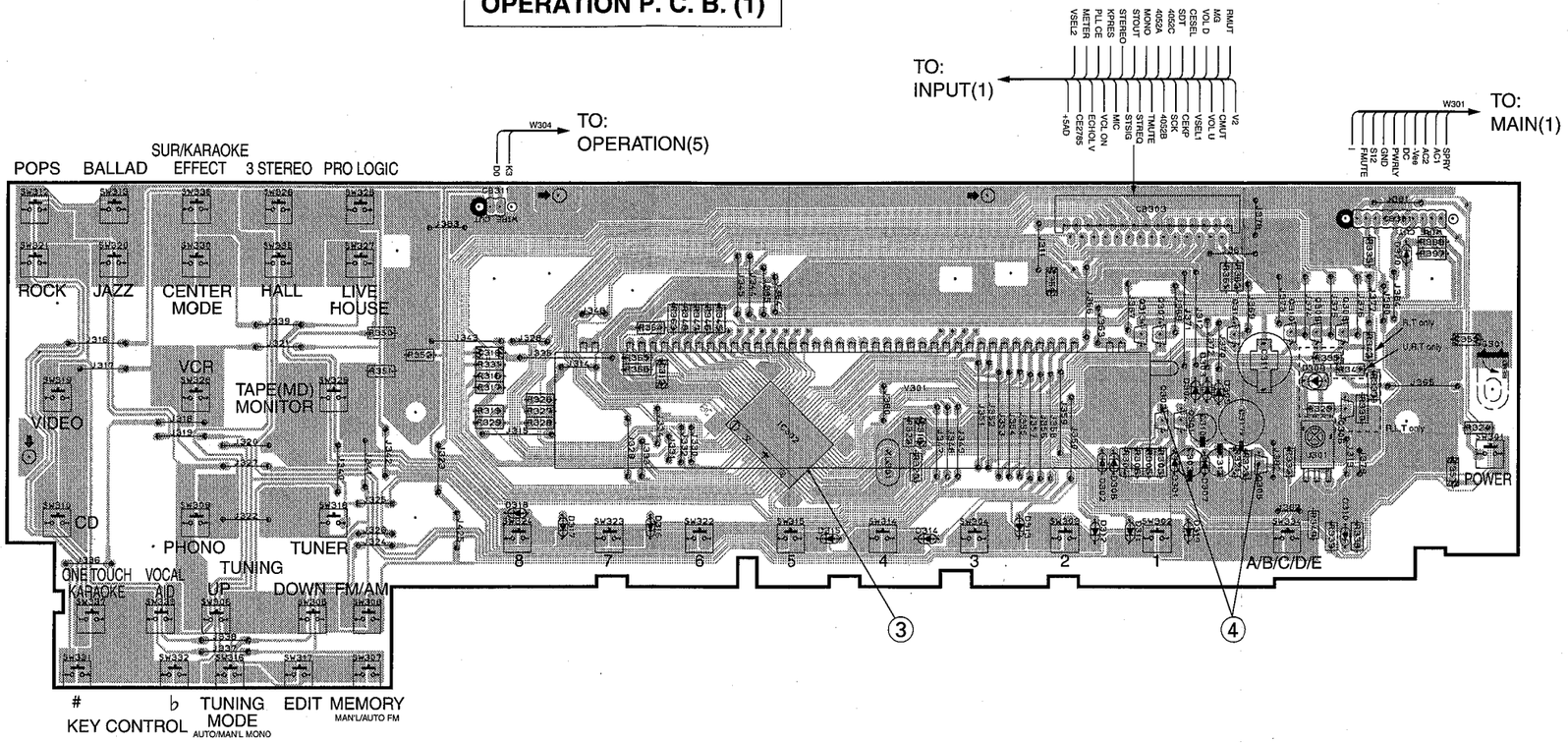
③ and ④ : TEST POINT WAVEFORMS (See page 29)

● Semiconductor Location

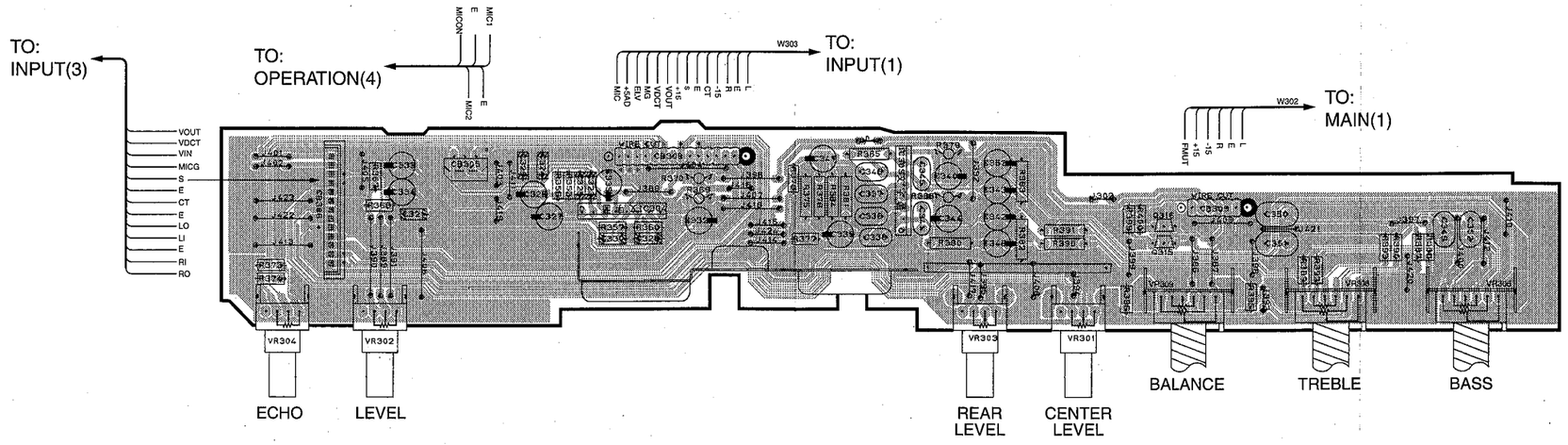
Ref No.	Location
Q301	F3
Q302	F3
Q305	F3
Q306	G3
Q307	F2
Q308	G2
Q309	F2
Q310	F2
Q313	F2
Q314	F2
Q315	E5
Q316	E5

Ref No.	Location
IC302	E3
IC303	E5
IC304	D5

OPERATION P. C. B. (1)



OPERATION P. C. B. (2)



■DISPLAY DATA (VV485300)

● V301 : 13-BT-148GK

PIN CONNECTION

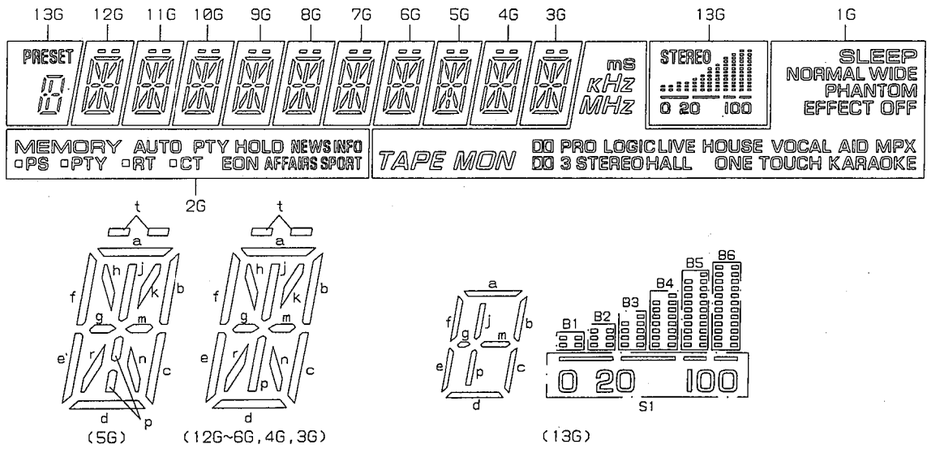
Pin No.	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29
CONNECTION	F2	F2	NP	NP	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NC	NC

Pin No.	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10
CONNECTION	NC	NC	NC	NC	NC	NC	NC	NC	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11

Pin No.	9	8	7	6	5	4	3	2	1
CONNECTION	P12	P13	P14	P15	P16	NP	NP	F1	F1

Note
1) **F1, F2** ..... Filament
2) **NP** ..... No pin
3) **NC** ..... No connection
4) **P1-P16** ..... Datum Line
5) **1G-13G** ..... Grid

GRID ASSIGNMENT

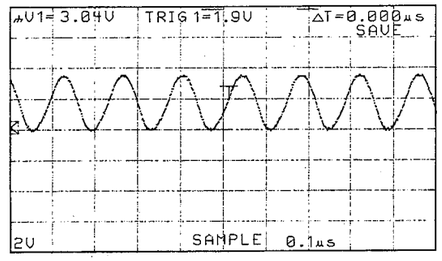


ANODE CONNECTION

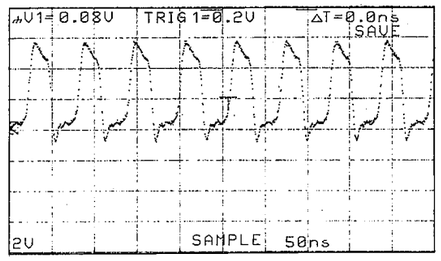
	13G	12G~13G	2G	1G		13G	12G~13G	2G	1G
P1	a	a	MEMORY	SLEEP	P9	STEREO	j	CT	LIVE HOUSE
P2	b, c	b	AUTO	NORMAL	P10	B1	k	□ (CT)	HALL
P3	d	c	PTY HOLD	WIDE	P11	B2	m	RT	□□ PRO LOGIC
P4	e, f	d	SPORT	PHANTOM	P12	B3	n	□ (RT)	□□ 3 STEREO
P5	g	e	AFFAIRS	EFFECT OFF	P13	B4	p	PTY	ms
P6	j, p	f	INFO	ONE TOUCH KARAOKE	P14	B5	r	□ (RTY)	kHz
P7	m	g	NEWS	MPX	P15	B6	t	PS	MHz
P8	PRESET	h	EON	VOCAL AID	P16	S1	–	□ (PS)	TAPE MON

■TEST POINT WAVEFORMS

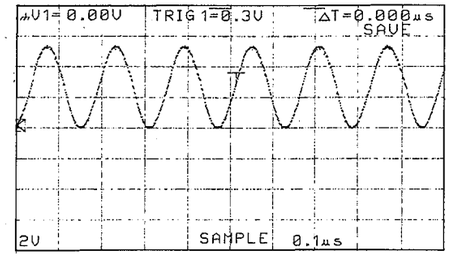
Point ① (Pin 20 of IC2)
V : 2V/div H : 0.1µsec/div
DC range 1 : 1 probe



Point ② (Pin 56 of IC14)
V : 2V/div H : 50nsec/div
DC range 1 : 1 probe



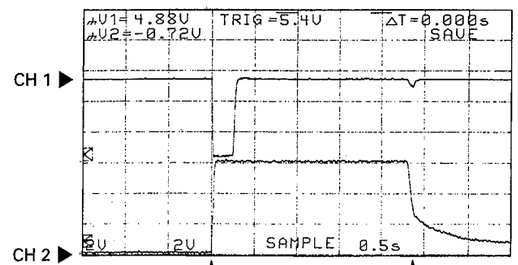
Point ③ (Pin 31 of IC302)
V : 2V/div H : 0.1µsec/div
DC range 1 : 1 probe



Point ④ (Pin 20 of IC2)

[CH 1 : Collector of Q305
CH 2 : Emitter of Q301]

V : 2V/div
H : 0.5sec/div
DC range 1 : 1 probe



With the POWER switch turned ON, connect the power cord to the AC outlet.

Disconnect the power cord from the AC outlet.

* This waveform is not available by pushing the power switch ON and OFF.

■SCHEMATIC DIAGRAM (TUNER)

Each voltage given here represents that in the FM (98. 1MHz, STEREO) reception mode but the one in the parentheses ( ) is that in the AM (1080kHz, MAN'L) reception mode.
① : TEST POINT WAVEFORM (See page 29)

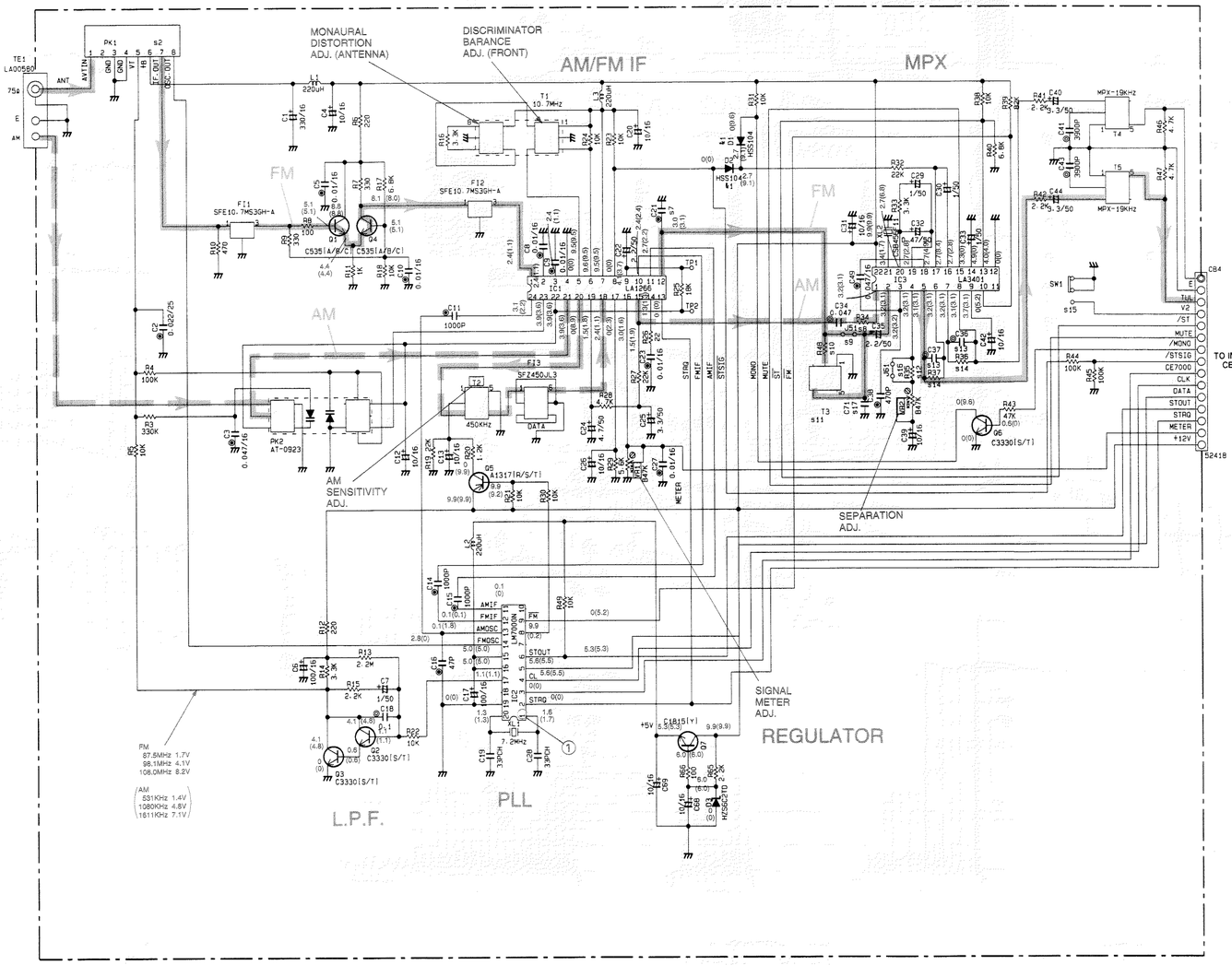
CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
◉	CERAMIC TUBULAR CAPACITOR
◎	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
Ⓘ	MICA CAPACITOR
Ⓟ	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR [P=5]
▨	CARBON FILM RESISTOR [P=10]
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

NOTICE (model)
(J)····· JAPANESE
(U)····· U. S. A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE



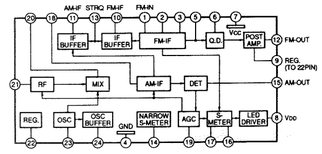
S		U·C	R·T	A·B	G
1					
2	PK1	VR24220	VR24220	VR24220	VQ98760
3					
4					
5					
6					
7	C21	100P	100P	100P	×
8	R34	10K	10K	10K	27K
9	J51	○	○	○	×
10	R48	×	×	×	4.7K
11	T3	×	×	×	VQ36570
12	R35	22K	22K	22K	×
13	C36·37	680P	680P	470P	390P
14	R36·37	100K	100K	100K	120K
15	SW1	×	VF54120	×	×
16	J61	×	×	×	○
17	C71	×	×	×	120PCH

× = NOT USED
○ = USED

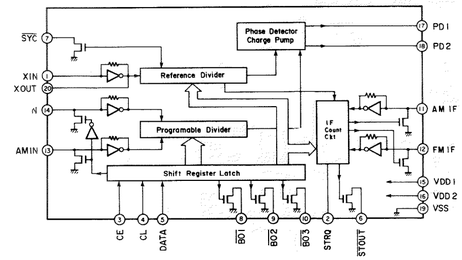
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
◆1	D1·2	HSS104
		1SS133
		1SS175

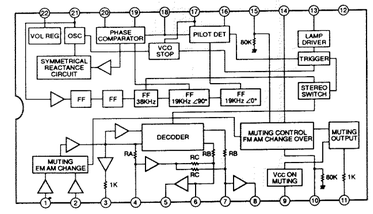
IC1 : LA1266
AM/FM IF



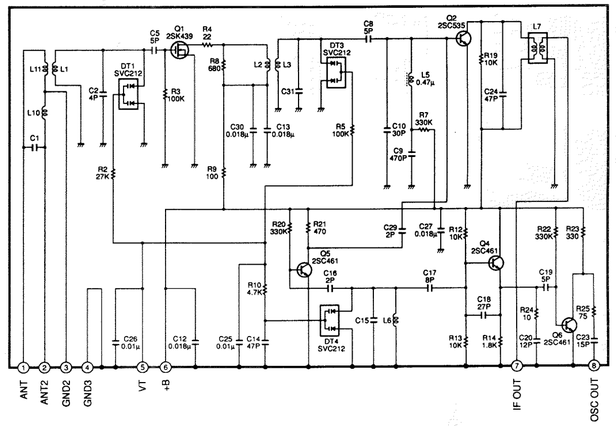
IC2 : LM7000N
PLL Controller



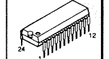
IC3 : LA3401
MPX



PK1 : EXV-17296G1 (VR242200)
MPX



PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

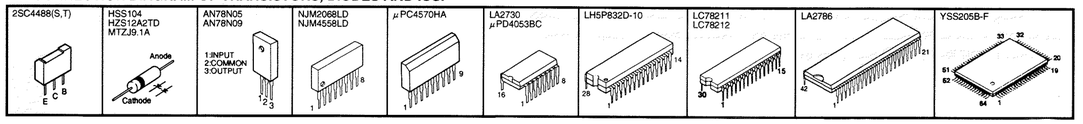
2SA1317(R,S,T) 2SC3330(R,S,T)	2SC1815(Y) 2SC535(A,B,C)	1SS104 HZS6C2TD	LM7000N	LA3401	LA1266
					

** All voltage are measured with a 10MΩ/DC electric volt meter.*
** Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.*
** Schematic diagram is subject to change without notice.*

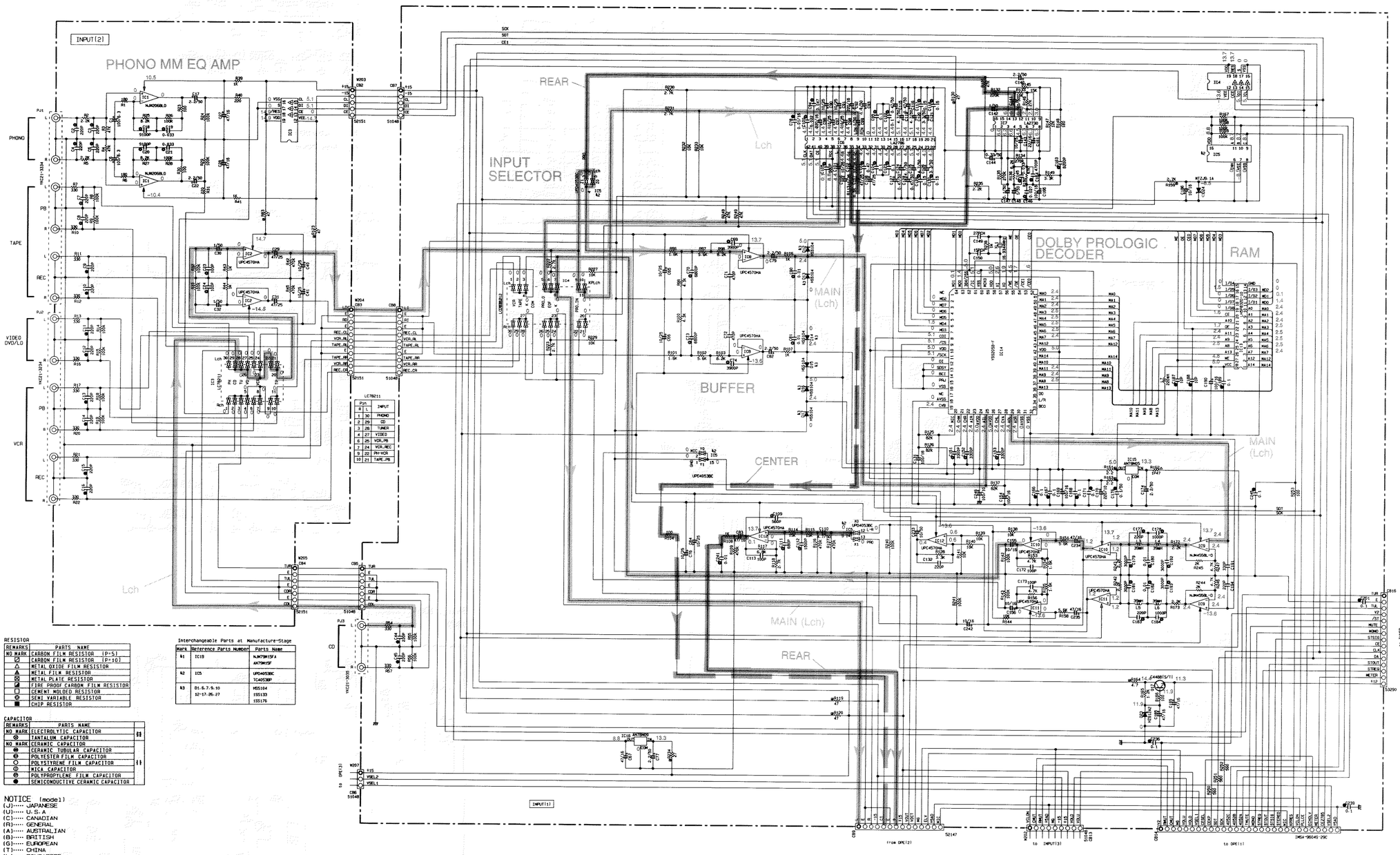
■SCHEMATIC DIAGRAM (INPUT)

② : TEST POINT WAVEFORM (See page 29)

PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.



* All voltage are measured with a 10MΩ/DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.



RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P-5)
☑	CARBON FILM RESISTOR (P-10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
☒	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
◇	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

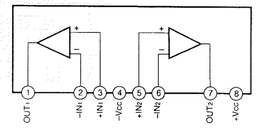
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	▯▯
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	▯
◉	CERAMIC TUBULAR CAPACITOR	
◐	POLYESTER FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
Ⓜ	MICA CAPACITOR	
◈	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

Interchangeable Parts at Manufacture-Stage

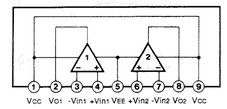
Mark	Reference Parts Number	Parts Name
&1	IC19	NJM79M15FA AN7915SF
&2	IC5	UPD4053BC TC4053BP
&3	D1-6,7,9,10 S2-17,26,27	MSS104 1SS133 1SS176

NOTICE (model)
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(G)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

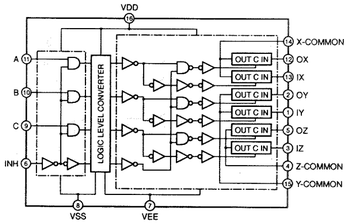
IC1 : NJM2068LD
Dual OP-AMp



IC2,8,10~12 : μPC4570HA
Dual OP-AMp



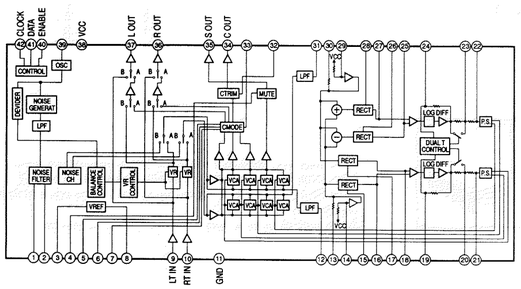
IC5 : μPD4053BC
Triple 2-Channel Multiplexer/Demultiplexer



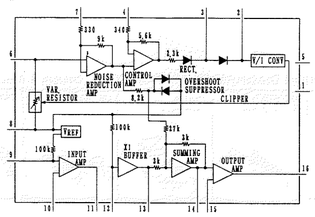
CONTROL INPUTS				"ON" CHANNEL
INHIBIT (Pin 6)	C (Pin 9)	B (Pin 10)	A (Pin 11)	0X (Pin 12), 0Y (Pin 2), 0Z (Pin 5) 1X (Pin 13), 1Y (Pin 1), 1Z (Pin 3)
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y, 0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE

* Don't Care

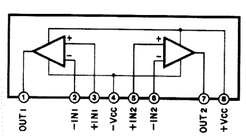
IC6 : LA2786
Dolby Pro Logic Surround Matrix Decoder



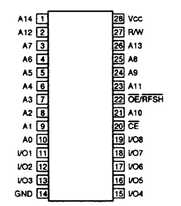
IC7 : LA2730

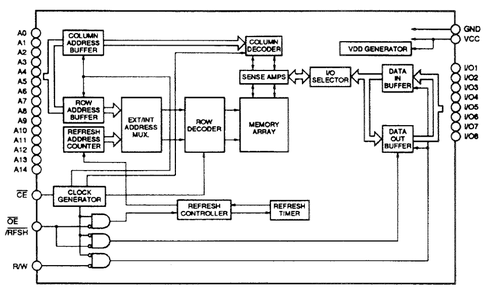


IC9 : NJM4558LD
Dual OP-Amp



IC13 : LH5P832D-10
256K Pseudo Static RAM





● Other IC
IC14 : YSS205B
→ See page 14

■SCHEMATIC DIAGRAM (INPUT)

Each voltage given here represents that in CD, PRO LOGIC, PHANTOM and the top side of IMPEDANCE SELECTOR, but the one in the parentheses ( ) is that in the bottom side.

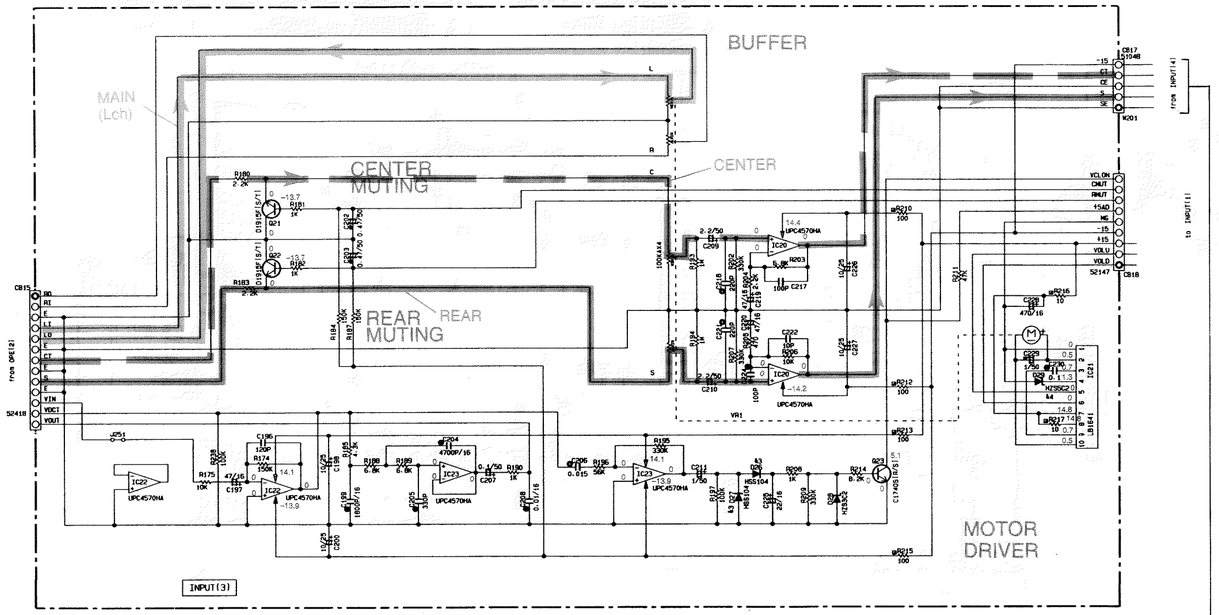
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☑	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

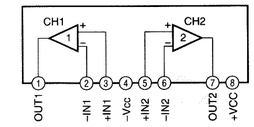
CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
⊗	TANTALUM CAPACITOR	#
NO MARK	CERAMIC CAPACITOR	‖
◉	CERAMIC TUBULAR CAPACITOR	‖
⊚	POLYESTER FILM CAPACITOR	‖
○	POLYSTYRENE FILM CAPACITOR	‖
⊙	MICA CAPACITOR	‖
◔	POLYPROPYLENE FILM CAPACITOR	‖
●	SEMICONDUCTIVE CERAMIC CAPACITOR	‖

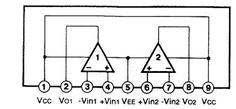
NOTICE (model)
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE



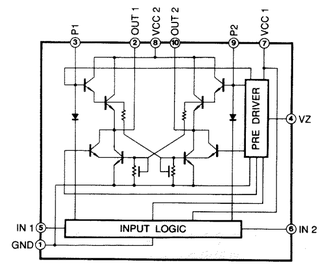
IC18 : M5220L
Dual OP-Amp



IC20,22,23 : μPC4570HA
Dual OP-Amp



IC21 : LB1641
Motor Drive



PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

2SC1740S(R,S) 2SD1915F(S,T)	2SA893A(D,E) 2SC1890A(D,E) 2SC2240(GR,BL)	2SA1708(S,T) 2SC4488(S,T)	2SD856(Q,P)	2SA1694(O,P,Y)	1SS270A 2A02M HSS104 HZS11B2TD HZS242TD HZS3C2TD HZS5B2TD HZS5C2TD	NJM79M15FA	M5220L	μPC4570HA	LB1641
B C E	E C B	E C B	B C E	B C E	Anode / Cathode	1: OUTPUT 2: INPUT 3: COMMON	1 8	1 9	1 10

** All voltage are measured with a 10MΩ/DC electric volt meter.*
** Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.*
** Schematic diagram is subject to change without notice.*

■SCHEMATIC DIAGRAM (OPERATION)

③ and ④ :TEST POINT WAVEFORMS (See page 29)

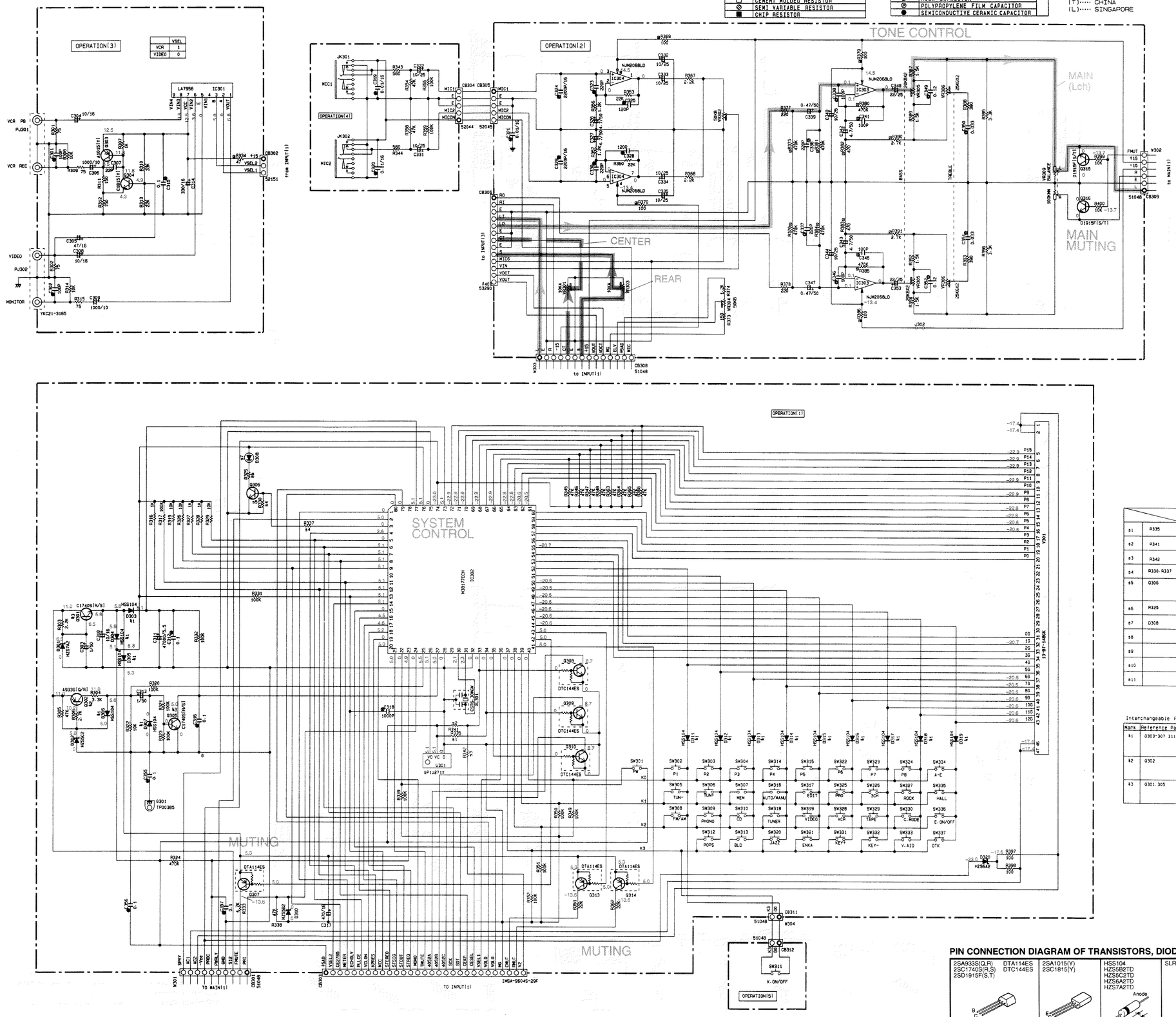
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☑	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

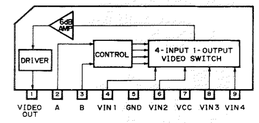
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
◉	CERAMIC TUBULAR CAPACITOR
◎	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
①	MICA CAPACITOR
⊛	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

NOTICE (model)
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

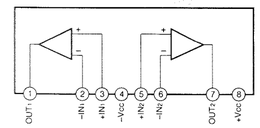


* All voltage are measured with a 10MΩ/DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

IC301 : LA7956
Video Switch



IC303, 304 : NJM2068LD
Dual OP-Amp



● Other IC
IC302 : M38179M6-381FP
→See page 15

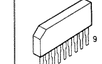
		U	RT	L
s1	R335	K	33K	33K
s2	R341	33K	33K	K
s3	R342	K	3.9K	K
s4	R330-R337	K	10K	10K
s5	Q306	K	2SC1740S(R/S) 2SC2603(E/F) 2SC3311A(Q/R/S)	2SC1740S(R/S) 2SC2603(E/F) 2SC3311A(Q/R/S)
s6	R325	K	680	680
s7	D308	K	SLR-325VC	SLR-325VC
s8				
s9				
s10				
s11				

× = NOT USED
○ = USED

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
▲1	D303-307, 311-319	HSS104 1SS133 1SS176
▲2	Q302	2SA933S(Q/R) 2SA1015(E/F) 2SA1309A(Q/R/S)
▲3	Q301, 305	2SC1740S(R/S) 2SC2603(E/F) 2SC3311A(Q/R/S)

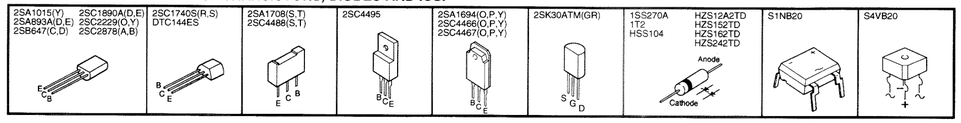
PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

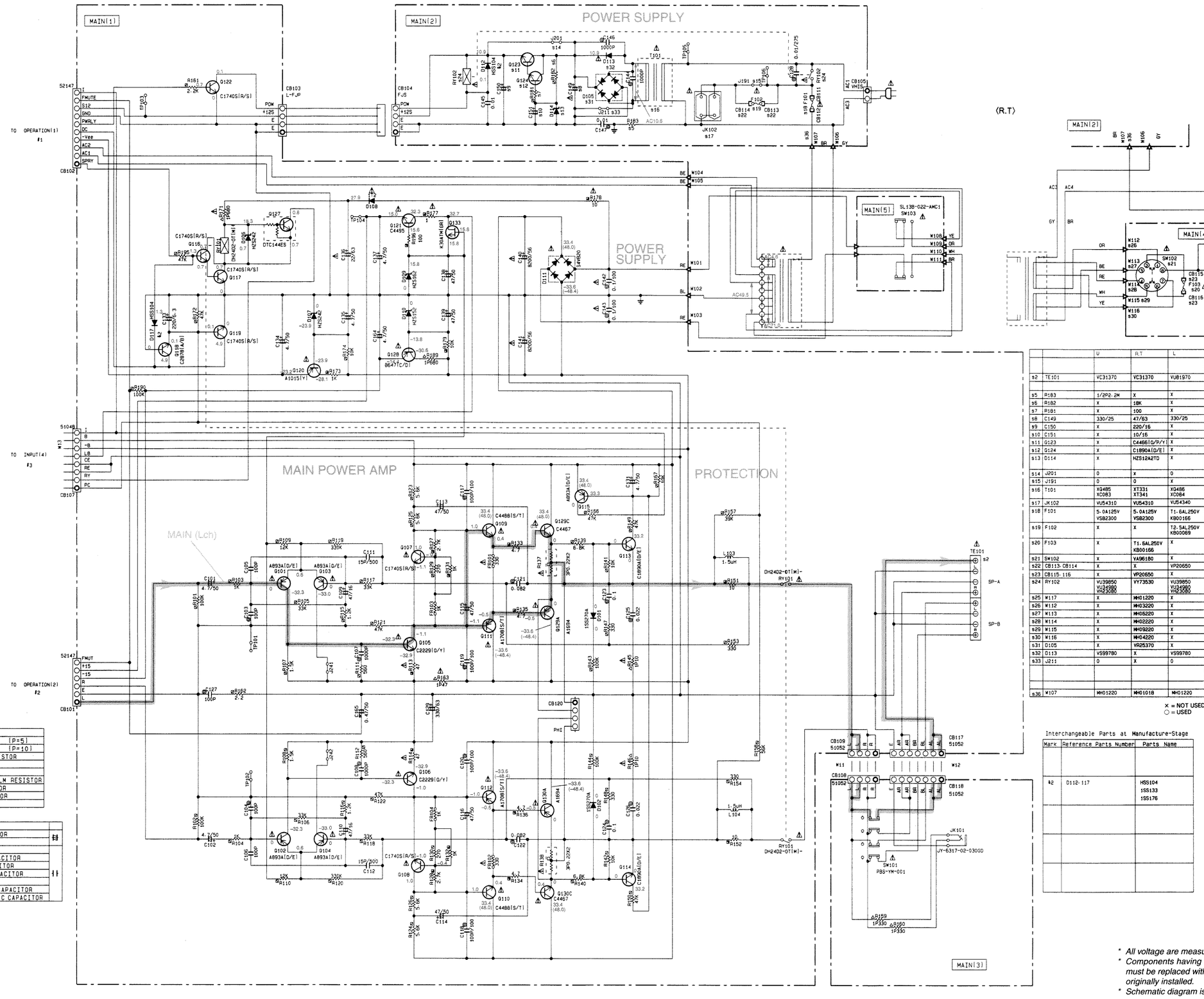
2SA933S(Q,R) 2SC1740S(R,S) 2SD1915F(S,T) DTA114ES DTC144ES	2SA1015(Y) 2SC1815(Y)	HSS104 HZS5B2TD HZS5C2TD HZS6A2TD HZS7A2TD	SLR-325VCT31	NJM2068LD	LA7956	M38177ECH
						

■SCHEMATIC DIAGRAM (MAIN)

Each voltage given here represents that in CD, PRO LOGIC, PHANTOM and the top side of IMPEDANCE SELECTOR, but the one in the parentheses ( ) is that in the bottom side.

PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.





		U	R,T	L
s2	TE101	VC31370	VC31370	VU81970
s5	R183	1/2P2.2M	X	X
s6	R182	X	18K	X
s7	R181	X	100	X
s8	C149	330/25	47/63	330/25
s9	C150	X	220/16	X
s10	C151	X	10/16	X
s11	Q123	X	C4466(O/P/Y)	X
s12	Q124	X	C1890A(D/E)	X
s13	D114	X	HZS12A2TD	X
s14	J201	0	X	0
s15	J191	0	0	X
s16	T101	XQ485 XC083	XT331 XT341	XQ486 XC084
s17	JK102	VU54310	VU54310	VU54340
s18	F101	5.0A125V VS82300	5.0A125V VS82300	T5.6AL250V KB00166
s19	F102	X	X	T2.5AL250V KB00069
s20	F103	X	T1.6AL250V KB00166	X
s21	SW102	X	VA96180	X
s22	CB113-CB114	X	X	VP20650
s23	CB115-116	X	VP20650	X
s24	RY102	VU39850 VU34980 VP43080	VY73530	VU39850 VU34980 VP43080
s25	W117	X	MH01220	X
s26	W112	X	MH03220	X
s27	W113	X	MH06220	X
s28	W114	X	MH02220	X
s29	W115	X	MH09220	X
s30	W116	X	MH04220	X
s31	D105	X	VR25370	X
s32	D113	VS99780	X	VS99780
s33	J211	0	X	0
s36	W107	MH01220	MH01018	MH01220

× = NOT USED
○ = USED

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
▨	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊗	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	≋
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	⫴
◉	CERAMIC TUBULAR CAPACITOR	
◎	POLYESTER FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
ⓘ	MICA CAPACITOR	
◎	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

NOTICE (model)
(J)····· JAPANESE
(U)····· U.S.A
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(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
⁂2	D112-117	HSS104 1SS133 1SS176

** All voltage are measured with a 10MΩ/DC electric volt meter.*
** Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.*
** Schematic diagram is subject to change without notice.*

PARTS LIST

■ELECTRICAL PARTS

■ **WARNING**

Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.

● Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the part Nos. of the carbon resistors, refer to the last page.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

C. A. EL. CHP	: CHIP ALUMI. ELECTROLYTIC CAP
C. CE	: CERAMIC CAP
C. CE. ARRAY	: CERAMIC CAP ARRAY
C. CE. CHP	: CHIP CERAMIC CAP
C. CE. ML	: MULTILAYER CERAMIC CAP
C. CE. M. CHP	: CHIP MULTILAYER CERAMIC CAP
C. CE. SAFTY	: RECOGNIZED CERAMIC CAP
C. CE. TUBLR	: CERAMIC TUBULAR CAP
C. CE. SMI	: SEMI CONDUCTIVE CERAMIC CAP
C. EL	: ELECTROLYTIC CAP
C. MICA	: MICA CAP
C. ML. FLM	: MULTILAYER FILM CAP
C. MP	: METALLIZED PAPER CAP
C. MYLAR	: MYLAR FILM CAP
C. MYLAR. ML	: MULTILAYER MYLAR FILM CAP
C. PAPER	: PAPER CAPACITOR
C. PLS	: POLYSTYRENE FILM CAP
C. POL	: POLYESTER FILM CAP
C. POLY	: POLYETHYLENE FILM CAP
C. PP	: POLYPROPYLENE FILM CAP
C. TNTL	: TANTALUM CAP
C. TNT. CHP	: CHIP TANTALUM CAP
C. TRIM	: TRIMMER CAP
CN	: CONNECTOR
CN. BS. PIN	: CONNECTOR, BASE PIN
CN.CANNON	: CONNECTOR, CANNON
CN. DIN	: CONNECTOR, DIN
CN. FLAT	: CONNECTOR, FLAT CABLE
CN. POST	: CONNECTOR, BASE POST
COIL. MX. AM	: COIL, AM MIX
COIL. AT. FM	: COIL, FM ANTENNA
COIL. DT. FM	: COIL, FM DETECT
COIL. MX.FM	: COIL, FM MIX
COIL. OUTPT	: OUTPUT COIL
DIOD. ARRAY	: DIODE ARRAY
DIODE. BRG	: DIODE BRIDGE
DIODE. CHP	: CHIP DIODE
DIODE. VAR	: VARACTOR DIODE
DIOD. Z. CHP	: CHIP ZENER DIODE
DIODE. ZENR	: ZENER DIODE
DSCR. CE	: CERAMIC DISCRIMINATOR
FER. BEAD	: FERRITE BEADS
FER. CORE	: FERRITE CORE
FET. CHP	: CHIP FET
FL. DSPLY	: FLUORESCENT DISPLAY
FLTR. CE	: CERAMIC FILTER
FLTR. COMB	: COMB FILTER MODULE
FLTR. LC. RF	: LC FILTER, EMI
GND. MTL	: GROUND PLATE
GND. TERM	: GROUND TERMINAL
HOLDER. FUS	: FUSE HOLDER
IC. PRTCT	: IC PROTECTOR
JUMPER. CN	: JUMPER CONNECTOR
JUMPER. TST	: JUMPER, TEST POINT
L. DTCT	: LIGHT DETECTING MODULE
L. EMIT	: LIGHT EMITTING MODULE
LED. DSPLY	: LED DISPLAY
LED. INFRD	: LED, INFRARED
MODUL. RF	: MODULATOR, RF
PHOT. CPL	: PHOTO COUPLER
PHOT. INTR	: PHOTO INTERRUPTER
PHOT. RFLCT	: PHOTO REFLECTOR
PIN. TEST	: PIN, TEST POINT
PLST. RIVET	: PLASTIC RIVET
R. ARRAY	: RESISTOR ARRAY
R. CAR	: CARBON RESISTOR
R. CAR. CHP	: CHIP RESISTOR
R. CAR.FP	: FLAME PROOF CARBON RESISTOR
R. FUS	: FUSABLE RESISTOR
R. MTL. CHP	: CHIP METAL FILM RESISTOR
R. MTL. FILM	: METAL FILM RESISTOR
R. MTL. OXD	: METAL OXIDE FILM RESISTOR
R. MTL. PLAT	: METAL PLATE RESISTOR
RSNR. CE	: CERAMIC RESONATOR
RSNR. CRYS	: CRYSTAL RESONATOR
R. TW. CEM	: TWIN CEMENT FIXED RESISTOR
R. WW	: WIRE WOUND RESISTOR
SCR. BND. HD	: BIND HEAD B-TITE SCREW
SCR. BW. HD	: BW HEAD TAPPING SCREW
SCR. CUP	: CUP TITE SCREW
SCR. TERM	: SCREW TERMINAL
SCR. TR	: SCREW, TRANSISTOR
SUPRT. PCB	: SUPPORT, P. C. B.
SURG. PRTCT	: SURGE PROTECTOR
SW. TACT	: TACT SWITCH
SW. LEAF	: LEAF SWITCH
SW. LEVER	: LEVER SWITCH
SW. MICRO	: MICRO SWITCH
SW. PUSH	: PUSH SWITCH
SW. RT. ENC	: ROTARY ENCODER
SW. RT. MTR	: ROTARY SWITCH WITH MOTOR
SW. RT	: ROTARY SWITCH
SW. SLIDE	: SLIDE SWITCH
TERM. SP	: SPEAKER TERMINAL
TERM.WRAP	: WRAPPING TERMINAL
THRMST. CHP	: CHIP THERMISTOR
TR. CHP	: CHIP TRANSISTOR
TR. DGT	: DIGITAL TRANSISTOR
TR. DGT. CHP	: CHIP DIGITAL TRANSISTOR
TRANS	: TRANSFORMER
TRANS.PULS	: PULSE TRANSFORMER
TRANS.PWR	: POWER TRANSFORMER ASS'y
TUNER. AM	: TUNER PACK, AM
TUNER. FM	: TUNER PACK, FM
TUNER. PK	: FRONT-END TUNER PACK
VR	: ROTARY POTENTIOMETER
VR. MTR	: POTENTIOMETER WITH MOTOR
VR. SW	: POTENTIOMETER WITH ROTARY SW
VR. SLIDE	: SLIDE POTENTIOMETER
VR. TRIM	: TRIMMER POTENTIOMETER

Note) Those parts marked with "#" are not included in the P. C. B. Ass'y.

INPUT P.C.B.

	Schm Ref.	PART NO.	Description		
*		VY885500	P.C.B.	INPUT	
	CB1	VK024900	CN.BS.PIN	5P	
	CB2	VK026400	CN.BS.PIN	5P	
	CB3	VK027000	CN.BS.PIN	11P	
	CB4	VK026600	CN.BS.PIN	7P	
	CB5	Vi878500	CN.BS.PIN	7P	
	CB6	Vi878100	CN.BS.PIN	3P	
	CB7	Vi878300	CN.BS.PIN	5P	
	CB8	Vi878900	CN.BS.PIN	11P	
	CB9	VK025800	CN.BS.PIN	14P	
	CB10	VK025200	CN.BS.PIN	8P	
	CB11	Vi878400	CN.BS.PIN	6P	
	CB12	Vi878400	CN.BS.PIN	6P	
	CB13	Vi878700	CN.BS.PIN	9P	
	CB14	VU272900	CN	29P	
	CB15	VQ961600	CN	13P	
	CB16	VQ963600	CN.BS.PIN	15P	
	CB17	Vi878300	CN.BS.PIN	5P	
	CB18	VK025300	CN.BS.PIN	9P	
	CB20	VP206500	HOLDER.FUS	EYF-52BC	
	C1	VF760000	C.EL	100uF	10V
	C2	UA652220	C.MYLAR	220pF	50V
	C3	UA652220	C.MYLAR	220pF	50V
	C4	UA652220	C.MYLAR	220pF	50V
	C5	UA652220	C.MYLAR	220pF	50V
	C6	VF760000	C.EL	100uF	10V
	C7	UA652220	C.MYLAR	220pF	50V
	C8	UA652220	C.MYLAR	220pF	50V
	C9	VG278400	C.CE.TUBLR	220pF	50V
	C10	VG278400	C.CE.TUBLR	220pF	50V
	C11	VG278400	C.CE.TUBLR	220pF	50V
	C12	VG278400	C.CE.TUBLR	220pF	50V
	C13	VG278400	C.CE.TUBLR	220pF	50V
	C14	VG278400	C.CE.TUBLR	220pF	50V
	C15	VG278400	C.CE.TUBLR	220pF	50V
	C16	VG278400	C.CE.TUBLR	220pF	50V
	C17	VJ839200	C.EL	2.2uF	50V
	C18	UA653910	C.MYLAR	9100pF	50V
	C19	UA654330	C.MYLAR	0.033uF	50V
	C20	UA653910	C.MYLAR	9100pF	50V
	C21	UA654330	C.MYLAR	0.033uF	50V
	C22	VJ839200	C.EL	2.2uF	50V
	C23	UA652100	C.MYLAR	100pF	50V
	C24	UA652100	C.MYLAR	100pF	50V
	C25	UM417100	C.EL	10uF	50V
	C26	VF466800	C.CE.TUBLR	100pF	50V
	C27	VJ837200	C.EL	47uF	16V
	C28	VJ837200	C.EL	47uF	16V
	C29	UJ667470	C.EL	47uF	50V
	C30	VJ839100	C.EL	1uF	50V
	C31	UJ667470	C.EL	47uF	50V
	C32	VJ839100	C.EL	1uF	50V
	C33	UA653330	C.MYLAR	3300pF	50V

* New Parts

Schm Ref.	PART NO.	Description		
C34	VG278400	C.CE.TUBLR	220pF	50V
C35	VE117600	C.EL	220uF	10V
C36	Ui367220	C.EL	22uF	50V
C37	UH178100	C.EL	100uF	63V
C38	VH053100	C.CE.TUBLR	0.1uF	50V
C39	UJ667470	C.EL	47uF	50V
C40	UM417100	C.EL	10uF	50V
C41	UM417100	C.EL	10uF	50V
C42	FH611220	C.CE	22pF	500V
C43	VZ410500	C.EL	47uF	35V
C44	VG278400	C.CE.TUBLR	220pF	50V
C45	VG278400	C.CE.TUBLR	220pF	50V
C46	VJ837200	C.EL	47uF	16V
C47	VF466800	C.CE.TUBLR	100pF	50V
C48	UA653100	C.MYLAR	1000pF	50V
C49	VJ837200	C.EL	47uF	16V
C50	UJ668100	C.EL	100uF	50V
C51	UJ668100	C.EL	100uF	50V
C52	Ui367220	C.EL	22uF	50V
C53	FG212100	C.CE	100pF	50V
C54	UA654100	C.MYLAR	0.01uF	50V
C55	FG210500	C.CE	5pF	50V
C56	UJ668100	C.EL	100uF	50V
C57	FG212100	C.CE	100pF	50V
C58	VF466800	C.CE.TUBLR	100pF	50V
C59	VR325000	C.MYLAR	100pF	100V
C60	VJ839100	C.EL	1uF	50V
C61	VR325000	C.MYLAR	100pF	100V
C62	VF964800	C.EL	100uF	16V
C63	VJ839100	C.EL	1uF	50V
C64	UA654470	C.MYLAR	0.047uF	50V
C65	UM417100	C.EL	10uF	50V
C66	UM417100	C.EL	10uF	50V
C67	VJ837200	C.EL	47uF	16V
C68	VH053100	C.CE.TUBLR	0.1uF	50V
C69	UA653390	C.MYLAR	3900pF	50V
C70	UA653680	C.MYLAR	6800pF	50V
C71	FG212470	C.CE	470pF	50V
C72	FG212470	C.CE	470pF	50V
C73	UA653680	C.MYLAR	6800pF	50V
C74	UA653390	C.MYLAR	3900pF	50V
C76	UM417100	C.EL	10uF	50V
C77	VJ839200	C.EL	2.2uF	50V
C78	VF467300	C.CE.TUBLR	0.01uF	16V
C79	VJ839200	C.EL	2.2uF	50V
C80	UA654100	C.MYLAR	0.01uF	50V
C81	UA654100	C.MYLAR	0.01uF	50V
C82	VJ839200	C.EL	2.2uF	50V
C83	VJ837200	C.EL	47uF	16V
C84	UM417100	C.EL	10uF	50V
C85	UA654470	C.MYLAR	0.047uF	50V
C86	UJ667470	C.EL	47uF	50V
C87	VF964800	C.EL	100uF	16V

* New Parts

INPUT P.C.B.

Schm Ref.	PART NO.	Description		
C88	UM417100	C.EL	10uF	50V
C89	UM417100	C.EL	10uF	50V
C90	UM417100	C.EL	10uF	50V
C91	UM417100	C.EL	10uF	50V
C92	UJ648220	C.EL	220uF	25V
C93	VJ839100	C.EL	1uF	50V
C94	UA654470	C.MYLAR	0.047uF	50V
C95	UA655100	C.MYLAR	0.1uF	50V
C96	UJ648220	C.EL	220uF	25V
C97	UM417100	C.EL	10uF	50V
C98	UM417100	C.EL	10uF	50V
C99	VJ839100	C.EL	1uF	50V
C100	UA654220	C.MYLAR	0.022uF	50V
C101	UM417100	C.EL	10uF	50V
C102	UM407220	C.EL	22uF	25V
C103	UA655470	C.MYLAR	0.47uF	50V
C104	UA655100	C.MYLAR	0.1uF	50V
C105	UA652680	C.MYLAR	680pF	50V
C106	UM417100	C.EL	10uF	50V
C107	UJ667470	C.EL	47uF	50V
C108	UJ667470	C.EL	47uF	50V
C109	UA652560	C.MYLAR	560pF	50V
C110	UM416470	C.EL	4.7uF	50V
C111	UA652680	C.MYLAR	680pF	50V
C112	UA653150	C.MYLAR	1500pF	50V
C113	FG212100	C.CE	100pF	50V
C115	VJ839000	C.EL	0.47uF	50V
C116	VJ839000	C.EL	0.47uF	50V
C117	UA655150	C.MYLAR	0.15uF	50V
C118	UA655150	C.MYLAR	0.15uF	50V
C119	UM416470	C.EL	4.7uF	50V
C120	UM416470	C.EL	4.7uF	50V
C121	UM216330	C.EL	3.3uF	50V
C122	UA655100	C.MYLAR	0.1uF	50V
C123	UA655100	C.MYLAR	0.1uF	50V
C124	UM416470	C.EL	4.7uF	50V
C125	UM416470	C.EL	4.7uF	50V
C126	UM216330	C.EL	3.3uF	50V
C127	VJ839000	C.EL	0.47uF	50V
C128	VJ839000	C.EL	0.47uF	50V
C129	UA655150	C.MYLAR	0.15uF	50V
C130	UA655150	C.MYLAR	0.15uF	50V
C131	VF964800	C.EL	100uF	16V
C132	FG212220	C.CE	220pF	50V
C139	VG289900	C.EL	2200uF	35V
C140	VJ839200	C.EL	2.2uF	50V
C141	UM417100	C.EL	10uF	50V
C142	VJ839100	C.EL	1uF	50V
C143	UM417100	C.EL	10uF	50V
C144	VJ402700	C.EL	0.33uF	50V
C145	UA654330	C.MYLAR	0.033uF	50V
C146	UA654270	C.MYLAR	0.027uF	50V
C147	UM215100	C.EL	0.1uF	50V

* New Parts

Schm Ref.	PART NO.	Description		
C148	VJ839100	C.EL	1uF	50V
C149	VA761100	C.CE	27pF	50V
C150	VA760800	C.CE	15pF	50V
C151	UA653330	C.MYLAR	3300pF	50V
C152	UA653330	C.MYLAR	3300pF	50V
C153	UA653330	C.MYLAR	3300pF	50V
C154	VF964800	C.EL	100uF	16V
C155	VJ836900	C.EL	10uF	16V
C156	VJ836900	C.EL	10uF	16V
C157	UA654470	C.MYLAR	0.047uF	50V
C158	UA654470	C.MYLAR	0.047uF	50V
C159	VG289900	C.EL	2200uF	35V
C160	VH053100	C.CE.TUBLR	0.1uF	50V
C161	UM407220	C.EL	22uF	25V
C163	UA653820	C.MYLAR	8200pF	50V
C164	UA653470	C.MYLAR	4700pF	50V
C165	VF964800	C.EL	100uF	16V
C166	VH053100	C.CE.TUBLR	0.1uF	50V
C167	VH053100	C.CE.TUBLR	0.1uF	50V
C168	VH053100	C.CE.TUBLR	0.1uF	50V
C169	VF964800	C.EL	100uF	16V
C170	VE117600	C.EL	220uF	10V
C171	VH053100	C.CE.TUBLR	0.1uF	50V
C172	FG212100	C.CE	100pF	50V
C173	FG212100	C.CE	100pF	50V
C174	VJ839200	C.EL	2.2uF	50V
C176	VH053100	C.CE.TUBLR	0.1uF	50V
C177	UA652220	C.MYLAR	220pF	50V
C178	UA653100	C.MYLAR	1000pF	50V
C179	UA653300	C.MYLAR	3000pF	50V
C180	UA654100	C.MYLAR	0.01uF	50V
C181	UA653300	C.MYLAR	3000pF	50V
C182	UA654100	C.MYLAR	0.01uF	50V
C183	UA652220	C.MYLAR	220pF	50V
C184	UA653100	C.MYLAR	1000pF	50V
C185	VJ837200	C.EL	47uF	16V
C186	VJ836900	C.EL	10uF	16V
C187	VF466600	C.CE.TUBLR	10pF	50V
C188	VF466600	C.CE.TUBLR	10pF	50V
C189	VH053100	C.CE.TUBLR	0.1uF	50V
C190	VF964800	C.EL	100uF	16V
C191	FG212330	C.CE	330pF	50V
C192	UA653300	C.MYLAR	3000pF	50V
C193	UA653300	C.MYLAR	3000pF	50V
C194	FG212220	C.CE	220pF	50V
C195	VJ837200	C.EL	47uF	16V
C196	FG212120	C.CE	120pF	50V
C197	VJ837200	C.EL	47uF	16V
C198	UM417100	C.EL	10uF	50V
C199	VG279300	C.CE.TUBLR	1800pF	16V
C200	UM417100	C.EL	10uF	50V
C201	VH053100	C.CE.TUBLR	0.1uF	50V
C202	UK665470	C.EL	0.47uF	50V

* New Parts

INPUT P.C.B.

Schm Ref.	PART NO.	Description	
C203	UK665470	C.EL	0.47uF 50V
C204	VF467100	C.CE.TUBLR	4700pF 16V
C205	VG278600	C.CE.TUBLR	330pF 50V
C206	UA654150	C.MYLAR	0.015uF 50V
C207	UM215100	C.EL	0.1uF 50V
C208	VF467300	C.CE.TUBLR	0.01uF 6V
C209	VJ839200	C.EL	2.2uF 50V
C210	VJ839200	C.EL	2.2uF 50V
C211	VJ839100	C.EL	1uF 50V
C217	FG212100	C.CE	100pF 50V
C218	UA652220	C.MYLAR	220pF 50V
C219	VJ837200	C.EL	47uF 16V
C220	VJ837200	C.EL	47uF 16V
C221	UA652220	C.MYLAR	220pF 50V
C222	FG211100	C.CE	10pF 50V
C224	VF466800	C.CE.TUBLR	100pF 50V
C225	UM407220	C.EL	22uF 25V
C226	UM417100	C.EL	10uF 50V
C227	UM417100	C.EL	10uF 50V
C228	UJ638470	C.EL	470uF 16V
C229	VG722100	C.EL	1uF 50V
C230	VH053100	C.CE.TUBLR	0.1uF 50V
C233	UM417100	C.EL	10uF 50V
C234	VJ837200	C.EL	47uF 16V
C235	VJ837200	C.EL	47uF 16V
C236	VH053100	C.CE.TUBLR	0.1uF 50V
C239	VH053100	C.CE.TUBLR	0.1uF 50V
C241	UA654100	C.MYLAR	0.01uF 50V
C242	VJ836900	C.EL	10uF 16V
C245	VH053100	C.CE.TUBLR	0.1uF 50V
C246	VF760000	C.EL	100uF 10V
D1	VD631600	DIODE	1SS133,176,HSS104
D2	VM975300	DIODE.ZENR	HZS11B2TD 11V
D3	VM975300	DIODE.ZENR	HZS11B2TD 11V
D4	VM975300	DIODE.ZENR	HZS11B2TD 11V
D5	VM975300	DIODE.ZENR	HZS11B2TD 11V
D6	VD631600	DIODE	1SS133,176,HSS104
D7	VD631600	DIODE	1SS133,176,HSS104
⚠ D8	VN008700	DIODE	1SS270A
D9	VD631600	DIODE	1SS133,176,HSS104
D10	VD631600	DIODE	1SS133,176,HSS104
D11	VM974100	DIODE.ZENR	HZS5B2TD 5.0V
D12	VD631600	DIODE	1SS133,176,HSS104
D13	VD631600	DIODE	1SS133,176,HSS104
D14	VD631600	DIODE	1SS133,176,HSS104
D15	VD631600	DIODE	1SS133,176,HSS104
D16	VD631600	DIODE	1SS133,176,HSS104
D17	VD631600	DIODE	1SS133,176,HSS104
D18	VM976300	DIODE.ZENR	HZS242TD24V
⚠ D19	VV731400	DIODE	2A02M
⚠ D20	VV731400	DIODE	2A02M
⚠ D21	VV731400	DIODE	2A02M
⚠ D22	VV731400	DIODE	2A02M

* New Parts

Schm Ref.	PART NO.	Description	
D23	VM975500	DIODE.ZENR	HZS12A2TD 12V
D24	VG439100	DIODE.ZENR	MTZJ9.1A 9.1V
D26	VD631600	DIODE	1SS133,176,HSS104
D27	VD631600	DIODE	1SS133,176,HSS104
D28	VS277600	DIODE.ZENR	HZS3C2TD 3.0V
D29	VM974200	DIODE.ZENR	HZS5C2TD 5.0V
IC1	XM356A00	IC	NJM2068LD
IC2	XB247301	IC	uPC4570HA
IC3	XP894A00	IC	LC78211
* IC4	XP895A00	IC	LC78212
IC5	iG105900	IC	uPD4053BC
IC6	XS023A00	IC	LA2786 DOLBY
IC7	XD386001	IC	LA2730
IC8	XB247301	IC	uPC4570HA
IC9	XQ212A00	IC	NJM4558LD
IC10	XB247301	IC	uPC4570HA
IC11	XB247301	IC	uPC4570HA
IC12	XB247301	IC	uPC4570HA
IC13	XS881A00	IC	LH5P832D-10 PSRAM
* IC14	XH853B00	IC	YSS205B-F/KP
IC15	XA507A00	IC	AN78N05
IC16	XQ084A00	IC	AN78N09
IC18	iG092000	IC	M5220L
IC19	XG505A00	IC	NJM79M15FA
IC20	XB247301	IC	uPC4570HA
IC21	XF494A00	IC	LB1641
IC22	XB247301	IC	uPC4570HA
IC23	XB247301	IC	uPC4570HA
L1	VP575600	COIL	1.5uH
L2	VP575600	COIL	1.5uH
L3	GE901850	COIL	39mH
L4	GE901850	COIL	39mH
L5	GE901850	COIL	39mH
L6	GE901850	COIL	39mH
L7	VB109600	COIL	220uH
PJ1	VN308700	JACK.PIN	6P
PJ2	VU857800	JACK.PIN	6P
PJ3	VR765100	JACK.PIN	2P
Q1	VP883100	TR	2SC1890A D,E
Q2	VP883100	TR	2SC1890A D,E
⚠ Q3	VP883000	TR	2SA893A D,E
Q4	VP872700	TR	2SC4488 S,T
Q5	VP872600	TR	2SA1708 S,T
Q6	iC224030	TR	2SC2240 GR,BL
⚠ Q7	VP872700	TR	2SC4488 S,T
⚠ Q8	iC174020	TR	2SC1740S R,S
⚠ Q9	VP872600	TR	2SA1708 S,T
Q10	VV855300	TR	2SD856 Q,P
Q11	VP883100	TR	2SC1890A D,E
Q12	VV855300	TR	2SD856 Q,P
⚠ Q13A	iX615750	TR	2SA1694 O,P,Y
⚠ Q13C	iX615760	TR	2SC4467 O,P,Y
Q14	VP883000	TR	2SA893A D,E

* New Parts

INPUT P.C.B. & MAIN P.C.B.

Schm Ref.	PART NO.	Description	
Q15	VP883100	TR	2SC1890A D,E
Q17	VP872700	TR	2SC4488 S,T
Q21	VK432900	TR	2SD1915F S,T
Q22	VK432900	TR	2SD1915F S,T
Q23	iC174020	TR	2SC1740S R,S
R51	HV454100	R.CAR.FP	10Ω 1/4W
R53	HL314680	R.MTL.OXD	68Ω 1/4W
R58	HV455470	R.CAR.FP	470Ω 1/4W
R62	HV455470	R.CAR.FP	470Ω 1/4W
R63	VK188600	R.FUS	470Ω 1/4W
R67	HV455330	R.CAR.FP	330Ω 1/4W
R73	HV455120	R.CAR.FP	120Ω 1/4W
R74	HV455100	R.CAR.FP	100Ω 1/4W
R75	HV453470	R.CAR.FP	4.7Ω 1/4W
R76	HV456270	R.CAR.FP	2.7KΩ 1/4W
R77	HV455470	R.CAR.FP	470Ω 1/4W
R78	HV456820	R.CAR.FP	8.2KΩ 1/4W
R79	HV453470	R.CAR.FP	4.7Ω 1/4W
R80	HV456150	R.CAR.FP	1.5KΩ 1/4W
R81	HV456150	R.CAR.FP	1.5KΩ 1/4W
R82	VE869300	R.MTL.OXD	0.1Ω 2W
R83	HV454470	R.CAR.FP	47Ω 1/4W
R84	HV454220	R.CAR.FP	22Ω 1/4W
R88	HV457100	R.CAR.FP	10KΩ 1/4W
⚠ R91	VU981700	R.MTL.PLAT	0.22Ω+0.22 3W
R92	HV454100	R.CAR.FP	10Ω 1/4W
R110	HV454100	R.CAR.FP	10Ω 1/4W
R119	HV454470	R.CAR.FP	47Ω 1/4W
R120	HV454470	R.CAR.FP	47Ω 1/4W
R121	HL425820	R.MTL.OXD	820Ω 2W
R122	HV454100	R.CAR.FP	10Ω 1/4W
R123	HV454470	R.CAR.FP	47Ω 1/4W
R124	HV454100	R.CAR.FP	10Ω 1/4W
R130	HV454470	R.CAR.FP	47Ω 1/4W
R159	HV456270	R.CAR.FP	2.7KΩ 1/4W
R161	HV453220	R.CAR.FP	2.2Ω 1/4W
R162	HL314470	R.MTL.OXD	47Ω 1W
R163	HV453220	R.CAR.FP	2.2Ω 1/4W
R164	HV453470	R.CAR.FP	4.7Ω 1/4W
R210	HV455100	R.CAR.FP	100Ω 1/4W
R212	HV455100	R.CAR.FP	100Ω 1/4W
R213	HV455100	R.CAR.FP	100Ω 1/4W
R215	HV455100	R.CAR.FP	100Ω 1/4W
R216	HV454100	R.CAR.FP	10Ω 1/4W
R217	HV454100	R.CAR.FP	10Ω 1/4W
R220	HL314680	R.MTL.OXD	68Ω 1W
R221	HL314680	R.MTL.OXD	68Ω 1W
R224	HV453470	R.CAR.FP	4.7Ω 1/4W
R225	HV453470	R.CAR.FP	4.7Ω 1/4W
R234	HV454270	R.CAR.FP	27Ω 1/4W
⚠ RY1	VK438300	RELAY	DH24D2-OT/M2
TE1	VS349400	TERM.SP	6P
* VR1	VZ260700	VR.MTR	RK16814MG 100KAx4

* New Parts

Schm Ref.	PART NO.	Description	
XL1	VJ719800	RSNR.CRYS	16.9344MHz
	VJ828000	PIN	IMSA-6024-03E
	BB071360	SCR.TERM	8.3x13
*	VY885200	P.C.B.	MAIN(U)
*	VY885300	P.C.B.	MAIN(RT)
*	VY885400	P.C.B.	MAIN(L)
CB101	VF728300	CN	6P
CB102	VF728200	CN.BS.PIN	10P
CB103	VS839400	CN.BS.PIN	4P
CB104	VS839500	CN	4P
CB105	VG879900	CN.BS.PIN	2P
CB107	Vi878600	CN.BS.PIN	8P
CB108	VR428900	CN.BS.PIN	4P
CB109	VR428900	CN.BS.PIN	4P
CB111	VP206500	HOLDER.FUS	EYF-52BC
CB112	VP206500	HOLDER.FUS	EYF-52BC
CB113	VP206500	HOLDER.FUS	EYF-52BC(L)
CB114	VP206500	HOLDER.FUS	EYF-52BC(L)
CB115	VP206500	HOLDER.FUS	EYF-52BC(RT)
CB116	VP206500	HOLDER.FUS	EYF-52BC(RT)
CB117	VQ584900	CN.BS.PIN	7P
CB118	VQ584900	CN.BS.PIN	7P
CB120	VD004700	CN.BS.PIN	4P
C101	UM416470	C.EL	4.7uF 50V
C102	UM416470	C.EL	4.7uF 50V
C103	UA652100	C.MYLAR	100pF 50V
C104	UA652100	C.MYLAR	100pF 50V
C105	FG212100	C.CE	100pF 50V
C106	FG212100	C.CE	100pF 50V
C107	UA653100	C.MYLAR	1000pF 50V
C108	UA653100	C.MYLAR	1000pF 50V
C109	VJ837200	C.EL	47uF 16V
C110	VJ837200	C.EL	47uF 16V
C111	VR516400	C.CE	15p 500V
C112	VR516400	C.CE	15p 500V
C113	UJ667470	C.EL	47uF 50V
C114	UJ667470	C.EL	47uF 50V
C115	VG291200	C.EL	47uF 50V
C116	VG291200	C.EL	47uF 50V
C117	VR325000	C.MYLAR	100pF 100V
C118	VR325000	C.MYLAR	100pF 100V
C119	VR325000	C.MYLAR	100pF 100V
C120	VR325000	C.MYLAR	100pF 100V
C121	UA654820	C.MYLAR	0.082uF 50V
C122	UA654820	C.MYLAR	0.082uF 50V
C123	UA655100	C.MYLAR	0.1uF 50V
C124	UA655100	C.MYLAR	0.1uF 50V
C125	UA654220	C.MYLAR	0.022uF 50V
C126	UA654220	C.MYLAR	0.022uF 50V
C127	UA652100	C.MYLAR	100pF 50V

* New Parts

MAIN P.C.B.

Schm Ref.	PART NO.	Description		
C128	VS741700	C.CE.SAFTY	0.01uF	275V
C129	VK182500	C.EL	330uF	63V
C131	UM416470	C.EL	4.7uF	50V
C133	VC815000	C.EL	220uF	6.3V
C134	UM416470	C.EL	4.7uF	50V
C135	UM416470	C.EL	4.7uF	50V
⚠ C136	Vi846000	C.EL	22uF	63V
C137	UM416470	C.EL	4.7uF	50V
C138	UJ667470	C.EL	47uF	50V
C139	UJ667470	C.EL	47uF	50V
⚠ C140	VV951800	C.EL	6800uF	56V
⚠ C141	VV951800	C.EL	6800uF	56V
⚠ C142	VR325400	C.MYLAR	0.1uF	100V
⚠ C143	VR325400	C.MYLAR	0.1uF	100V
C144	UA653100	C.MYLAR	1000pF	50V
C145	FG214100	C.CE	0.01uF	50V
C146	UA653100	C.MYLAR	1000pF	50V
C147	UA654100	C.MYLAR	0.01uF	50V
⚠ C149	Ui377470	C.EL	47uF	63V(RT)
⚠ C149	VK457600	C.EL	330uF	25V(UL)
C150	UJ648220	C.EL	220uF	25V(RT)
C151	VJ836900	C.EL	10uF	16V(RT)
C164	UM416470	C.EL	4.7uF	50V
C165	UK665470	C.EL	0.47uF	50V
D101	VN008700	DIODE	1SS270A	
D102	VN008700	DIODE	1SS270A	
D105	VR253700	DIODE.BRG	S1NB20 1.0A 200V(RT)	
D106	VM976300	DIODE.ZENR	HZS242TD 24V	
D107	VM976300	DIODE.ZENR	HZS242TD 24V	
⚠ D108	VS997800	DIODE	1T2	
D109	VM975900	DIODE.ZENR	HZS162TD 16V	
D110	VM975800	DIODE.ZENR	HZS152TD 15V	
⚠ D111	iH001090	DIODE.BRG	S4VB20 2.6A 200V	
D112	VD631600	DIODE	1SS133,176,HSS104	
⚠ D113	VS997800	DIODE	1T2(UL)	
D114	VM975500	DIODE.ZENR	HZS12A2TD 12V(RT)	
D117	VD631600	DIODE	1SS133,176,HSS104	
⚠ F101	KB001660	FUSE	T1.60A 250V(L)	
⚠ F101	VS823000	FUSE	T5.0A 125V(URT)	
⚠ F102	KB000690	FUSE	T2.5A 250V(L)	
⚠ F103	KB001660	FUSE	T1.60A 250V(RT)	
⚠ FR101	VK188400	R.FUS	330Ω	1/4W
⚠ FR102	VK188400	R.FUS	330Ω	1/4W
FR103	VK189000	R.FUS	1KΩ	1/4W
FR104	VK189000	R.FUS	1KΩ	1/4W
JK101	VZ458100	JACK.PHONE	JY-6317-02-030GD	
⚠ JK102	VU543100	OUTLET.AC	2P(URT)	
⚠ JK102	VU543400	OUTLET.AC	2P(L)	
L103	VP575600	COIL	1.5uH	
L104	VP575600	COIL	1.5uH	
⚠ Q101	VP883000	TR	2SA893A D,E	
⚠ Q102	VP883000	TR	2SA893A D,E	
⚠ Q103	VP883000	TR	2SA893A D,E	

* New Parts

Schm Ref.	PART NO.	Description		
⚠ Q104	VP883000	TR	2SA893A D,E	
⚠ Q105	VR325600	TR	2SC2229 O,Y	
⚠ Q106	VR325600	TR	2SC2229 O,Y	
⚠ Q107	iC174020	TR	2SC1740S R,S	
⚠ Q108	iC174020	TR	2SC1740S R,S	
⚠ Q109	VP872700	TR	2SC4488 S,T	
⚠ Q110	VP872700	TR	2SC4488 S,T	
⚠ Q111	VP872600	TR	2SA1708 S,T	
⚠ Q112	VP872600	TR	2SA1708 S,T	
Q113	VP883100	TR	2SC1890A D,E	
Q114	VP883100	TR	2SC1890A D,E	
Q115	VP883000	TR	2SA893A D,E	
Q116	iC174020	TR	2SC1740S R,S	
Q117	iC174020	TR	2SC1740S R,S	
Q118	iC287820	TR	2SC2878 A,B	
Q119	iC174020	TR	2SC1740S R,S	
⚠ Q120	iA101521	TR	2SA1015 Y	
⚠ Q121	VN996900	TR	2SC4495	
Q122	iC174020	TR	2SC1740S R,S	
Q123	VP768300	TR	2SC4466 O,P,Y(RT)	
Q124	VP883100	TR	2SC1890A D,E(RT)	
Q127	VG722000	TR.DGT	DTC144ES	
⚠ Q128	VR402300	TR	2SB647 C,D	
⚠ Q129A	iX615750	TR	2SA1694 O,P,Y	
⚠ Q129C	iX615760	TR	2SC4467 O,P,Y	
⚠ Q130A	iX615750	TR	2SA1694 O,P,Y	
⚠ Q130C	iX615760	TR	2SC4467 O,P,Y	
Q133	iE000020	FET	2SK30ATM GR	
⚠ R113	HV454470	R.CAR.FP	47Ω	1/4W
⚠ R114	HV454470	R.CAR.FP	47Ω	1/4W
R127	HV456270	R.CAR.FP	2.7KΩ	1/4W
R128	HV456270	R.CAR.FP	2.7KΩ	1/4W
R131	HV456100	R.CAR.FP	1KΩ	1/4W
R132	HV456100	R.CAR.FP	1KΩ	1/4W
R133	HV453470	R.CAR.FP	4.7Ω	1/4W
R134	HV453470	R.CAR.FP	4.7Ω	1/4W
R135	HV453470	R.CAR.FP	4.7Ω	1/4W
R136	HV453470	R.CAR.FP	4.7Ω	1/4W
⚠ R137	VU981700	R.MTL.PLAT	0.22Ω+0.22	3W
⚠ R138	VU981700	R.MTL.PLAT	0.22Ω+0.22	3W
⚠ R145	HL314100	R.MTL.OXD	10Ω	1W
⚠ R146	HL314100	R.MTL.OXD	10Ω	1W
R151	HV454100	R.CAR.FP	10Ω	1/4W
R152	HV454100	R.CAR.FP	10Ω	1/4W
R159	HL315330	R.MTL.OXD	330Ω	1W
R160	HL315330	R.MTL.OXD	330Ω	1W
⚠ R163	HL314470	R.MTL.OXD	47Ω	1W
⚠ R171	HL315680	R.MTL.OXD	680Ω	1W
R173	HV456100	R.CAR.FP	1KΩ	1/4W
⚠ R177	HV453100	R.CAR.FP	1Ω	1/4W
⚠ R178	HV454100	R.CAR.FP	10Ω	1/4W
R179	HV457100	R.CAR.FP	10KΩ	1/4W
R189	HL315680	R.MTL.OXD	680Ω	1W

* New Parts

MAIN P.C.B. & OPERATION P.C.B.

	Schm Ref.	PART NO.	Description	
⚠	R196	HV455100	R.CAR.FP	100Ω 1/4W
⚠	RY101	VK438300	RELAY	DH24D2-OT/M2
⚠	RY102	VU398500	RELAY	DC LK1AF-12V(UL)
⚠	RY102	VY735300	RELAY	DC G5P-1(RT)
⚠	SW101	VV523900	SW.PUSH	PBS-YM-001
⚠	SW102	VA961800	VOLT.SELCT	ESE-37247-F(RT)
⚠	SW103	VZ361100	SW.SLIDE	SL13B-022-AMC1
⚠	T101	XQ485B00	TRANS.PWR	(U)
⚠	T101	XQ486B00	TRANS.PWR	(L)
⚠	T101	XT331A00	TRANS.PWR	(RT)
⚠	TE101	VC313700	TERM.SP	8P(URT)
⚠	TE101	VU819700	TERM.SP	8P(L)
		VJ828000	PIN	IMSA-6024-03E
		BB071360	SCR.TERM	8.3x13
		VR264300	PLATE.GND	
		VP753100	HEAT.SINK	IC-1625-MML
		Ei330166	SCR.BND.HD	3x16 FCRM3-BL
		VY834500	SUPRT	(RTL)
*		VY884900	P.C.B.	OPERATION(U)
*		VY885000	P.C.B.	OPERATION(RT)
*		VY885100	P.C.B.	OPERATION(L)
	CB301	Vi878800	CN.BS.PIN	10P
*	CB302	VK026200	CN.BS.PIN	3P
	CB303	VU282900	CN	29P
	CB304	VQ044100	CN.BS.PIN	5P
	CB305	VQ046900	CN.BS.PIN	5P
	CB306	VQ963400	CN.BS.PIN	13P
	CB308	Vi879200	CN.BS.PIN	14P
	CB309	Vi878400	CN.BS.PIN	6P
	CB311	Vi878000	CN.BS.PIN	2P
	CB312	Vi878000	CN.BS.PIN	2P
	C301	VF466800	C.CE.TUBLR	100pF 50V
	C302	VF466800	C.CE.TUBLR	100pF 50V
	C303	VJ839100	C.EL	1uF 50V
	C304	VJ836900	C.EL	10uF 16V
	C305	VJ837200	C.EL	47uF 16V
	C306	VF637900	C.EL	1000uF 10V
	C307	FG251220	C.CE	22pF 50V
	C308	VJ836900	C.EL	10uF 16V
	C309	VF637900	C.EL	1000uF 10V
	C310	VJ836900	C.EL	10uF 16V
	C311	VU545000	C.EL	47000uF 5.5V
	C312	VH053100	C.CE.TUBLR	0.1uF 50V
	C313	VJ839100	C.EL	1uF 50V
	C314	UJ638330	C.EL	330uF 16V
	C315	VH053100	C.CE.TUBLR	0.1uF 50V
	C316	VH053100	C.CE.TUBLR	0.1uF 50V
	C317	UJ638470	C.EL	470uF 16V
	C318	VF467000	C.CE.TUBLR	1000pF 50V
	C319	VF467300	C.CE.TUBLR	0.01uF 16V

* New Parts

Schm Ref.	PART NO.	Description	
C320	VF467300	C.CE.TUBLR	0.01uF 16V
C321	VH053100	C.CE.TUBLR	0.1uF 50V
C322	UM417100	C.EL	10uF 50V
C323	VG278400	C.CE.TUBLR	220pF 50V
C324	VG279400	C.CE.TUBLR	2200pF 16V
C325	VG278100	C.CE.TUBLR	120pF 50V
C326	UM416470	C.EL	4.7uF 50V
C327	UM416470	C.EL	4.7uF 50V
C328	VG278100	C.CE.TUBLR	120pF 50V
C329	VG279400	C.CE.TUBLR	2200pF 16V
C330	VG278400	C.CE.TUBLR	220pF 50V
C331	UM417100	C.EL	10uF 50V
C332	UM417100	C.EL	10uF 50V
C333	UM417100	C.EL	10uF 50V
C334	UM417100	C.EL	10uF 50V
C335	UM417100	C.EL	10uF 50V
C336	UA652220	C.MYLAR	220pF 50V
C337	UA652220	C.MYLAR	220pF 50V
C338	UA652100	C.MYLAR	100pF 50V
C339	VJ839000	C.EL	0.47uF 50V
C340	UM417100	C.EL	10uF 50V
C341	UA652100	C.MYLAR	100pF 50V
C342	UM416470	C.EL	4.7uF 50V
C343	UM416470	C.EL	4.7uF 50V
C344	UM417100	C.EL	10uF 50V
C345	UA652100	C.MYLAR	100pF 50V
C346	UA652100	C.MYLAR	100pF 50V
C347	VJ839000	C.EL	0.47uF 50V
C348	UM407220	C.EL	22uF 25V
C349	UA655120	C.MYLAR	0.12uF 50V
C350	UA654330	C.MYLAR	0.033uF 50V
C351	UA654330	C.MYLAR	0.033uF 50V
C352	UA655120	C.MYLAR	0.12uF 50V
C353	UM407220	C.EL	22uF 25V
C355	VH053100	C.CE.TUBLR	0.1uF 50V
C356	VH053100	C.CE.TUBLR	0.1uF 50V
C357	VH053100	C.CE.TUBLR	0.1uF 50V
D301	VM974600	DIODE.ZENR	HZS7A2TD 7.0V
D302	VM974200	DIODE.ZENR	HZS5C2TD 5.0V
D303	VD631600	DIODE	1SS133,176,HSS104
D304	VD631600	DIODE	1SS133,176,HSS104
D305	VD631600	DIODE	1SS133,176,HSS104
D306	VD631600	DIODE	1SS133,176,HSS104
D307	VD631600	DIODE	1SS133,176,HSS104
D308	VS132300	LED(re)	SLR-325VCT31(RTL)
D310	VM974100	DIODE.ZENR	HZS5B2TD 5.0V
D311	VD631600	DIODE	1SS133,176,HSS104
D312	VD631600	DIODE	1SS133,176,HSS104
D313	VD631600	DIODE	1SS133,176,HSS104
D314	VD631600	DIODE	1SS133,176,HSS104
D315	VD631600	DIODE	1SS133,176,HSS104
D316	VD631600	DIODE	1SS133,176,HSS104
D317	VD631600	DIODE	1SS133,176,HSS104

* New Parts

OPERATION P.C.B. & TUNER P.C.B.

	Schm Ref.	PART NO.	Description	
	D318	VD631600	DIODE	1SS133,176,HSS104
	D319	VD631600	DIODE	1SS133,176,HSS104
	D320	VM974300	DIODE.ZENR	HZS6A2TD 6.0V
	G301	VR463400	TERM.GND	D3.5 TP00385
	IC301	XH436A00	IC	LA7956
*	IC302	XT648A00	IC	M38179M6-381FP
	IC303	XM356A00	IC	NJM2068LD
	IC304	XM356A00	IC	NJM2068LD
*	JK301	VZ087600	JACK.PHONE	LGR6517-1703
*	JK302	VZ087600	JACK.PHONE	LGR6517-1703
	PJ301	VR110100	JACK.PIN	2P
	PJ302	VR110100	JACK.PIN	2P
	Q301	iC174020	TR	2SC1740S R,S
	Q302	iA093320	TR	2SA933S Q,R
	Q303	iA101521	TR	2SA1015 Y
	Q304	iC1815C0	TR	2SC1815 Y
	Q305	iC174020	TR	2SC1740S R,S
	Q306	iC174020	TR	2SC1740S R,S(RTL)
	Q307	VD678500	TR.DGT	DTA114ES
	Q308	VG722000	TR.DGT	DTC144ES
	Q309	VG722000	TR.DGT	DTC144ES
	Q310	VG722000	TR.DGT	DTC144ES
	Q313	VD678500	TR.DGT	DTA114ES
	Q314	VD678500	TR.DGT	DTA114ES
	Q315	VK432900	TR	2SD1915F S,T
	Q316	VK432900	TR	2SD1915F S,T
	R334	HV454470	R.CAR.FP	47Ω 1/4W
	R369	HV455100	R.CAR.FP	100Ω 1/4W
	R370	HV455100	R.CAR.FP	100Ω 1/4W
	R379	HV455100	R.CAR.FP	100Ω 1/4W
	R386	HV455100	R.CAR.FP	100Ω 1/4W
	SW301	VG392900	SW.TACT	SKHVAA
	SW302	VG392900	SW.TACT	SKHVAA
	SW303	VG392900	SW.TACT	SKHVAA
	SW304	VG392900	SW.TACT	SKHVAA
	SW305	VG392900	SW.TACT	SKHVAA
	SW306	VG392900	SW.TACT	SKHVAA
	SW307	VG392900	SW.TACT	SKHVAA
	SW308	VG392900	SW.TACT	SKHVAA
	SW309	VG392900	SW.TACT	SKHVAA
	SW310	VG392900	SW.TACT	SKHVAA
	SW311	VG392900	SW.TACT	SKHVAA
	SW312	VG392900	SW.TACT	SKHVAA
	SW313	VG392900	SW.TACT	SKHVAA
	SW314	VG392900	SW.TACT	SKHVAA
	SW315	VG392900	SW.TACT	SKHVAA
	SW316	VG392900	SW.TACT	SKHVAA
	SW317	VG392900	SW.TACT	SKHVAA
	SW318	VG392900	SW.TACT	SKHVAA
	SW319	VG392900	SW.TACT	SKHVAA
	SW320	VG392900	SW.TACT	SKHVAA
	SW321	VG392900	SW.TACT	SKHVAA
	SW322	VG392900	SW.TACT	SKHVAA

* New Parts

	Schm Ref.	PART NO.	Description	
	SW323	VG392900	SW.TACT	SKHVAA
	SW324	VG392900	SW.TACT	SKHVAA
	SW325	VG392900	SW.TACT	SKHVAA
	SW326	VG392900	SW.TACT	SKHVAA
	SW327	VG392900	SW.TACT	SKHVAA
	SW328	VG392900	SW.TACT	SKHVAA
	SW329	VG392900	SW.TACT	SKHVAA
	SW330	VG392900	SW.TACT	SKHVAA
	SW331	VG392900	SW.TACT	SKHVAA
	SW332	VG392900	SW.TACT	SKHVAA
	SW333	VG392900	SW.TACT	SKHVAA
	SW334	VG392900	SW.TACT	SKHVAA
	SW335	VG392900	SW.TACT	SKHVAA
	SW336	VG392900	SW.TACT	SKHVAA
	SW337	VG392900	SW.TACT	SKHVAA
	U301	VU591000	L.DTCT	GP1U271X
*	V301	VV485300	FL.DSPLY	13-BT-148GK
*	VR301	VV887200	VR	A10KΩ
	VR302	VZ517100	VR	B50KΩ
*	VR303	VV887200	VR	A10KΩ
	VR304	VZ517100	VR	B50K Ω
	VR305	VP741800	VR	B20KΩ
	VR306	VP741900	VR	G25KΩ
	VR309	VP742000	VR	MN100KΩ
	XL301	VR891500	RSNR.CE	6.30MHz
		VJ828000	PIN	IMSA-6024-03E
		VQ859800	SHEET.FL	
		VV499900	SPACER	FL-T7.5
*		VZ180600	PLATE	
		VR341800	P.C.B.	TUNER(U)
		VR341900	P.C.B.	TUNER(RT)
		VR342000	P.C.B.	TUNER(L)
	CB1	VR428700	CN.BS.PIN	2P
	CB2	VR428700	CN.BS.PIN	2P
	CB4	VQ961800	CN.BS.PIN	15P
	C1	UJ638330	C.EL	330uF 16V
	C2	VG280100	C.CE.TUBLR	0.022uF 25V
	C3	VJ599000	C.CE.TUBLR	0.047uF 16V
	C4	VJ836900	C.EL	10uF 16V
	C5	VF467300	C.CE.TUBLR	0.01uF 16V
	C6	VF964800	C.EL	100uF 16V
	C7	VJ839100	C.EL	1uF 50V
	C8	VF467300	C.CE.TUBLR	0.01uF 16V
	C9	VF467300	C.CE.TUBLR	0.01uF 16V
	C10	VF467300	C.CE.TUBLR	0.01uF 16V
	C11	VF467000	C.CE.TUBLR	1000pF 50V
	C12	VJ836900	C.EL	10uF 16V
	C13	VJ836900	C.EL	10uF 16V
	C14	VF467000	C.CE.TUBLR	1000pF 50V
	C15	VF467000	C.CE.TUBLR	1000pF 50V

* New Parts

TUNER P.C.B

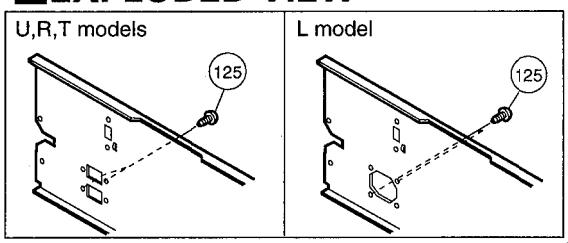
Schm Ref.	PART NO.	Description		
C16	VF466700	C.CE.TUBLR	47pF	50V
C17	VF964800	C.EL	100uF	16V
C18	UA655100	C.MYLAR	0.1uF	50V
C19	VA761200	C.CE	33pF	50V
C20	VJ836900	C.EL	10uF	16V
C21	VF466800	C.CE.TUBLR	100pF	50V
C22	VJ839200	C.EL	2.2uF	50V
C23	VF467300	C.CE.TUBLR	0.01uF	16V
C24	UM416470	C.EL	4.7uF	50V
C25	UM216330	C.EL	3.3uF	50V
C26	VJ836900	C.EL	10uF	16V
C27	VF467300	C.CE.TUBLR	0.01uF	16V
C28	VA761200	C.CE	33pF	50V
C29	VJ839100	C.EL	1uF	50V
C30	VJ839100	C.EL	1uF	50V
C31	VJ836900	C.EL	10uF	16V
C32	VJ839000	C.EL	0.47uF	50V
C33	VJ839100	C.EL	1uF	50V
C34	UA654470	C.MYLAR	0.047uF	50V
C35	VD916400	C.EL	2.2uF	50V
C36	UA652470	C.MYLAR	470pF	50V(L)
C36	UA652680	C.MYLAR	680pF	50V(URT)
C37	UA652470	C.MYLAR	470pF	50V(L)
C37	UA652680	C.MYLAR	680pF	50V(URT)
C38	VF466900	C.CE.TUBLR	470pF	50V
C39	VJ836900	C.EL	10uF	16V
C40	UM216330	C.EL	3.3uF	50V
C41	UA653390	C.MYLAR	3900pF	50V
C42	VJ836900	C.EL	10uF	16V
C43	UA653390	C.MYLAR	3900pF	50V
C44	UM216330	C.EL	3.3uF	50V
C49	VJ599000	C.CE.TUBLR	0.047uF	16V
C68	VJ836900	C.EL	10uF	16V
C69	VJ836900	C.EL	10uF	16V
D1	VD631600	DIODE	1SS133,176,HSS104	
D2	VD631600	DIODE	1SS133,176,HSS104	
D3	VM974500	DIODE.ZENR	HZS6C2TD 6.0V	
Fi1	GG000560	FLTR.CE	SFE10.7MS3GHY-A	
Fi2	GG000560	FLTR.CE	SFE10.7MS3GHY-A	
Fi3	VC219000	FLTR.CE	SFZ450JL3	
IC1	XB760A00	IC	LA1266	
IC2	XB818A00	IC	LM7000N	
IC3	iG158100	IC	LA3401	
L1	Vi546100	COIL	220uH	
L2	Vi546100	COIL	220uH	
L3	Vi546100	COIL	220uH	
PK1	VR242200	TUNER.PK	EXV-17296G1	
PK2	Vi027300	COILPAK.AM		
Q1	iC053540	TR	2SC535 A,B,C	
Q2	VC218900	TR	2SC3330 R,S,T	
Q3	VC218900	TR	2SC3330 R,S,T	
Q4	iC053540	TR	2SC535 A,B,C	
Q5	VC218700	TR	2SA1317 R,S,T	

* New Parts

Schm Ref.	PART NO.	Description	
Q6	VC218900	TR	2SC3330 R,S,T
Q7	iC1815C0	TR	2SC1815 Y
SW1	VF541200	SW.SLIDE	SSSF11(RT)
T1	VC218600	COIL.DT.FM	10.7MHz
T2	GE100470	COIL.IF.AM	450KHz
T4	VQ138200	FLTR.LC	19KHz
T5	VQ138200	FLTR.LC	19KHz
TE1	LA005800	TERM.ANT	YKD31-0215
TP1	VT969000	PIN.TEST	IRS-2049
TP2	VT969000	PIN.TEST	IRS-2049
VR1	VJ694000	VR.TRIM	B47KΩ
VR2	VJ694000	VR.TRIM	B47KΩ
XL1	QU003800	RSNR.CRYS	7.2MHz
XL2	GG000750	RSNR.CE	18.95KHz
	BB071360	SCR.TERM	8.3x13
	VR282500	PLATE	ANT.

* New Parts

■EXPLODED VIEW



■MECHANICAL PARTS

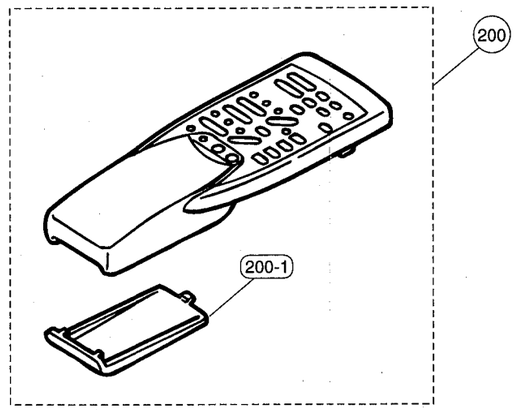
	Ref. No.	PART NO.	Description		Remarks	Markets
*	1- 1	VV139100	FRONT PANEL		RX-V300K BL	
*	1- 1	VV139200	FRONT PANEL		R-V302K GL	
*	1- 1	VY649600	FRONT PANEL		R-V302K BL	
*	1- 2	VV141100	BRACKET, VR			
	1-10	EP600290	BIND HEAD P-TITE SCREW	3x6 ZMC2-Y		
*	2- 1	VY884900	P.C.B. ASS'Y	OPERATION		(U)
*	2- 1	VY885000	P.C.B. ASS'Y	OPERATION		(RT)
*	2- 1	VY885100	P.C.B. ASS'Y	OPERATION		(L)
*	2- 8	MF129450	FLEXIBLE FLAT CABLE	29P 450mm		
*	2- 9	MF205120	S FLEXIBLE FLAT CABLE C&C	5P 120mm		
*	2-11	VV140900	SUB CHASSIS	130		
	2-12	VV136700	BUTTON CASE		BL	
*	2-12	VV317300	BUTTON CASE		GL	
	2-13	VV137500	BUTTON, DSP		BL	
*	2-13	VV311700	BUTTON, DSP		GL	
	2-17	VV149500	ESCUTCHEON, VOL		BL	
	2-17	VZ031500	ESCUTCHEON, VOL		GL	
	2-20	VQ368500	PUSH RIVET	P3545-B		
	2-21	E i 330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL		
	2-24	VT669300	PW HEAD B-TITE SCREW	3x8-8 MFC2		
	2-25	EP630220	BIND HEAD P-TITE SCREW	3x8 ZMC2-BL		
	3- 1	VV899700	HEAT SINK ASS'Y			
*	3- 2	VY885200	P.C.B. ASS'Y	MAIN		(U)
*	3- 2	VY885300	P.C.B. ASS'Y	MAIN		(RT)
*	3- 2	VY885400	P.C.B. ASS'Y	MAIN		(L)
	3-11	VV491300	SUPPORT, PCB			
	3-12	VV901900	SUPPORT, TR			
	3-21	VK195900	RADIATION SHEET	19x24		
	3-22	VV901800	RADIATION SHEET			
	3-31	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3		
	3-32	E i 330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL		
	3-33	VT669400	PW HEAD B-TITE SCREW	3x15-8 MFC2		
	7	VR341800	P.C.B. ASS'Y	TUNER		(U)
	7	VR341900	P.C.B. ASS'Y	TUNER		(RT)
	7	VR342000	P.C.B. ASS'Y	TUNER		(L)
*	8	VY885500	P.C.B. ASS'Y	INPUT		
⚠ *	11	XT696A00	POWER TRANSFORMER			(U)
⚠ *	11	XT697A00	POWER TRANSFORMER			(RT)
⚠ *	11	XT698A00	POWER TRANSFORMER			(L)
⚠	12	VL238100	POWER CORD ASS'Y			(R)
⚠	12	VN363700	POWER CORD ASS'Y			(L)
⚠	12	VV437200	POWER CORD ASS'Y			(U)
⚠	12	VZ542500	POWER CORD ASS'Y			(T)
	15	VU590000	BINDING TIE	CBTD001B		
	101	VV140400	TOP COVER		BL	
*	101	VV140600	TOP COVER		GL	
	102	VQ794000	CHASSIS			
*	103	VV147400	REAR PANEL	RX-V300K		(U)
*	103	VV147600	REAR PANEL	RX-V300K		(RT)
*	103	VV147800	REAR PANEL	RX-V300K		(L)
*	103	VY662100	REAR PANEL	R-V302K		(RT)
	104	VS025000	LEG	D60xH21	RX-V300K	
	104	VV544600	LEG	D60xH21	R-V302K	

* New Parts

	Ref. No.	PART NO.	Description			Remarks	Markets
	106	VR264400	SPACER	H8			
	108	VQ366100	DAMPER, PCB				
	109	VZ319700	STOPPER	SCREW			
	111	VV148800	KNOB	D40		BL	
*	111	VV149000	KNOB	D40		GL	
*	112	VV310900	KNOB	D14		GL	
	112	VV311000	KNOB	D14		BL	
	113	VR308400	KNOB, VR	D10		BL	
*	113	VV795300	KNOB, VR			GL	
	115	VV123500	BUTTON, 3/8			BL	
*	115	VV311600	BUTTON, 3/8			GL	
	117	VV139900	SHEET, WINDOW				(U)
	117	VV140000	SHEET, WINDOW				(RLT)
	119	VN158600	CORD STOPPER	No.2104			
	120	VV259300	SPACER				
	121	EN301010	BIND HEAD BONDING TAP. SCREW	3x8	FCRM3-BL		
	122	E i 330086	BIND HEAD B-TITE SCREW	3x8	FCRM3-BL		
	123	E i 030046	BIND HEAD TAPPING SCREW	3x4	ZMC2-Y		
	125	E i 030086	BIND HEAD B-TITE SCREW	3x8	ZMC2-Y		
	126	ED330066	BIND HEAD SCREW	3x6	FCRM3-BL		
	127	VS997700	BIND HEAD S-TITE SCREW	3x10	MFNI33		
	128	VT669300	PW HEAD B-TITE SCREW	3x8-8	MFC2		
	129	VT669400	PW HEAD B-TITE SCREW	3x15-8	MFC2		
	130	VY731200	BONDING HEAD TAPPING SCREW	3x10	MFNI33		
	131	EX601150	BW HEAD S-TITE SCREW	4x8-10	FNM3-BL		
	132	EK365090	PW HEAD S-TITE SCREW	4x8-10	FCRM3-BL		
	133	VY731400	DAMPER	HOLE			
			ACCESSORIES				
*	200	VV486500	REMOTE CONTROL TRANSMITTER				
	200-1	CX679050	LID	74x34BLALPS			
		VQ147100	ANTENNA, FM	1P 1.4m			
		VR248500	ANTENNA, AM LOOP	1P 1.0m			
		VT948000	ANTENNA ADAPTER				(U)
			BATTERY, MANGANESE	SUM-3,AA,R06			

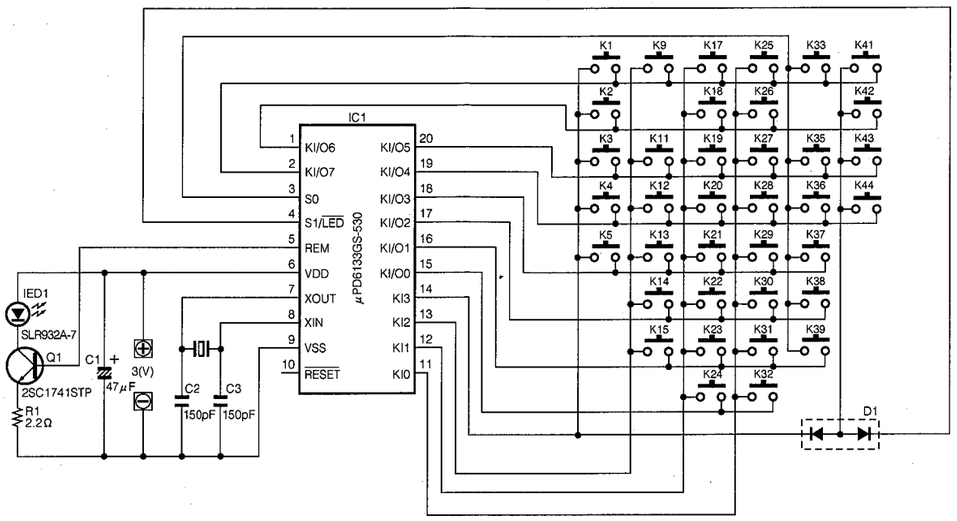
* New Parts

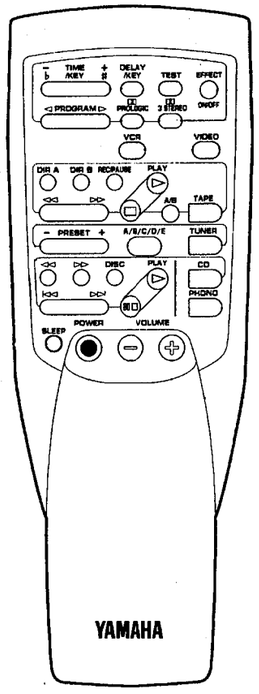
■EXPLODED VIEW (Remote Control Transmitter)



■REMOTE CONTROL TRANSMITTER

SCHEMATIC DIAGRAM

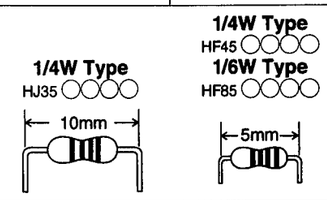




Key No.	FUNCTION	CUSTOM (BIN)	DATA (HEX)
1	EFFECT ON/OFF	7A	56
2	PROGRAM ◁	7A	59
3	PROGRAM ▷	7A	58
4	□PROLOGIC	7A	88
5	3 STEREO	7A	89
		7A	8A
		7A	55
		7A	13
9	VCR	7A	0F
		7A	54
11	VIDEO	7A	17
12	DIR A	7A	07
13	DIR B	7A	40
14	REC/PAUSE	7A	04
15	PLAY (TAPE)	7A	00
		7A	19
17	◁◁ (TAPE)	7A	01
18	▷▷ (TAPE)	7A	02
19	□ (TAPE)	7A	03
20	(DECK) A/B	7A	06
21	TAPE	7A	18
22	PRESET –	7A	11
23	PRESET +	7A	10
24	A/B/C/D/E	7A	12
25	TUNER	7A	16
26	◁◁ (CD)	7A	0D
27	▷▷ (CD)	7A	0C
28	DISC	7A	4F
29	PLAY (CD)	7A	08
30	CD	7A	15
31	⏮◁◁ (CD)	7A	0B
32	▷▷⏭ (CD)	7A	0A
33	▮▮/□	7A	09
		7A	0E
35	PHONO	7A	14
36	SLEEP	7A	57
37	POWER	7A	1F
38	(MASTER) VOLUME –	7A	1B
39	(MASTER) VOLUME +	7A	1A
		7A	1C
41	TIME/KEY ♭	7A	53
42	TIME/KEY #	7A	52
43	DELAY/KEY	7A	86
44	TEST	7A	85

Parts List for Carbon Resistors

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ35 3100	HF85 3100	10 kΩ	HF45 7100	HF45 7100
1.8 Ω	HJ35 3180	※	11 kΩ	HF45 7110	HF45 7110
2.2 Ω	HJ35 3220	HF85 3220	12 kΩ	HJ35 7120	HF85 7120
3.3 Ω	HJ35 3330	HF85 3330	13 kΩ	HF45 7130	HF45 7130
4.7 Ω	HJ35 3470	HF85 3470	15 kΩ	HF45 7150	HF45 7150
5.6 Ω	HJ35 3560	HF85 3560	18 kΩ	HF45 7180	HF45 7180
10 Ω	HF45 4100	HF45 4100	22 kΩ	HF45 7220	HF45 7220
15 Ω	HJ35 4150	HF85 4150	24 kΩ	HF45 7240	HF45 7240
22 Ω	HF45 4220	HF45 4220	27 kΩ	HJ35 7270	HF85 7270
27 Ω	HJ35 4270	HF85 4270	30 kΩ	HF45 7300	HF45 7300
33 Ω	HF45 4330	HF45 4330	33 kΩ	HF45 7330	HF45 7330
39 Ω	HJ35 4390	HF85 4390	36 kΩ	HF45 7360	HF45 7360
47 Ω	HF45 4470	HF45 4470	39 kΩ	HF45 7390	HF45 7390
56 Ω	HF45 4560	HF45 4560	47 kΩ	HF45 7470	HF45 7470
68 Ω	HF45 4680	HF45 4680	51 kΩ	HF45 7510	HF45 7510
75 Ω	HF45 4750	HF45 4750	56 kΩ	HF45 7560	HF45 7560
82 Ω	HF45 4820	HF45 4820	62 kΩ	HF45 7620	HF45 7620
91 Ω	HF45 4910	HF45 4910	68 kΩ	HF45 7680	HF45 7680
100 Ω	HF45 5100	HF45 5100	82 kΩ	HF45 7820	HF45 7820
110 Ω	HJ35 5110	HF85 5110	91 kΩ	HF45 7910	HF45 7910
120 Ω	HF45 5120	HF45 5120	100 kΩ	HF45 8100	HF45 8100
150 Ω	HF45 5150	HF45 5150	110 kΩ	HF45 8110	HF45 8110
160 Ω	HJ35 5160	※	120 kΩ	HF45 8120	HF45 8120
180 Ω	HF45 5180	HF45 5180	150 kΩ	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 kΩ	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 kΩ	HJ35 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 kΩ	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 kΩ	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 kΩ	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 kΩ	HJ35 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 kΩ	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 kΩ	HJ35 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 kΩ	HJ35 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 kΩ	HJ35 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 MΩ	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 MΩ	HJ35 9120	※
1.0 kΩ	HF45 6100	HF45 6100	1.5 MΩ	HJ35 9150	HF85 9150
1.2 kΩ	HF45 6120	HF45 6120	1.8 MΩ	HJ35 9180	HF85 9180
1.5 kΩ	HF45 6150	HF45 6150	2.2 MΩ	HJ35 9220	HF85 9220
1.8 kΩ	HF45 6180	HF45 6180	3.3 MΩ	HJ35 9330	HF85 9330
2.0 kΩ	HJ35 6200	HF85 6200	3.9 MΩ	HJ35 9390	※
2.2 kΩ	HF45 6220	HF45 6220	4.7 MΩ	HJ35 9470	HF85 9470
2.4 kΩ	HJ35 6240	HF85 6240			
2.7 kΩ	HF45 6270	HF45 6270			
3.0 kΩ	HF45 6300	HF45 6300			
3.3 kΩ	HF45 6330	HF45 6330			
3.6 kΩ	HJ35 6360	HF85 6360			
3.9 kΩ	HF45 6390	HF45 6390			
4.7 kΩ	HF45 6470	HF45 6470			
5.1 kΩ	HF45 6510	HF45 6510			
5.6 kΩ	HF45 6560	HF45 6560			
6.8 kΩ	HF45 6680	HF45 6680			
8.2 kΩ	HF45 6820	HF45 6820			
9.1 kΩ	HF45 6910	HF45 6910			



※ : Not available

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