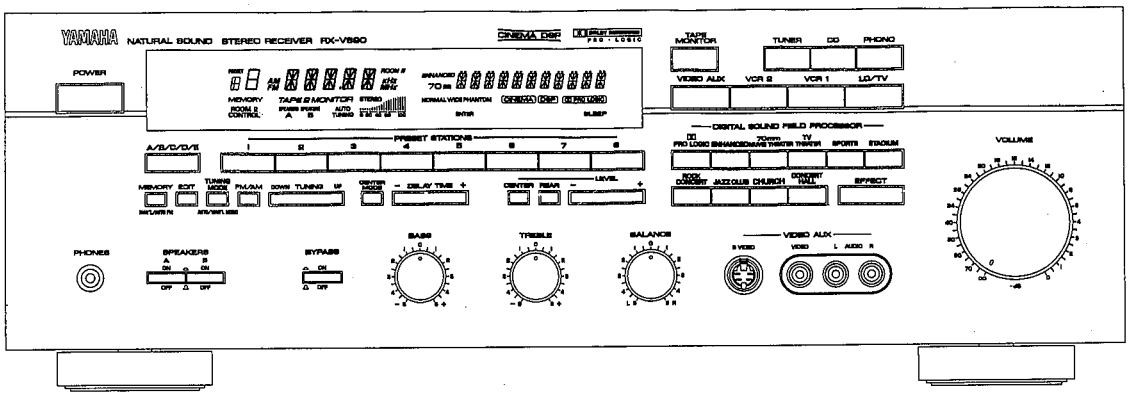
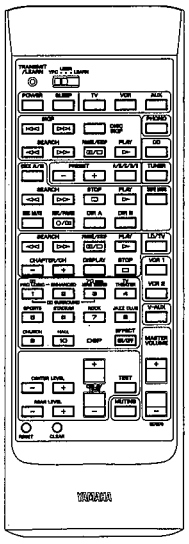
STEREO RECEIVER

RX-V690

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 or 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

100520

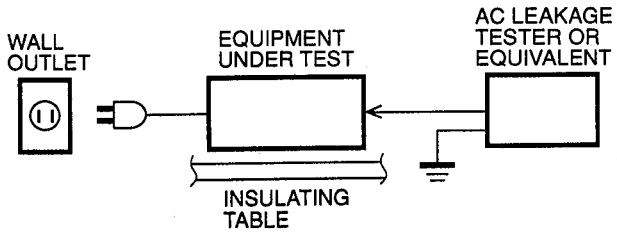
YAMAHA
YAMAHA CORPORATION
P.O.Box1,Hamamatsu,Japan

I.9k-436 Printed in Japan. '95.5

■ 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 Models Only).
   When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.

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



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.

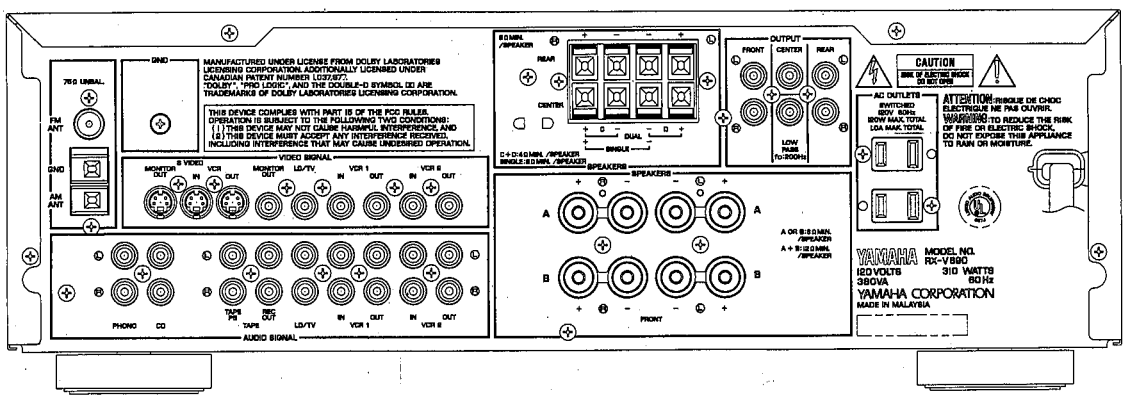
DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

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

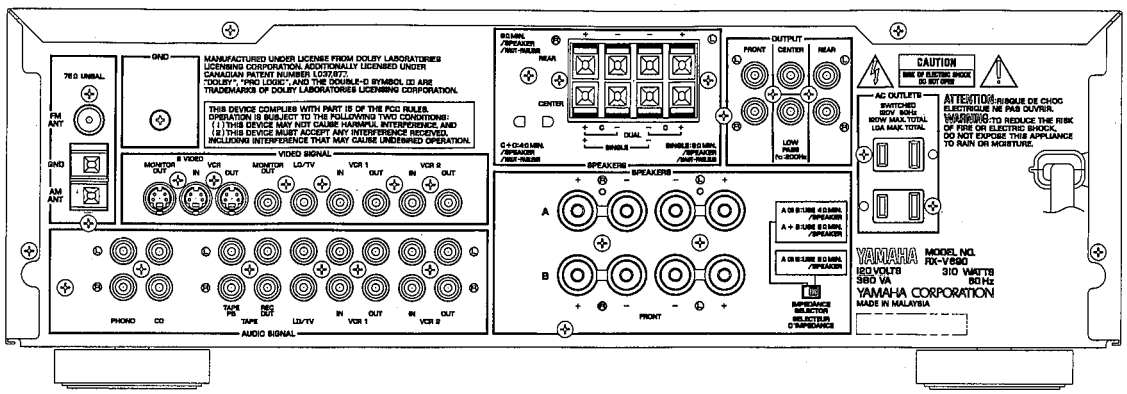
If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ REAR PANELS

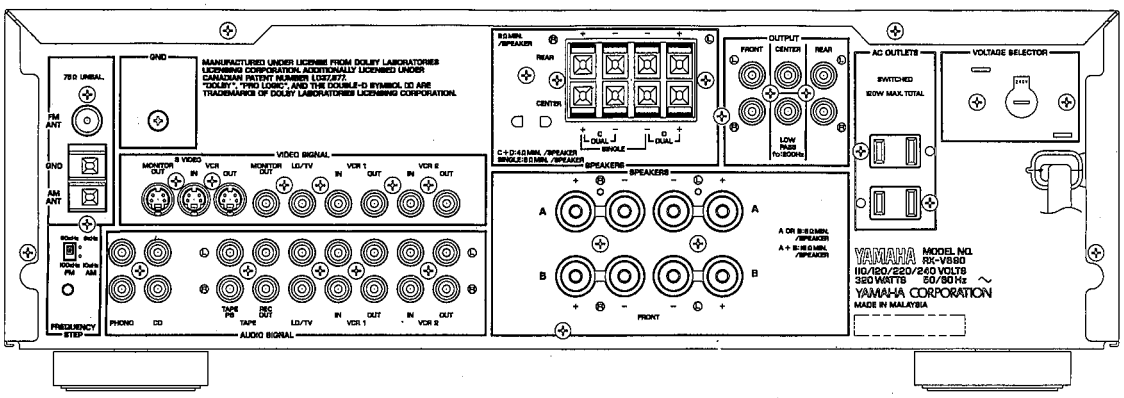
▼ U model



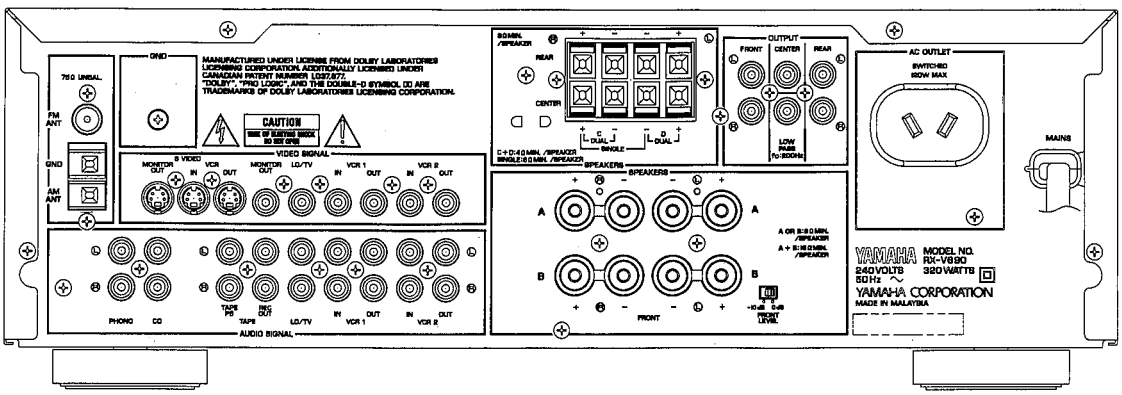
▼ C model



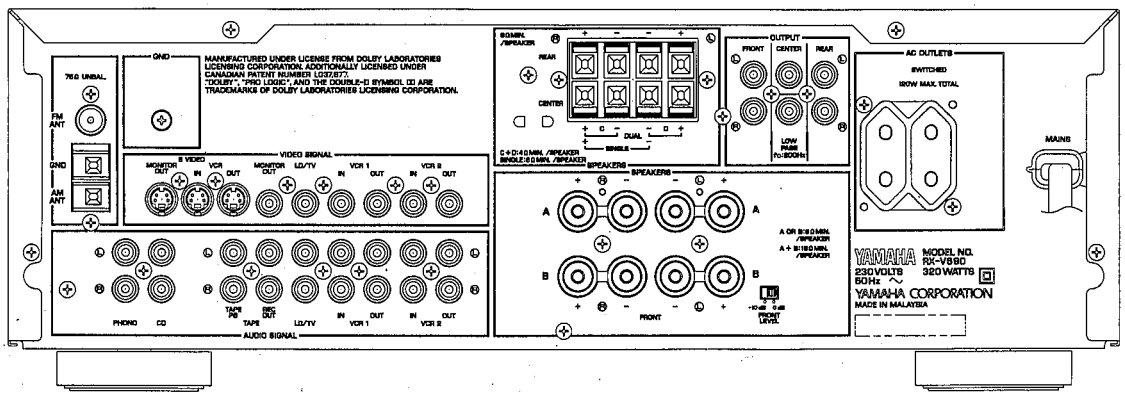
▼ R model



▼ A model



▼ L model



■ SPECIFICATIONS

■ AUDIO SECTION

Minimum RMS Output Power per Channel
FRONT, 20Hz to 20kHz, 0.04% THD, 8Ω
U, C models 80W
A, L, R models 75W
CENTER, 1kHz, 0.07% THD, 8Ω
U, C models 80W
A, L, R models 75W
REAR, 1kHz, 0.3% THD, 8Ω 25W
Maximum Power per Channel
FRONT, 1kHz, 10% THD, 8Ω
R model 115W
Dynamic Power per Channel (IHF)
8/6/4/2Ω 115/140/170/210W
Dynamic Headroom (8Ω)
U, C, models 1.58dB
Power Band Width
0.08% THD, 40W, 8Ω .....10Hz to 50kHz
Damping Factor
20Hz to 20kHz, 8Ω .....80 or more
Input Sensitivity/Impedance
PHONO MM 2.5mV/47kΩ
CD etc 150mV/47kΩ
Maximum Input Signal Level
PHONO MM, 1kHz, 0.04% THD 110mV
CD etc, 1kHz, 0.5% THD 2.2V
Output Level/Impedance
REC OUT 150mV/1.0kΩ
PRE OUT 2.2V/1.2kΩ
LPF (EFFECT OFF) 3.5V/1.5kΩ
Headphone Jack Rated Output/Impedance
Input 1kHz, 150mV, 8Ω 0.5V/390Ω
Frequency Response (20Hz to 20kHz)
CD etc, FRONT .....0±0.5dB
RIAA Equalization Deviation (20Hz to 20kHz)
PHONO MM .....0±0.5dB
Total Harmonic Distortion (20Hz to 20kHz)
PHONO MM to REC OUT (1V) 0.02%
CD etc to FRONT SP OUT (40W/8Ω), EFFECT OFF 0.02%
CD etc to REAR SP OUT, 1kHz (10W/8Ω) 0.3%
Signal-to-Noise Ratio (IHF-A-Network)
PHONO MM, Input Shorted (5mV) REC OUT 86dB
CD etc, Input Shorted (150mV) SP OUT, EFFECT OFF 98dB
Residual Noise (IHF-A-Network)
FRONT, SP OUT 140μV
Channel Separation (Vol. –30dB, EFFECT OFF)
PHONO MM, Input Shorted, 1kHz/10kHz 60dB/50dB
CD etc, Input 5.1kΩ Shorted, 1kHz/10kHz 60dB/45dB
Tone Control Characteristics
BASS : Boost/cut .....±10dB (50Hz)
Turnover Frequency 350Hz
TREBLE : Boost/cut .....±10dB (20kHz)
Turnover Frequency 3.5kHz
Filter Characteristics
LPF .....fc=200Hz, 6dB/oct
Gain Tracking Error (0dB to –60dB) 3dB
Tuner Output Level/Impedance
FM (100% mod., 1kHz) 500mV/2.2kΩ
AM (30% mod., 1kHz) 150mV/2.2kΩ
Muting .....– ∞

■ FM SECTION

Tuning Range
U, C models .....87.5 to 107.9MHz
A, L models .....87.50 to 108.00MHz
R model .....87.5 to 108.0/87.50 to 108.00MHz
50dB Quieting Sensitivity (IHF, 75 Ω)
Mono 1.55μV (15.1dBf)
Stereo 21μV (37.7dBf)
Usable Sensitivity (75 Ω)
30dB S/N Quieting, 1kHz, 100% mod. 0.8μV (9.3dBf)
Image Response Ratio 45dB
IF Response Ratio 80dB
Spurious Response Ratio 70dB
AM Suppression Ratio 55dB
Capture Ratio 1.5dB
Alternate Channel Selectivity 85dB
Signal-to-Noise Ratio (IHF)
Mono/Stereo 80/75dB
Harmonic Distortion (1kHz)
Mono/Stereo 0.1/0.2%
Frequency Response
20Hz to 15kHz .....0 ± 1.5dB
Stereo Separation (1kHz) 50dB

■ AM SECTION

Tuning Range
U, C models .....530 to 1710kHz
A, L models .....531 to 1611kHz
R model .....530 to 1710/531 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 Level 1Vp-p/75Ω
S-Video Signal Level
Y 1Vp-p/75Ω
C 0.286Vp-p/75Ω
Maximum Input Level 1.5Vp-p
Signal-to-Noise Ratio 50dB
Monitor Output Frequency Response ....5Hz~10MHz, –3dB

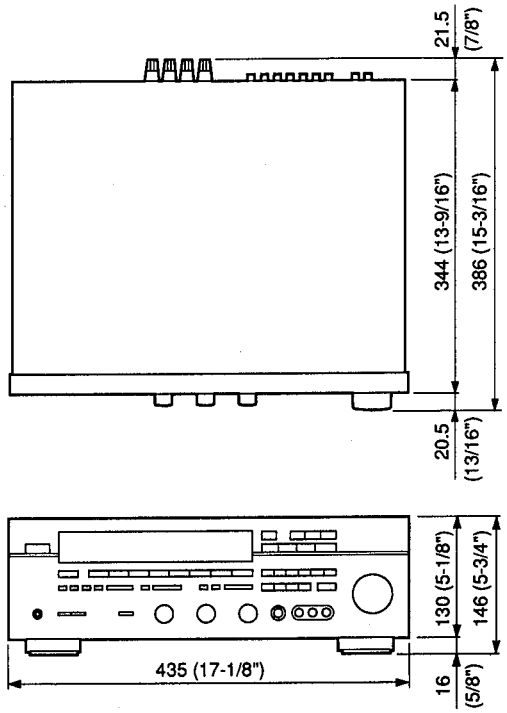
■ GENERAL

Power Supply
U, C models .....AC 120V, 60Hz
A model .....AC 240V, 50Hz
L model .....AC 230V, 50Hz
R model .....AC 110/120/220/240V, 50/60Hz
Power Consumption
U, C models 310W/380VA
A, L, R models 320W
Maximum Power Consumption
R model 620W
AC Outlets
U, C, L, R models, Switched x 2 .....120W max (Total)
A model, Switched x 1 .....120W max
Dimensions (W x H x D) .....435 x 146 x 386mm
(17-1/8" x 5-3/4" x 15-3/16")
Weight .....10.5 kg (23 lbs 2oz)
Accessories .....AM loop antenna x 1
Indoor FM antenna x 1
Remote Control Transmitter x 1
Battery (size "AA", "R06") x 2

** Specifications subject to change without notice.*

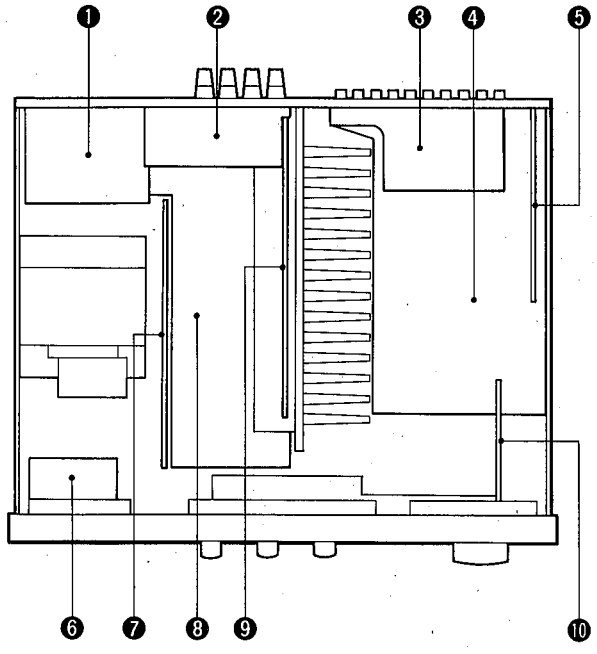
U ..... ***USA model***
C ..... ***Canadian model***
A ..... ***Australian model***
L ..... ***Singapore model***
R ..... ***General model***

● DIMENSIONS



Units : mm (inch)

■ INTERNAL VIEW



❶ P. C. B. MAIN (6)
❷ P. C. B. MAIN (5)
❸ P. C. B. DSP (3)
❹ P. C. B. DSP (1)
❺ P. C. B. TUNER
❻ P. C. B. MAIN (3)
❼ P. C. B. MAIN (2)
❽ P. C. B. MAIN (1)
❾ P. C. B. MAIN (4)
❿ P. C. B. DSP (2)

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

1. Removal of Top Cover

a. Remove 4 screws (①) and 4 screws (②) in Fig. 1.

2. Removal of Bottom Cover

a. Remove 6 screws (③) in Fig. 1.

3. Removal of Front Panel

a. Remove 4 knobs.

b. Remove 6 screws (④) in Fig. 1.

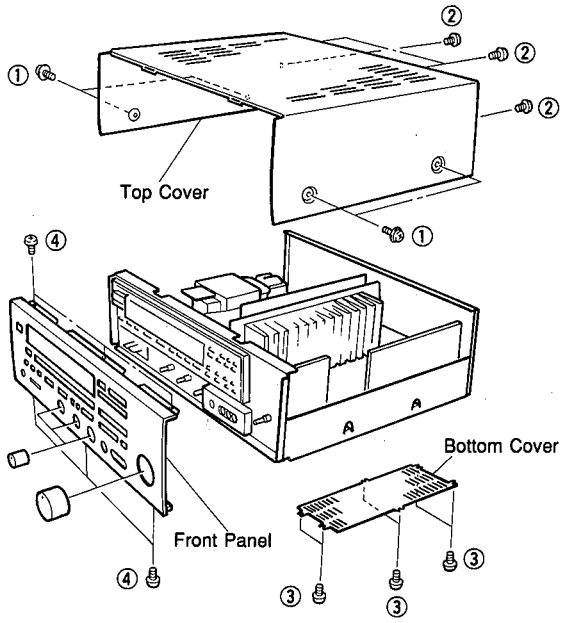


Fig. 1

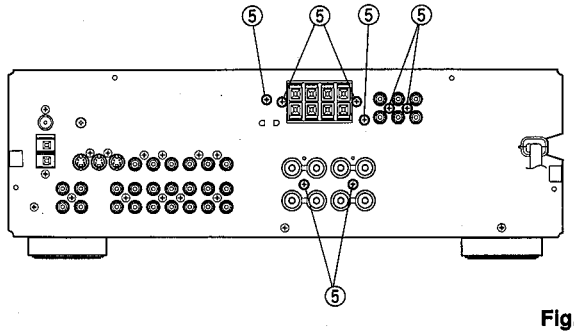


Fig. 2

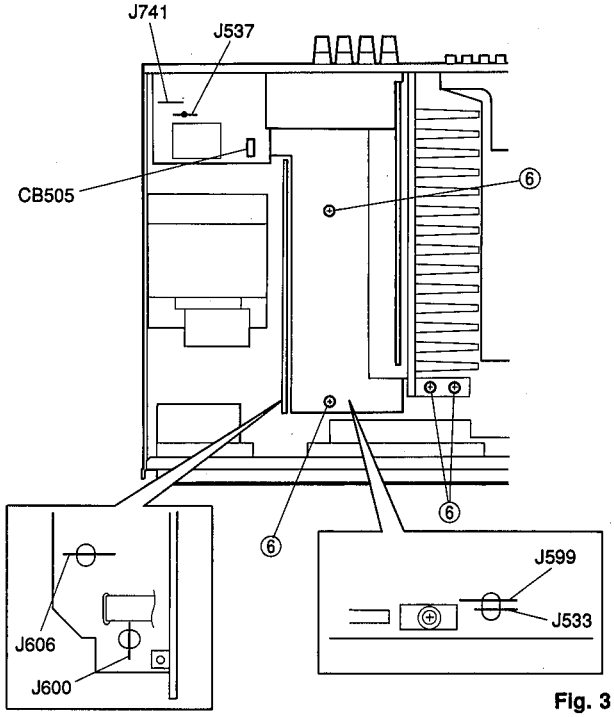


Fig. 3

4. Checking and Parts Replacement of MAIN Unit.

a. Disconnect the power cord from the AC outlet.

b. Remove 8 screws (⑤) in Fig. 2.

c. Remove 4 screws (⑥) fixing the Main Unit in Fig. 3.

d. Detach 1 connector terminal (CB505) in Fig. 3.

e. Operating checks can be taken by shorting between following test points in Fig. 3.

Short Point
J537↔J741
J533↔J599
J600↔J606

f. Place the Main Unit on its side as shown in Fig. 4.

g. Connect the power cord and turn ON the POWER switch.

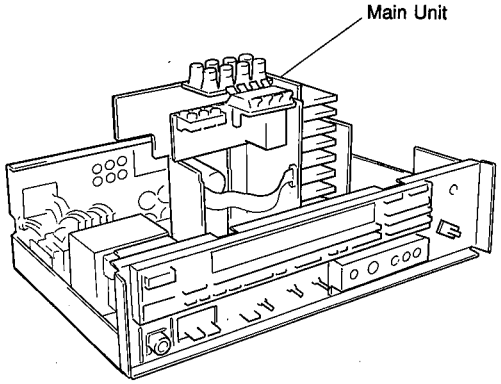


Fig. 4

■ DIAGNOSTIC MODE

PURPOSE OF DIAGNOSTIC MODE

- If the protection circuit operates to turn OFF the POWER when the POWER is turned ON, the cause can be found out by starting the DIAGNOSTIC mode. (Protection message)
- Some items of the DIAGNOSTIC menu facilitate operation check, inspection and measurement.

HOW TO START DIAGNOSTIC (DIAG.)

Turn on the POWER key while pressing □□ PRO LOGIC and 70mm MOVIE THEATER keys simultaneously, and then the DIAG. mode is started.

HOW TO CANCEL DIAG.

Turning off the POWER key of the front panel or remote control transmitter will restore the normal operation and DIAG. will be canceled.

* To keep the setting stored in the memory, be sure to check that DIAG. No. 7 is set to "KEEP DATA" before canceling DIAG. DIAG. No.7 is set to "KEEP DATA" when starting DIAG.

CONTENTS OF DIAG. OPERATIONS

- DIAG. MENU can be selected by pressing PRESET STATIONS key of the front panel or PROGRAM key of the remote control transmitter.
- Each DIAG. MENU has some SUB-MENU. Every time the same key, PRESET STATIONS key of the front panel or PROGRAM key of the remote control transmitter is pressed, another SUB-MENU is selected.
- While the diagnostic mode is set, function of power on/off, selecting an input source, adjusting master volume & effect level are available.
- The contents of each DIAG. MENU are as follows.

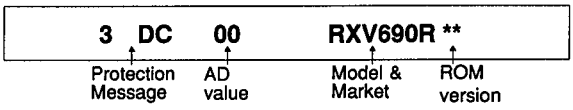
No.	DIAG. Menu	Sub Menu
1	MAIN BYPASS	EFFECT LEVEL 60 (–10dB)/80 (0dB)
2	FRONT RAM THR	EFFECT LEVEL 60 (–10dB)/80 (0dB)
3	MAIN DSP THR	EFFECT LEVEL 100 (+10dB)/60 (–10dB)/80 (0dB)
4	EFFECT OFF/DISP	EFFECT OFF/DISPLAY CHECK
5	MANUAL TEST	TEST : LEFT/CENTER/RIGHT/SUR
6	PRO LOGIC	CENTER NORMAL/CENTER WIDE/CENTER PHANTOM/BYPASS/CINE EQ. ON
7	FACTORY PRESET	KEEP DATA/FACTORY PRESET
8	AD CHECK MODE	KEY AD & OTHER AD CHECK

Note : CINE EQ ON appears but such function is not provided.

DISPLAY

When the DIAGNOSTIC mode is set, the initial display appears on the FL display followed by the DIAGNOSTIC display (No.1).
The initial display can be redisplayed by pressing the A/B/C/D/E key (but not when performing AD check by using DIAG. No.8).

● Components of initial display (Example)



[Protection message]

When the protection function is at work, the protection message is displayed and the power is turned off.

Instantly → "1 I"
After about 0.5 seconds → "2 PS"
After about 2 seconds → "3 DC"

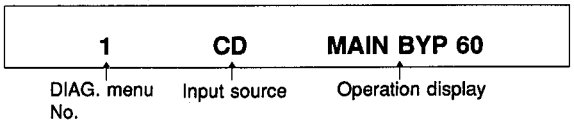
Correct the faulty part according to the protection message.

Protection message	Cause
1 I	An abnormal current flowed to the power amplifier.
2 PS	Abnormal condition occurred in the power section.
3 DC	DC is detected in the output of the power amplifier.

[AD value to Model & Market relation]

AD value (±3)	Model & Market	Remarks
00	RXV690 R **	R : General model
30	RXV690 U **	UC : USA & Canadian models
30	RXV690 A **	A : Australian model
60	RXV690 L **	L : Singapore model

● Components of DIAGNOSTIC display



*Supplement

When in the DIAG. mode, lighting of all segments of the turning meter for catalogue photographing can be reserved by using the EFFECT key. (Do not use this function as it is not intended for servicing.)
With such reservation made, all segments of the tuning meter light when the tuner function is selected in the normal mode. (This reservation is effective once only at the next POWER ON. After that, normal meter operation is provided.)

Content	FL display
Reservation of full scale	T-METER ON
Reservation of normal	T-METER OFF

HOW TO USE DIAG. MODE

In order to confirm characteristics (specifications) listed in the table below, use DIAG. No. 1, 3 and 4. (For specifications, refer to page 3.)

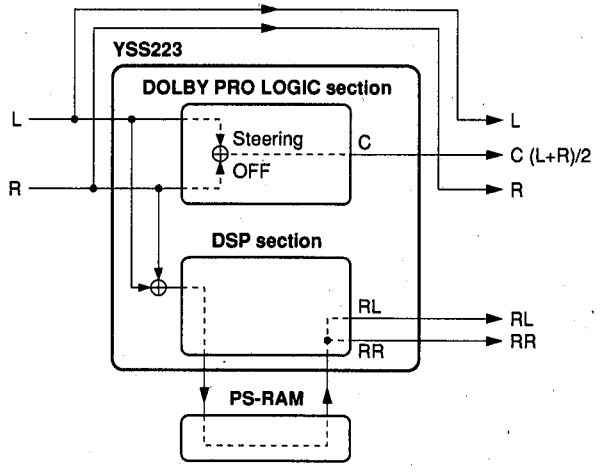
No.	Items
1	• Output Level/Impedance • Frequency Response • S/N
3	• Minimum RMS Output Power Per Channel (Center & Rear) • Total Harmonic Distortion (Center & Rear)
4	• Minimum RMS Output Power Per Channel (Front) • Dynamic Power • Power Bandwidth • Damping Factor • Input Sensitivity/Impedance • Headphone Jack Rated Output/Impedance • Channel Separation • Total Harmonic Distortion (Rec Out & Front) • Tone Control Characteristics

CONTENTS OF DIAGNOSIS

DIAG 1 MAIN BYPASS

- MAIN L/R is output through the bypass.
- CENTER is output with the steering off and at (L + R)/2.
- RL/RR is output by way of PS-RAM at DSP through.
- Electric volume of both the CENTER & REAR is changeable by changing the SUB-MENU.

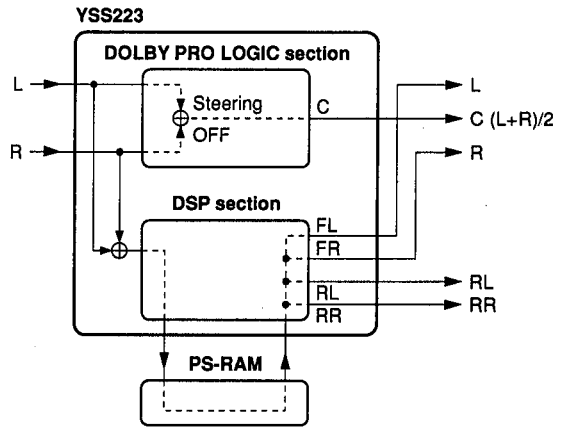
Sub-menu	FL display
Center & Rear E. Volume –10dB	1 (Input source) MAIN BYP 60
Center & Rear E. Volume 0dB	1 (Input source) MAIN BYP 80



DIAG 2 FRONT RAM THR

- CENTER is output with the steering off and at (L + R)/2.
- RL/RR is output by way of PS-RAM at DSP through.
- FL/FR is output by way of PS-RAM to MAIN L/R at DSP through.
- Electric volume of both the CENTER & REAR is changeable by changing the SUB-MENU.

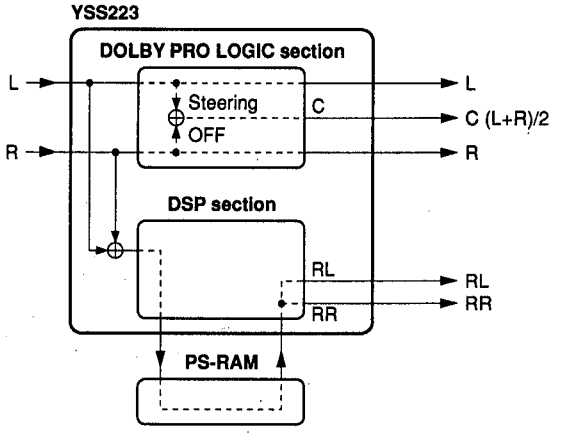
Sub-menu	FL display
Center & Rear E. Volume –10dB	2 (Input source) FRNT THR 60
Center & Rear E. Volume 0dB	2 (Input source) FRNT THR 80



DIAG 3 MAIN DSP THROUGH

- MAIN L/R is output through the PRO LOGIC.
- CENTER is output with the steering off and at (L + R)/2.
- RL/RR is output by way of PS-RAM at DSP through.
- Electric volume of both the CENTER & REAR is changeable by changing the SUB-MENU.

Sub-menu	FL display
Center & Rear E. Volume +10dB	3 (Input source) MAIN DSP100
Center & Rear E. Volume –10dB	3 (Input source) MAIN DSP60
Center & Rear E. Volume 0dB	3 (Input source) MAIN DSP80



DIAG 4 EFFECT OFF & DISPLAY CHECK

- Always effect off in this menu.
- The full segment of the FL is displayed.

Sub-menu	FL display
EFFECT OFF	4 (Input source) EFFECT OFF
FULL SEGMENT DISPLAY	—FULL SEGMENT DISPLAY—

DIAG 5 MANUAL TEST TONE

- Every time PRESET key No. 5 is pressed, the TEST TONE shifts and is output.
- CENTER MODE is WIDE.
- Electric volume of both the CENTER & REAR is 60 (–10dB).

Sub-menu	FL display
Noise LEFT	5 (Input source) TEST LEFT
Noise CENTER	5 (Input source) TEST CENTER
Noise RIGHT	5 (Input source) TEST RIGHT
Noise SUR	5 (Input source) TEST SUR

DIAG 6 PRO LOGIC

- The auto input balance which is on in the normal mode is turned off (PRO LOGIC).
- Electric volume of both of CENTER and REAR is 60 (–10dB).
- In the SUB-MENU of CINEMA EQ ON, CENTER MODE is WIDE.

Sub-menu	FL display
Center Mode NORMAL	6 (Input source) PRO LOGIC
Center mode WIDE	6 (Input source) PRO LOGIC
Center mode PHANTOM	6 (Input source) PRO LOGIC
EFFECT OFF	6 (Input source) BYPASS
CINEMA EQ ON	6 (Input source) CINE EQ ON

Note : CINE EQ ON appears but such function is not provided.

DIAG 7 FACTORY PRESET

- Reservation of the initializing DATA of the BACK-UP RAM.
- Then with the POWER key turned off after selecting the SUB-MENU, FACTORY PST, all RAM DATA is initialized.

Sub-menu	FL display
Keeping on RAM DATA	7 (Input source) KEEP DATA
Initializing RAM DATA	7 (Input source) FACTORY PST

CAUTION : Before setting to the FACTORY PRESET, write down the existing preset memory content of the Tuner in a table as shown below. (This is because setting to the FACTORY PRESET will cause the memory content to be as factory set, i.e., all the preset memory by the user will be erased.)

Preset group	P1	P2	P3	P4
A				
B				
C				
D				
E				

Preset group	P5	P6	P7	P8
A				
B				
C				
D				
E				

● Factory Preset

1) SURROUND section

DELAY TIME	: DD PRO LOGIC	20ms
	: ENHANCED	20ms
	: MOVIE THEATER	17ms
	: TV THEATER	28ms
	: SPORTS	20ms
	: STADIUM	45ms
	: ROCK CONCERT	22ms
	: JAZZ CLUB	26ms
	: CHURCH	40ms
	: CONCERT HALL	30ms
CENTER MODE	: NORMAL	
EFFECT LEVEL	: CENTER	80
	: REAR	80

2) SELECTOR section

INPUT	: CD
VIDEO (BGV)	: LD/TV

3) TUNER section

Preset group	P1	P2	P3	P4
A / C / E	87.5MHz	90.1MHz	95.1MHz	98.1MHz
B / D	630kHz	1080kHz	1440kHz	530kHz (U, C, R) 531kHz (R, A, L)

Preset group	P5	P6	P7	P8
A / C / E	107.9MHz (U, C, R) 108.0MHz (R, A, L)	88.1MHz	106.1MHz	107.9MHz (U, C, R) 108.0MHz (R, A, L)
B / D	1710kHz (U, C, R) 1611kHz (R, A, L)	900kHz	1350kHz	1400kHz (U, C, R) 1404kHz (R, A, L)

For all the above, AUTO TUNING and AUTO STEREO are selected as the TUNING mode.

DIAG 8 AD DATA CHECK

- In this MENU, it is possible to check the several AD data.
- The AD data is percent unit, about 2.8V equal to 100% only for tuning meter, about 5V equal to 100% for the other.

Sub-menu	FL display
Normal DIAG. mode	8 (Input source) AD CHK MODE
PAGE 1 : KEY AD DATA	P 1 (AD check page No.) 0 0 (CH 0) 0 0 (CH 1) 0 0 (CH 2) 0 0 (CH 3) 0 0 (CH 4)
PAGE 2 : OTHER AD DATA	P 2 (AD check page No.) 9 9 (DATA FIXED 99) 0 0 (TUNING METER) 0 7 (PROTECTION 1) 2 1 (PROTECTION 2) 0 0 (FREQUENCY STEP)

- In the PAGE1, it display AD data of keys, in the PAGE2, the other.

* When in the PAGE1 or PAGE2 sub-menu, it is not possible to operate the menu of DIAG. No. 1~7.

● Table for checking AD DATA.

AD Data	Key channel (Page1)					Frequency step (Page2)
% (±3)	CH0	CH1	CH2	CH3	CH4	
00	PRESET ST. 8	CENTER MODE	PRO LOGIC	70mm MOVIE	AUX	AM/FM = 9/50kHz step
10	PRESET ST. 7	TUNING UP	ENHANCED	TV THEATER	VCR2	—
20	PRESET ST. 6	TUNING DOWN	LEVEL UP	SPORTS	VCR1	—
30	PRESET ST. 5	FM/AM	LEVEL DOWN	STADIUM	LD/TV	—
40	PRESET ST. 4	AUTO/MAN'L	LEVEL REAR	EFFECT	PHONO	—
50	PRESET ST. 3	EDIT	LEVEL CENTER	CONCERT HALL	CD	—
60	PRESET ST. 2	MEMORY	—	CHURCH	TUNER	—
70	PRESET ST. 1	—	DELAY UP	JAZZ CLUB	—	—
80	PRESET PAGE	—	DELAY DOWN	ROCK CONCERT	TAPE MONITOR	—
90	—	—	—	—	—	—
99	KEY OFF STATE					AM/FM = 10/100kHz step

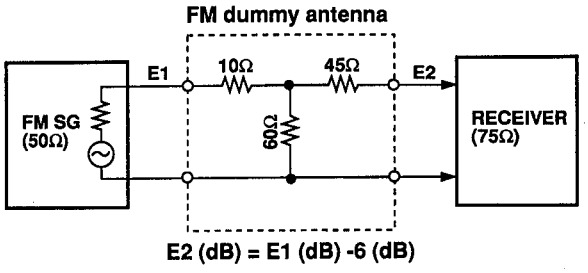
Kind of the protection (Page2)	AD DATA of normal
Protection 1 (DC is detected in power amp)	1~13
Protection 2 (Abnormal condition in power section)	15~29

■ TUNER ADJUSTMENTS

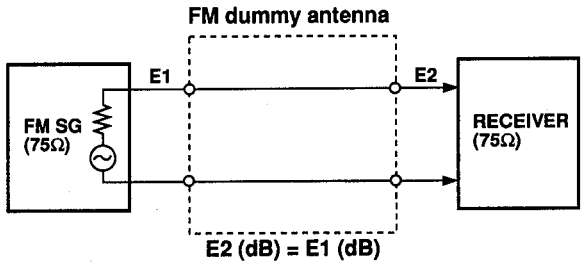
● Measuring Instruments

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

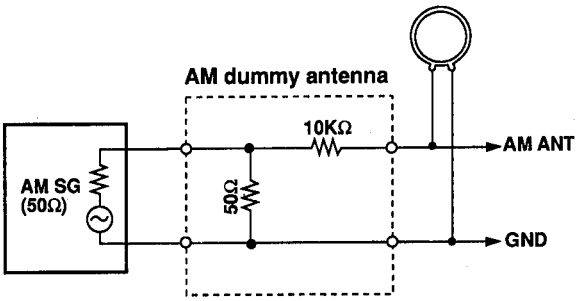
● Dummy antenna



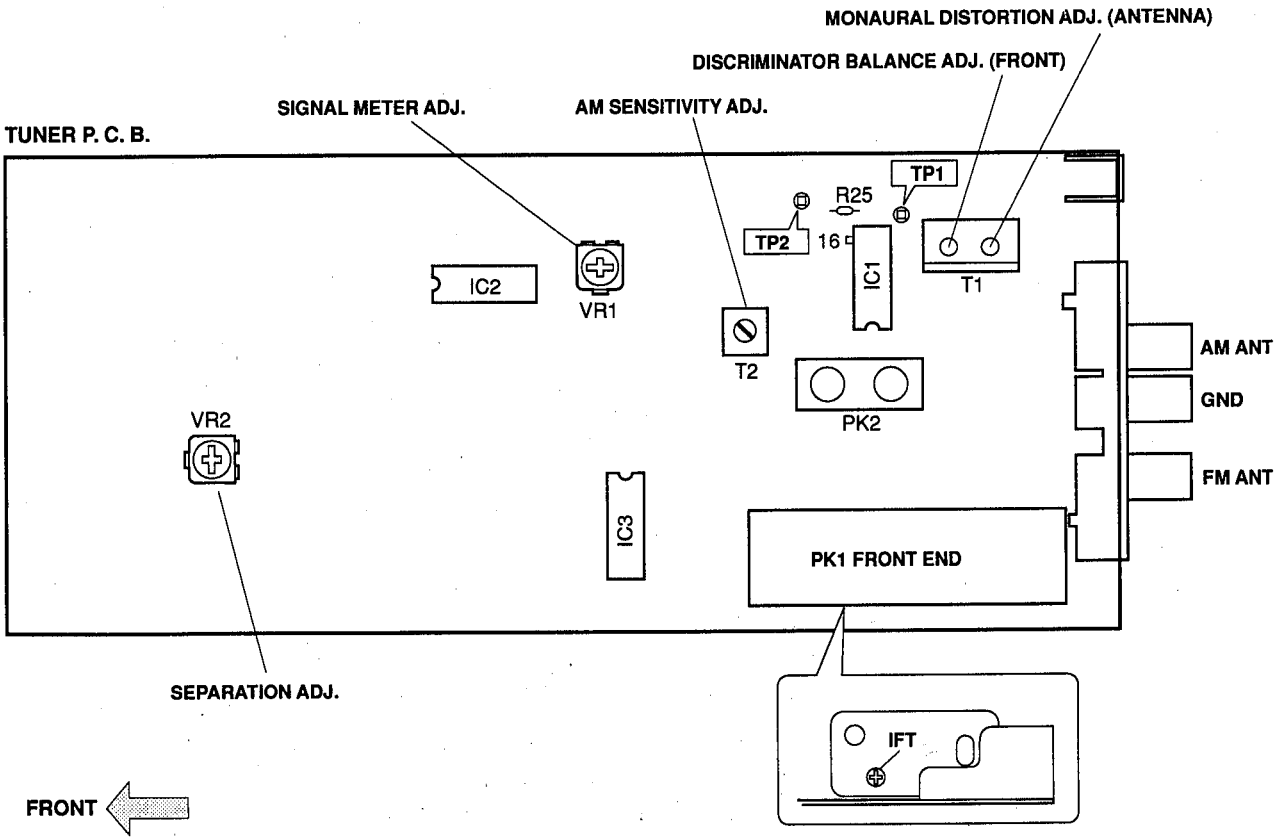
E2 (dB) = E1 (dB) -6 (dB)



E2 (dB) = E1 (dB)



● Test point



FM Adjustment

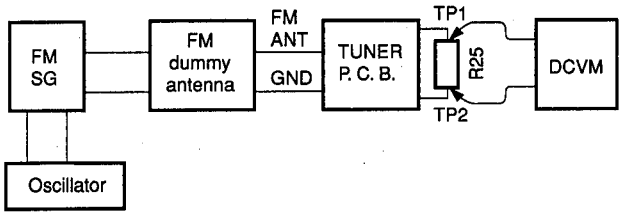
● Before Adjustment

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.

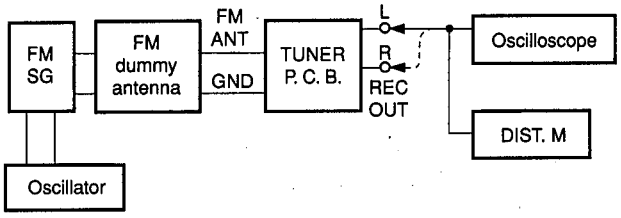
INPUT SELECTOR.....TUNER
TUNING MODE .....AUTO

● Connection diagram (Measuring instruments)

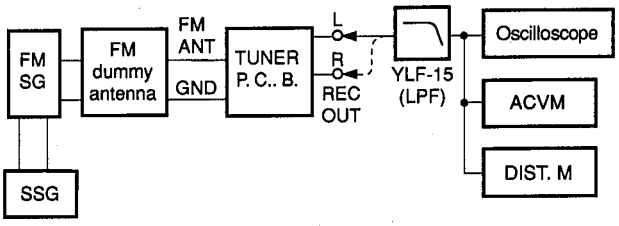
1) Discriminator balance adjustment



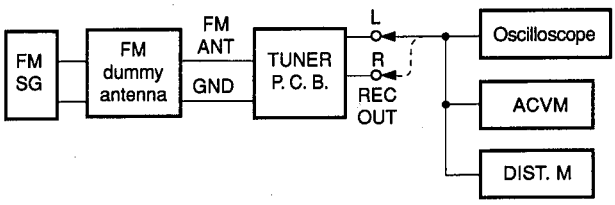
2) Monaural distortion adjustment



3) Stereo distortion adjustment/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 1kHz 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 FACTORY PRESET (Refer to page 8.) will facilitate setting reception frequency for adjustment.

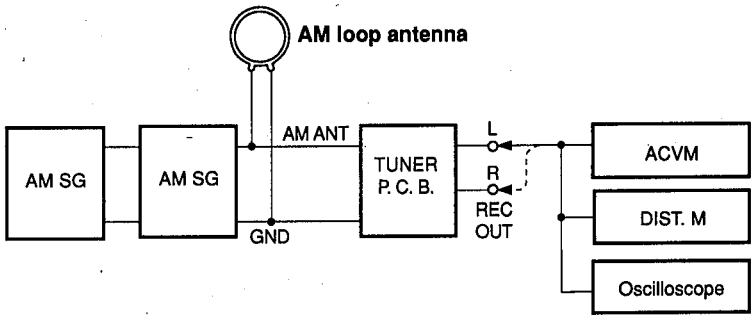
Step	Adjustment Item	Signal (ANT IN)	Reception frequency	Adjusted point	Test point	Rating
6	Adjustment of front end IFT	FM ANT (75Ω) 98.1MHz 30dBμ MONO 1kHz, 100% modulation	98.1MHz * (A-4)	Front end IFT	Pin 16 of IC1	Adjust so that the DC voltage is maximum. **CAUTION :** Over-adjustment of the IFT 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)	VR2	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)	VR1		Adjust so that all signal meters light.
		–10dBμ or less				Check to ensure that signal meters turn OFF.
12	Verification of auto tuning	FM ANT (75Ω) 98.1MHz 23dBμ Stereo L or R 1kHz, 30% modulation	98.1MHz			• 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 FACTORY PRESET (Refer to page8.) 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 10 for TP locations & adjustment points.

Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjustment point	Test point	Rating
1	Adjustment of sensitivity (1440Hz)	AM ANT 1440kHz 50dBμ 1kHz 30% modulation	1440kHz * (B-3)	T2	REC OUT	Audio output should be maximized.
2	Verification of sensitivity (630kHz)	AM ANT 630kHz 50dBμ 1kHz 30% modulation	630kHz * (B-1)	T2	REC OUT	Audio output should be maximized. Repeat the Step 1 and 2.
3	Verification of sensitivity	AM ANT 630kHz 1080kHz 1440kHz 30% modulation	630kHz * (B-1) 1080kHz * (B-2) 1440kHz * (B-3)		AM ANT	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 moved UP and DOWN.

* : Execution of FACTORY PRESET (Refer to page 8.) will facilitate setting reception frequency for adjustment.

■ AMP ADJUSTMENTS

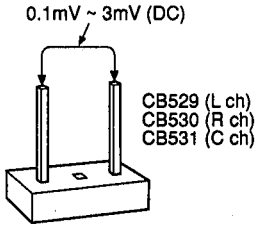
● Confirmation of Idling Current

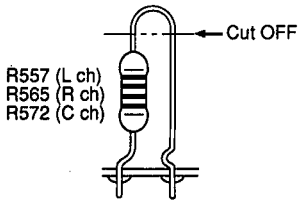
1) No signal applied.
2) Non-loaded condition.
3) Aging is not neccessary.

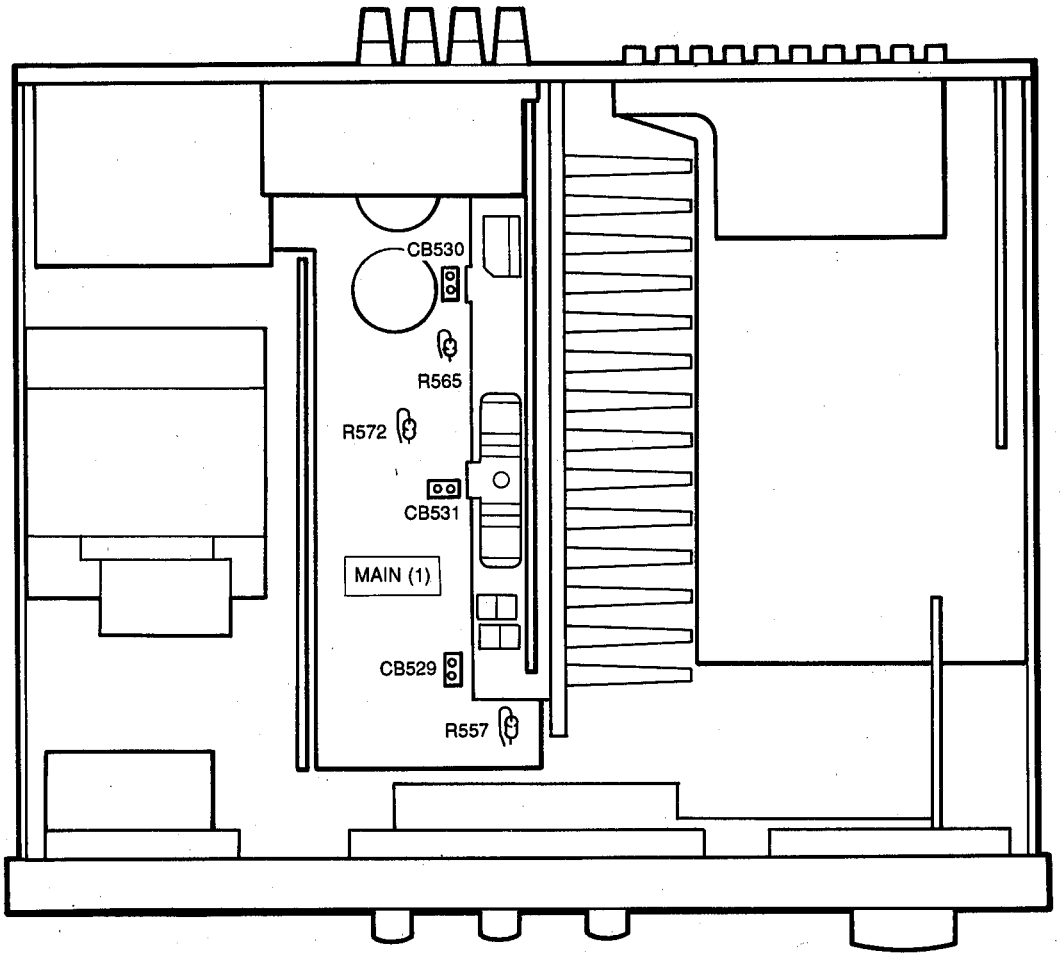
Item	Test Point	Rating (DC)	Note
FRONT L	CB529	0.3mV~3mV	If the measured voltage exceeds 3.1mV, cut the lead wires of R557(L ch), R565(R ch) and R572(C ch) and then check again if each measured value satisfies the rating.
FRONT R	CB530		
CENTER	CB531		

Note)

- If R557(L ch), R565(R ch) and R572(C ch) have already been cut off and idling current does not flow, reconnect R557(L ch), R565(R ch) and R572(C ch).
- Q514, Q516 and Q518 are transistors for temperature correction. Apply silicone grease to contact surface with the heat sink.

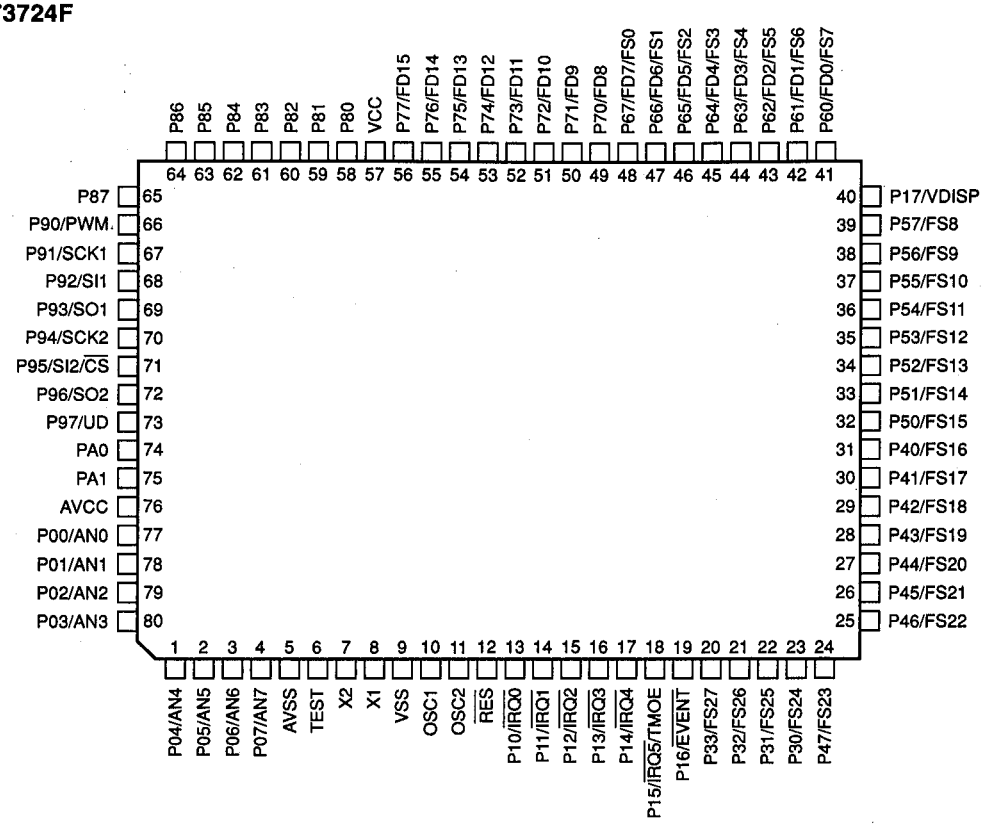






■ IC DATA

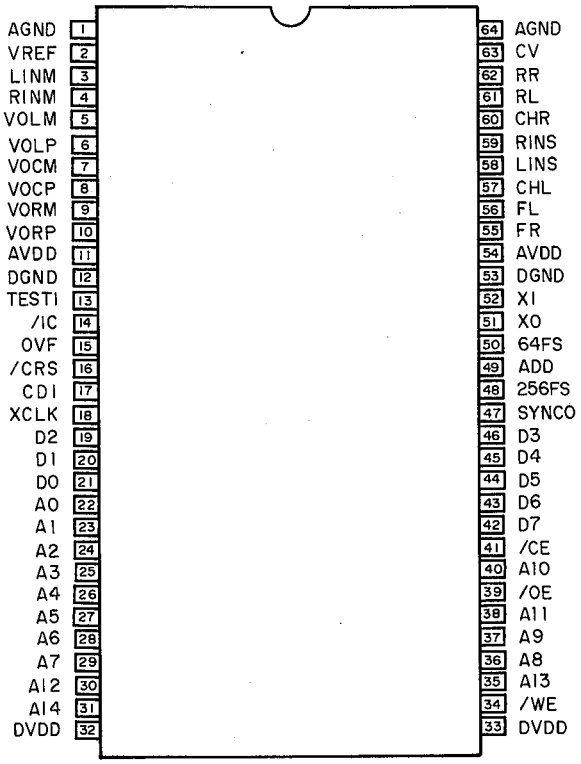
IC801 : HD6473724F
8 bit μ-COM



No.	Port	Name	I/O	Function
1	P04/AN4	V1	I	Market Select (A-D)
2	P05	STOUT	I	Stop request (Tuner)
3	P06	/STSIG	I	Signal in (Tuner)
4	P07	/ST	I	Stereo in (Tuner)
5	AVSS	AVSS	—	GND for A-D
6	TEST			GND
7	X2			N. C.
8	X1			+5V
9	VSS	VSS	—	GND
10	OSC1	OC1		Clock (8MHz)
11	OSC2	OC2		
12	/RES	RES	I	Reset
13	P10/IRQ0	DET	I	Power down detect
14	P11/IRQ1	REM	I	Remote control
15	P12/IRQ2	RM2		N.C.
16	P13/IRQ3	VSY		Not used
17	P14	/PRI	I	Speaker protection detect
18	P15			N. C.
19	P16	PSW	I	Power Switch
20	P33/FS27	STBY	I/O	*Standby In : H (G model) L : LED ON
21	P32/FS26			N. C.
22	P31/FS25	P18	O	Fluorescent character display tube anode drive signal
23	P30/FS24	P17	O	
24	P47/FS23	P16	O	
25	P46/FS22	P15	O	
26	P45/FS21	P14	O	
27	P44/FS20	P13	O	

No.	Port	Name	I/O	Function
28	P43/FS19	P12	O	Fluorescent character display tube anode drive signal
29	P42/FS18	P11	O	
30	P41/FS17	P10	O	
31	P40/FS16	P9	O	
32	P50/FS15	P8	O	
33	P51/FS14	P7	O	
34	P52/FS13	P6	O	
35	P53/FS12	P5	O	
36	P54/FS11	P4	O	
37	P55/FS10	P3	O	
38	P56/FS9	P2	O	
39	P57/FS8	P1	O	
40	P17/VDISP	VP		VP (-25V)
41	P60/FD0	16G	O	Fluorescent character display tube grid drive signal
42	P61/FD1	15G	O	
43	P62/FD2	14G	O	
44	P63/FD3	13G	O	
45	P64/FD4	12G	O	
46	P65/FD5	11G	O	
47	P66/FD6	10G	O	
48	P67/FD7	9G	O	
49	P70/FD8	8G	O	
50	P71/FD9	7G	O	
51	P72/FD10	6G	O	
52	P73/FD11	5G	O	
53	P74/FD12	4G	O	
54	P75/FD13	3G	O	
55	P76/FD14	2G	O	
56	P77/FD15	1G	O	
57	VCC	VCC		+5V
58	P80	ASA	O	A-D select (4051)
59	P81	ASB	O	
60	P82	ASC	O	
61	P83	SPR	O	Speaker relay
62	P84	SPA		N. C.
63	P85	SPB		
64	P86	PRY	O	Power relay
65	P87	FMC	O	Full MUTE
66	P90			N. C.
67	P91/SCK1	SCK	O	LC78213, TC9273N, LC7535, LM7000N Serial clock
68	P92	CKB	O	BU2090 Serial clock
69	P93/SO1	SDT	O	LC78213, TC9273N, LC7535, LM7000N Serial data
70	P94/SCK2	XCK	O	YSS223 Serial clock
71	P95	DTB	O	BU2090 Serial data
72	P96/SO2	XDT	O	YSS223 Serial data
73	P97			N.C.
74	PA0	VUP	O	Volume up
75	PA1	VDN	O	Volume down
76	AVCC	AVCC		+5V for A-D
77	P00/AN0	4051	I	Key & Signal meter in (A-D)
78	P01/AN1	PRD	I	Protection 1 (A-D)
79	P02/AN2	PRV	I	Protection 2 (A-D)
80	P03/AN3	V2	I	Frequency step select (A-D)

IC7 : YSS223
Digital Dolby Pro Logic Decoder with Auto Input Balance



No.	Name	I/O	Function
1	AGND	A—	Ground (Analog section)
2	VREF	AI	Multiplying DAC reference voltage input
3	LINM	AI	L channel Multiplying DAC input
4	RINM	AI	R channel Multiplying DAC input
5	VOLM	AO	L channel operation amplifier, connected to (–) terminal
6	VOLP	AO	L channel operation amplifier, connected to (+) terminal
7	VOCM	AO	C channel operation amplifier, connected to (–) terminal
8	VOCP	AO	C channel operation amplifier, connected to (+) terminal
9	VORM	AO	R channel operation amplifier, connected to (–) terminal
10	VORP	AO	R channel operation amplifier, connected to (+) terminal
11	AVDD	A—	+5V power supply (Analog section)
12	DGND	—	Ground (digital section)
13	TESTI	Ic	LSI test terminal Normally connected to DGND
14	/IC	Ics	Initial clear terminal (Power ON resetting is necessary)
15	OVF	O	A/D Converter, Overflow detect terminal
16	$\overline{CRS}$	Its	Microprocessor interface reset terminal
17	CDI	Its	Microprocessor interface data input terminal
18	XCLK	Its	Microprocessor interface clock input terminal
19	D2	I/Ot	External delay RAM data terminal
20	D1	I/Ot	
21	D0	I/Ot	

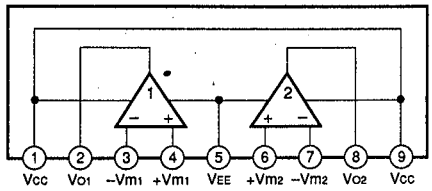
No.	Name	I/O	Function
22	A0	O	External data RAM address terminal
23	A1	O	
24	A2	O	
25	A3	O	
26	A4	O	
27	A5	O	
28	A6	O	
29	A7	O	
30	A12	O	
31	A14	O	
32	DVDD	—	+5V power supply (digital section)
33	DVDD	—	
34	/WE	O	External delay RAM write enable terminal
35	A13	O	External delay RAM address terminal
36	A8	O	
37	A9	O	
38	A11	O	
39	/OE	O	External delay RAM output enable terminal
40	A10	O	External delay RAM address terminal
41	/CE	O	External delay RAM chip enable terminal
42	D7	I/Ot	External delay RAM data terminal
43	D6	I/Ot	
44	D5	I/Ot	
45	D4	I/Ot	
46	D3	I/Ot	
47	SYNCO	O	External A/D converter word clock terminal
48	256FS	O	External A/D converter 256fs clock terminal
49	ADD	It	External A/D converter data input terminal
50	64FS	O	External A/D converter 64fs clock terminal
51	XO	O	Crystal oscillator connecting terminal
52	XI	I	
53	DGND	—	Ground (digital section)
54	AVDD	A—	+5V power supply (Analog section)
55	FR	AO	FR channel D/A input
56	FL	AO	FL channel D/A output
57	CHL	A—	LINS input Sample/hold Capacitor external terminal
58	LINS	AI	L channel A/D input
59	RINS	AI	R channel A/D input
60	CHR	A—	RINS input Sample/hold Capacitor external terminal
61	RL	AO	RL channel D/A output
62	RR	AO	RR channel D/A input
63	CV	AO	A/D, multiplying DAC center voltage
64	AGND	A—	Ground (Analog section)

Note : Letters used in the above I/O column represent as follows.

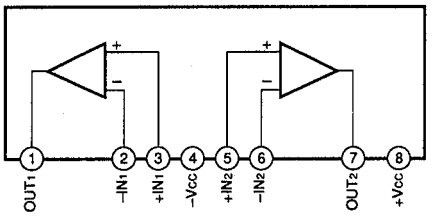
I : Input terminal **O** : Output terminal **t** : TTL level **C** : CMOS level **S** : Schmidt input **A** : Analog

■ IC BLOCKS

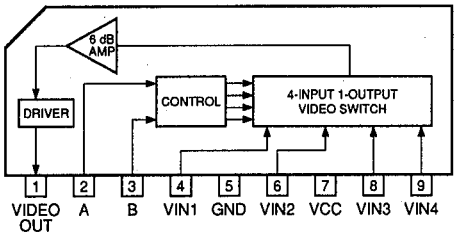
IC1, 4~6, 10~14, 16, 18, 19, 22~25 : μPC4570HA
IC301, 302 : μPC4570HA
Dual OP-Amp



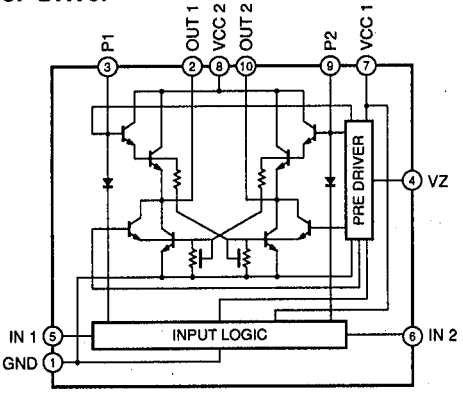
IC15, 17 : NJM4558L
IC501 : M5220L
Dual OP-Amp



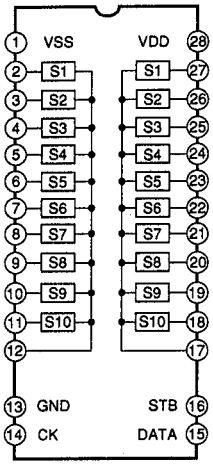
IC29, 31, 32 : LA7956
Video Switch



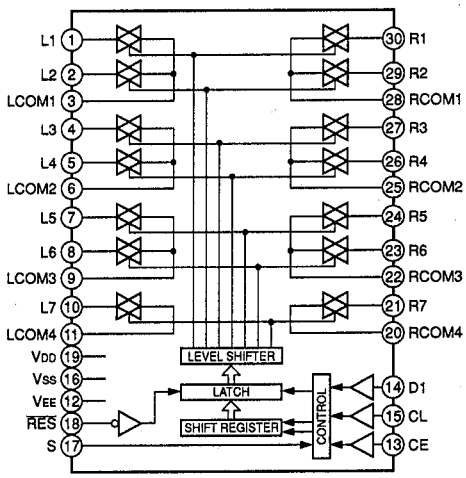
IC28 : LB1641
Motor Driver



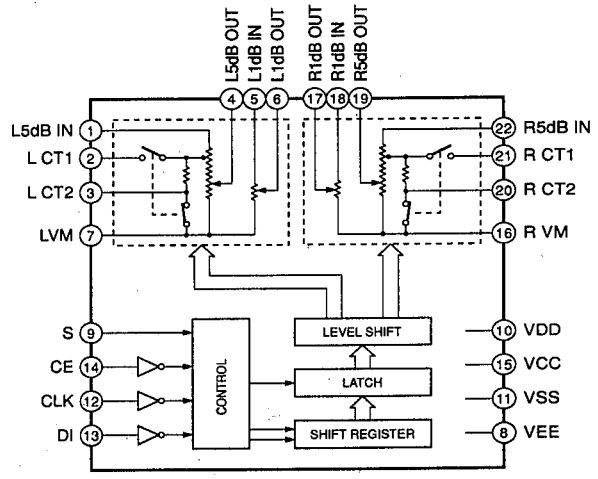
IC2 : TC9273N
Analog Function Switch



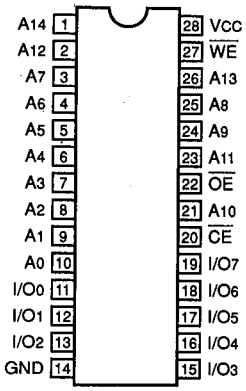
IC3 : LC78213
Analog Function Switch

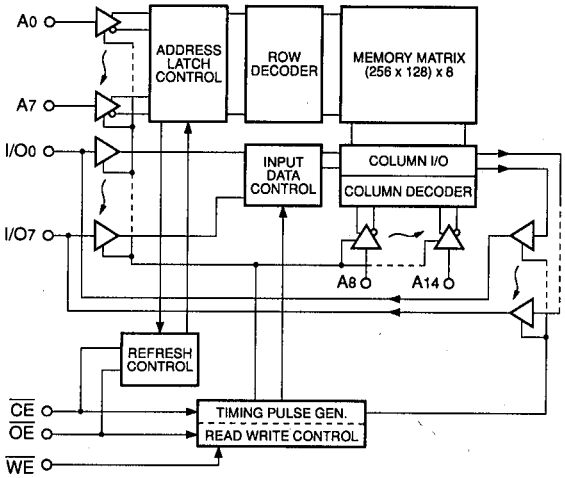


IC26, 27 : LC7535
Electric Controlled Volume

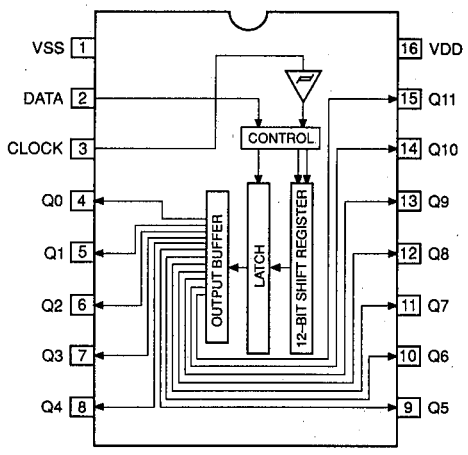


IC8 : TC51832ASPL-10
32768-word x 8 bit High Speed Pseudo Static RAM

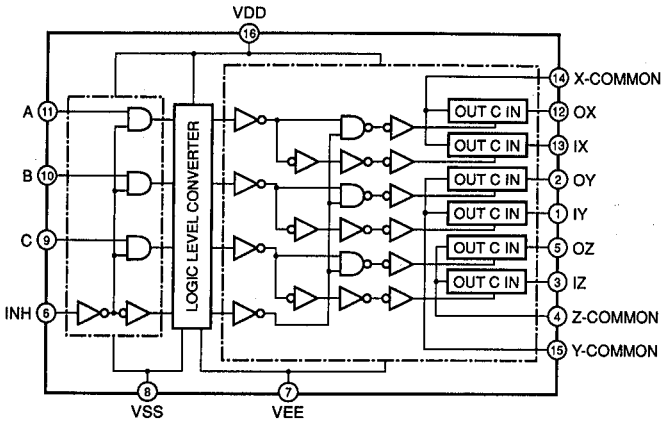




IC20 : BU2090
Serial In/Parallel Out Driver

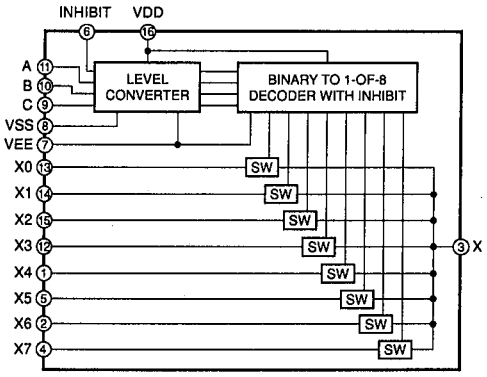


IC30 : TC4053BP
Triple 2-Channel Multiplexer/Demultiplexer



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				

IC802 : TC74HC4051AP
Analog Multiplexers/Demultiplexers

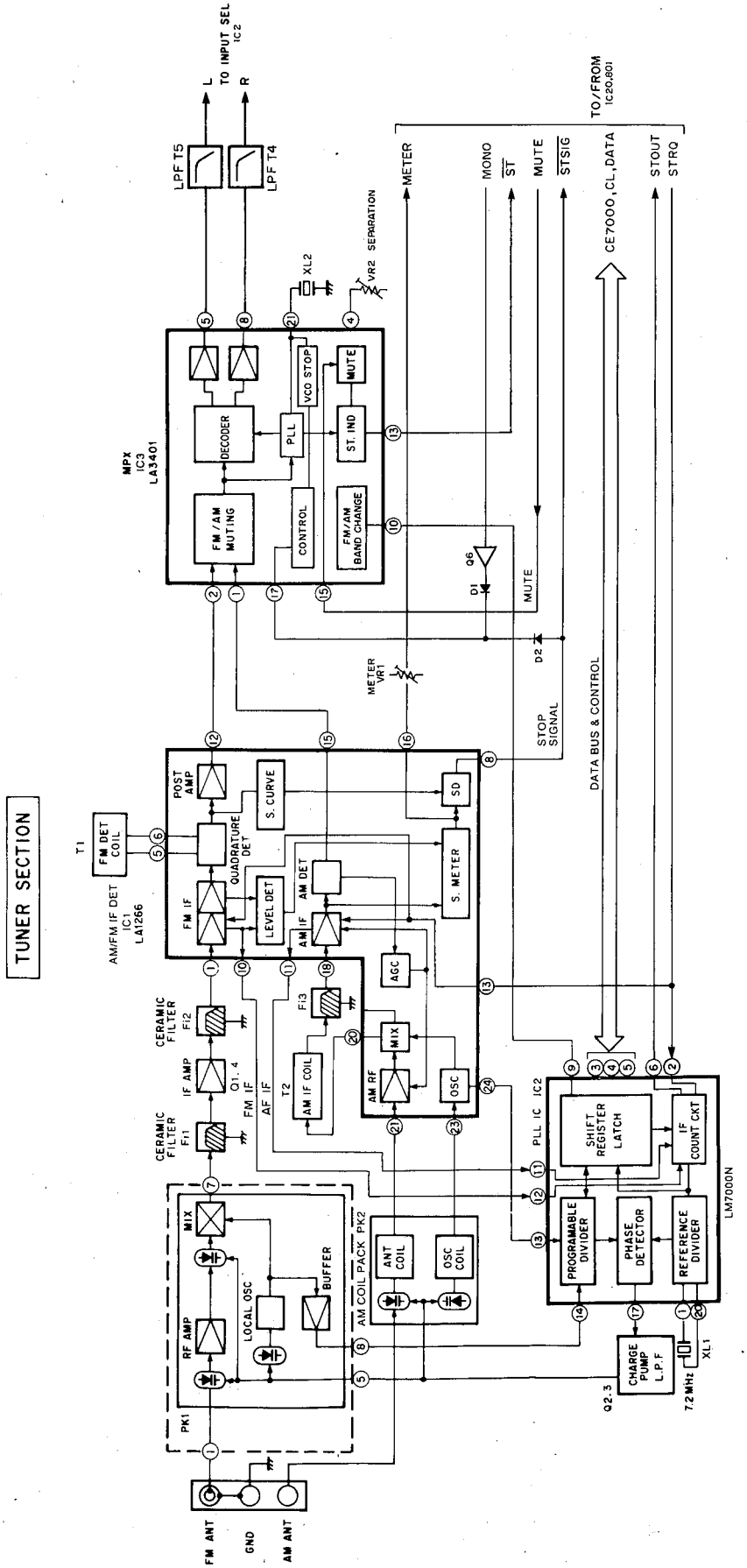


INPUT STATES				"ON" CHANNEL (S)
INHIBIT	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	NONE

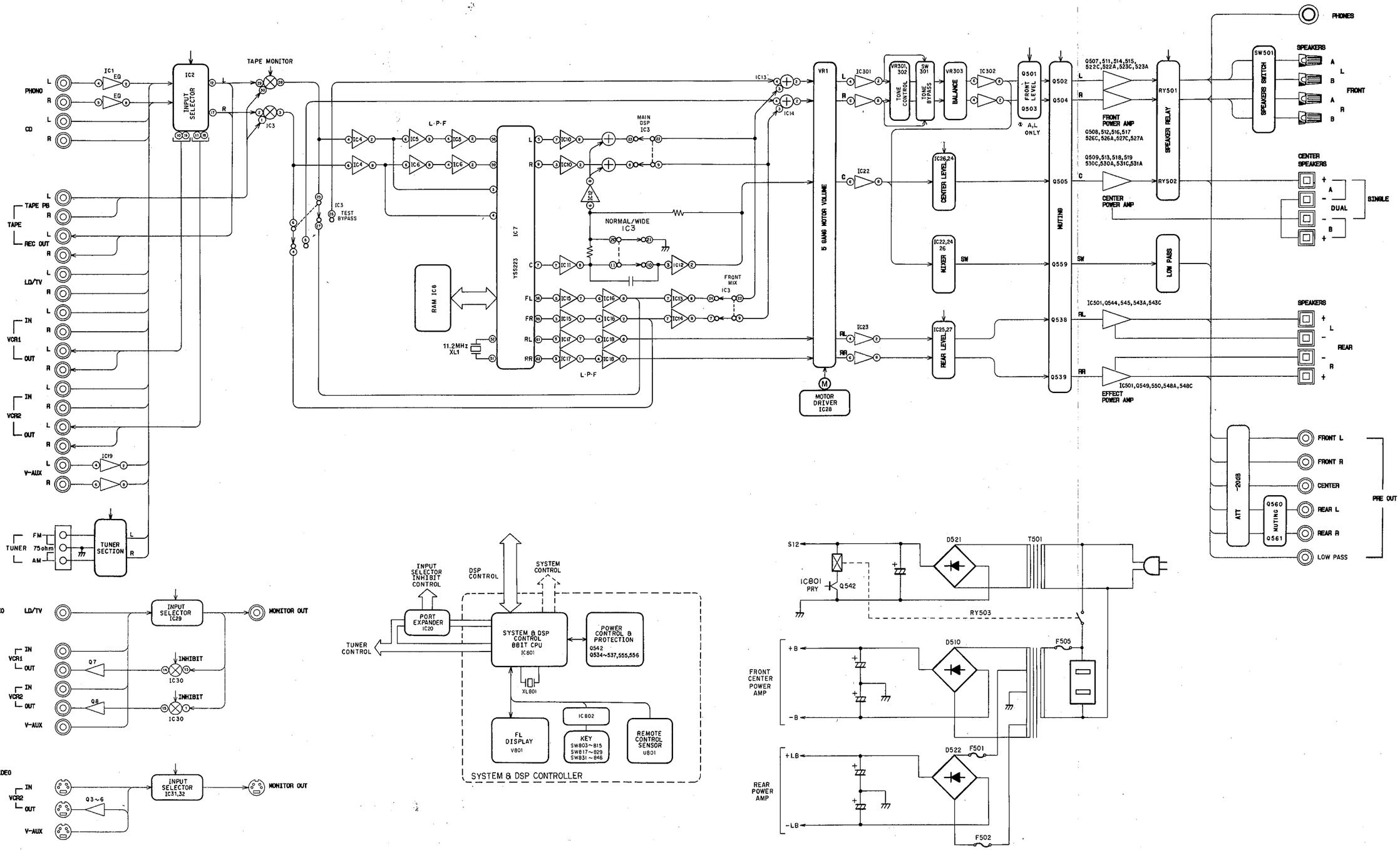
Other ICs

- **IC801 : HD6473724F**→See page 15
- **IC7 : YSS223**→See page 17

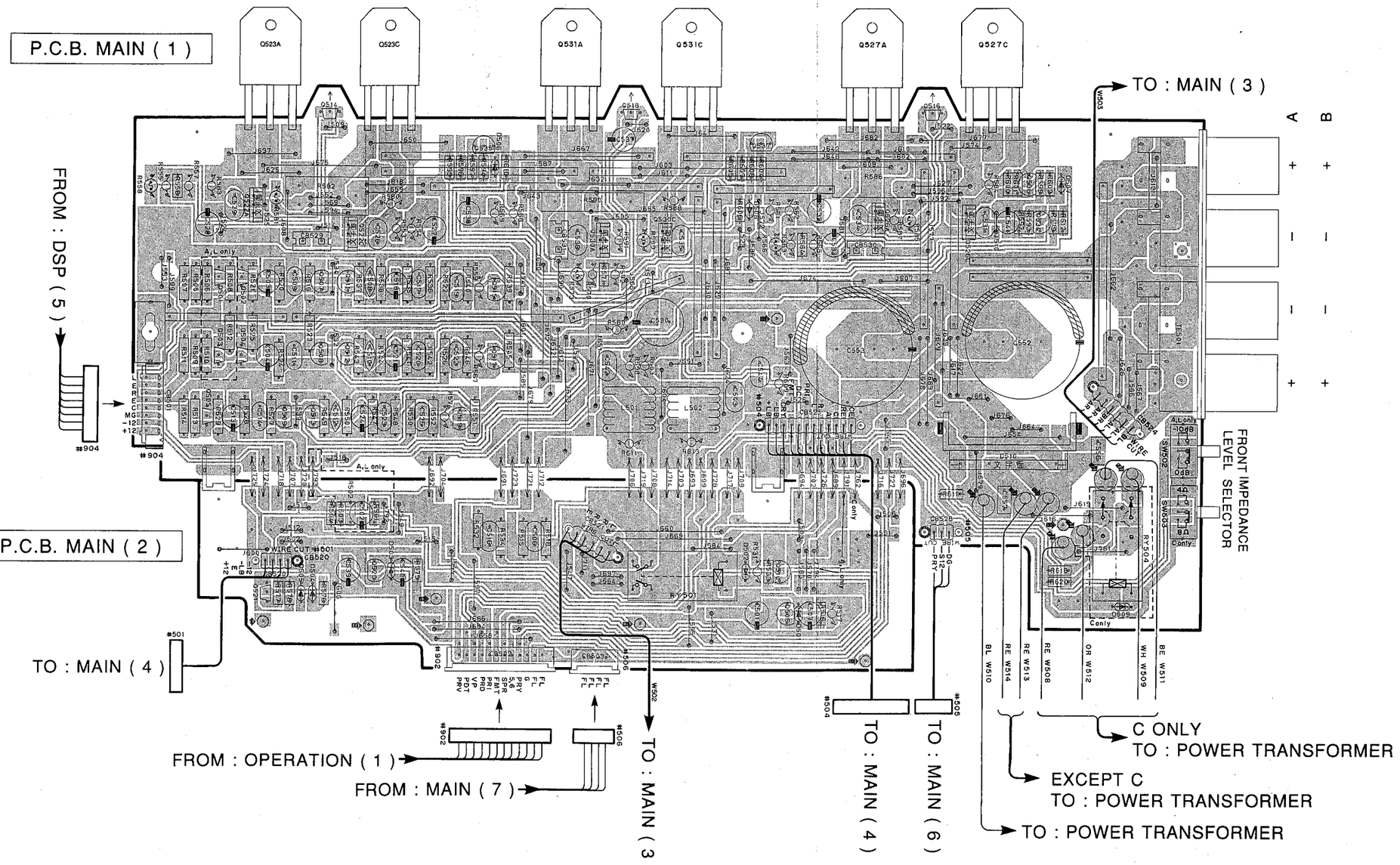
■ BLOCK DIAGRAM



■ BLOCK DIAGRAM



■ PRINTED CIRCUIT BOARD (Foil side)

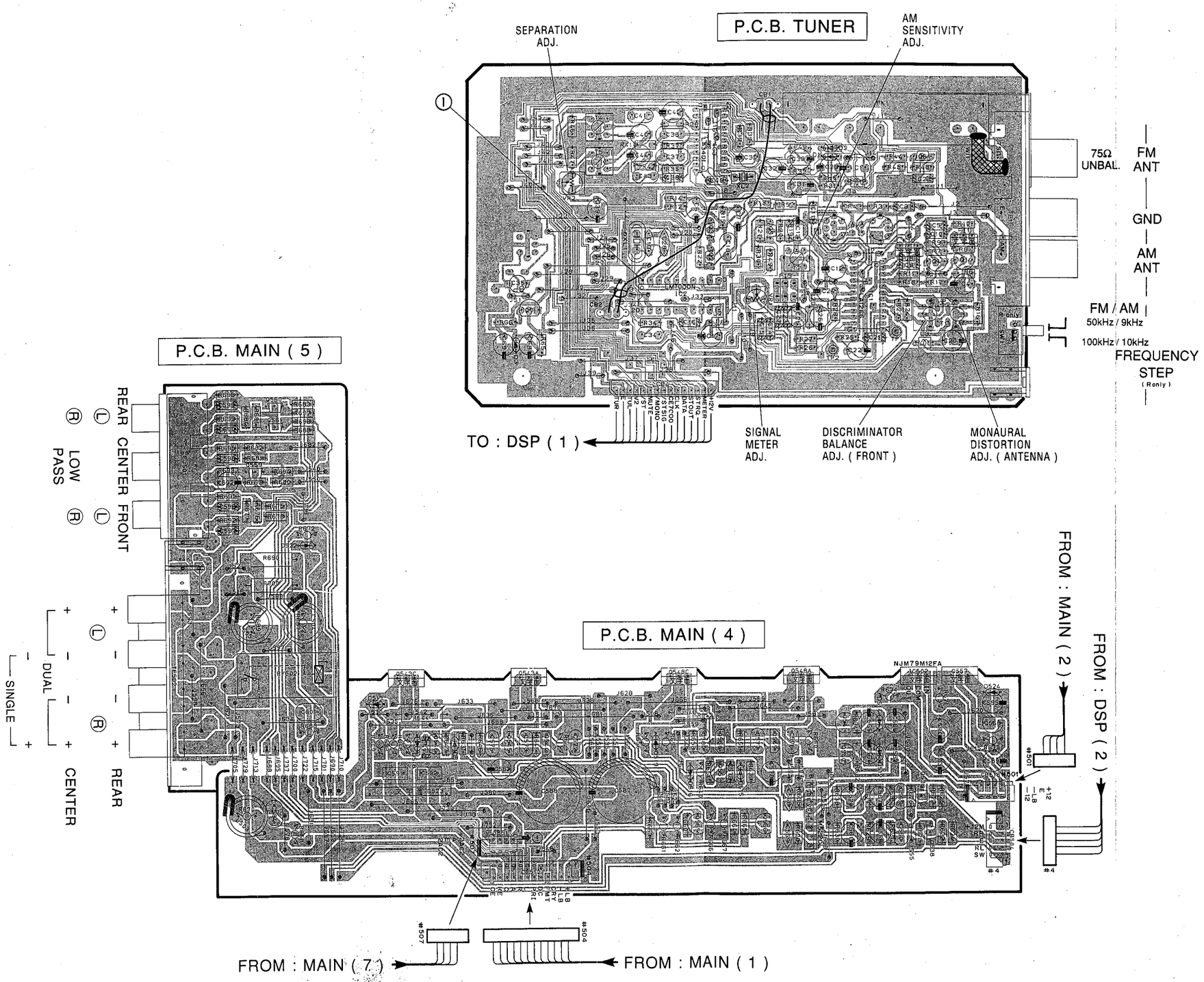


● **Semiconductor Location**

Ref. No.	Location
Q501	B3
Q502	B3
Q503	B3
Q504	B3
Q505	B3
Q506	D4
Q507	B3
Q508	B3
Q509	B3
Q510	D4
Q511	B3
Q512	B3
Q513	B3
Q514	B2
Q515	C3
Q516	E2
Q517	C3
Q518	D2
Q519	C3
Q520	C4
Q521	B4
Q522A	B2
Q522C	B2
Q523A	B2
Q523C	C2
Q526A	E2
Q526C	E2
Q527A	E2
Q527C	E2
Q530A	D2
Q530C	D2
Q531A	C2
Q531C	D2
Q534	E2
Q535	C2
Q536	E2
Q537	D2

■ PRINTED CIRCUIT BOARD (Foil side)

① : TEST POINT WAVEFORMS (See page 35)



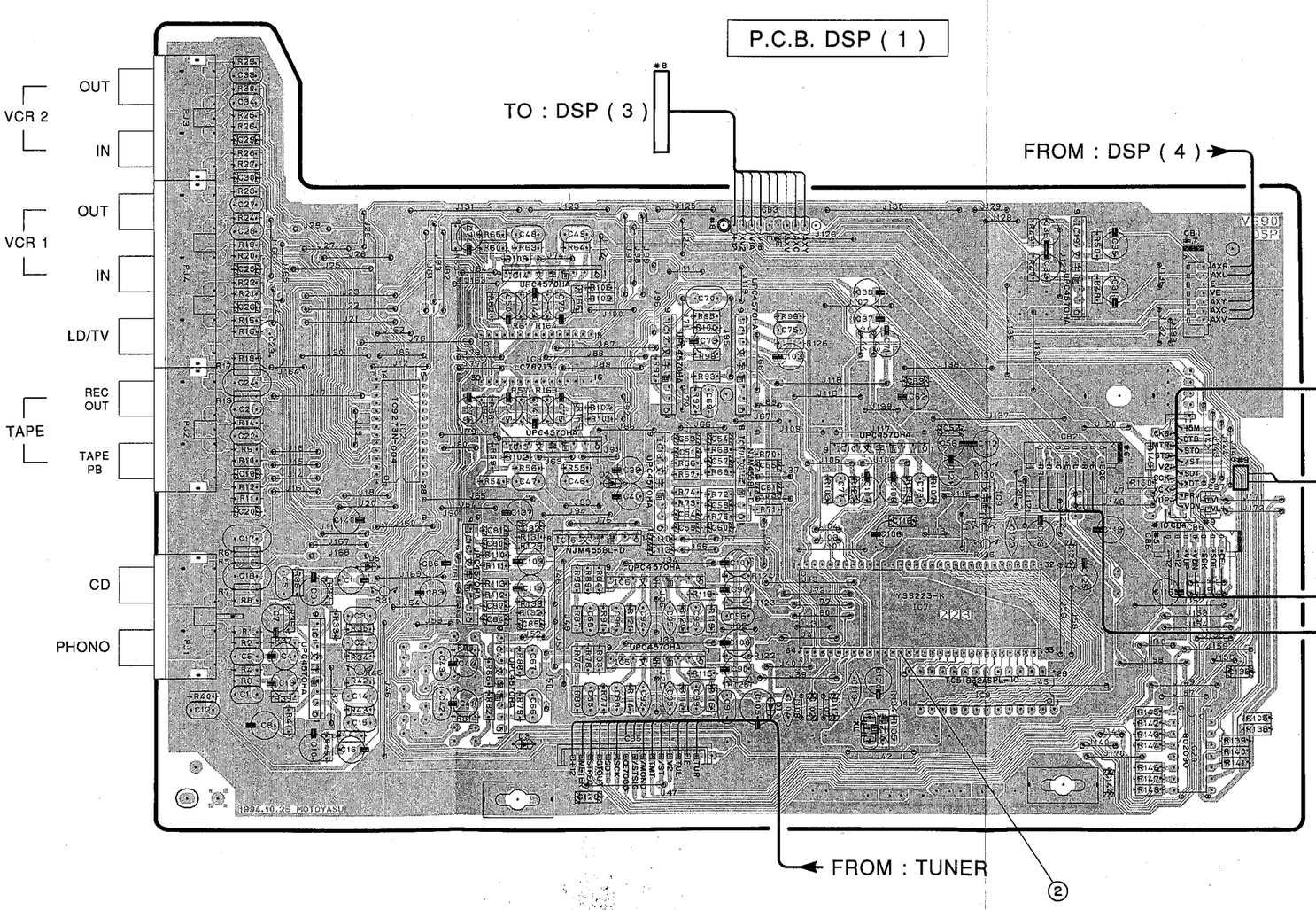
● Semiconductor Location

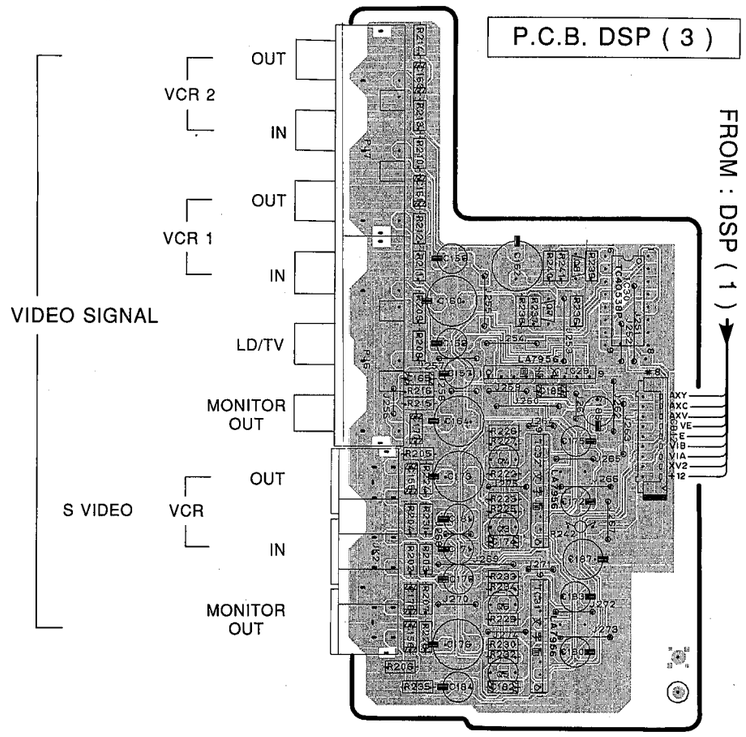
Ref. No.	Location
IC501	E5
IC502	E4
Q538	E5
Q539	E5
Q540	E5
Q541	E5
Q543A	C4
Q543C	C4
Q544	C5
Q545	C5
Q546	C5
Q548A	E4
Q548C	D4
Q549	E5
Q550	D5
Q551	D5
Q555	D5
Q556	D5
Q557	E4
Q558	F5
Q559	B3
Q560	B3
Q561	B3

Ref. No.	Location
IC 1	E2
IC 2	D2
IC 3	D2
Q 1	E2
Q 2	D2
Q 3	D2
Q 4	E2
Q 5	E2
Q 6	E2
Q 7	C3

■ PRINTED CIRCUIT BOARD (Foil side)

② : TEST POINT WAVEFORMS (See page 35)





● **Semiconductor Location**

Ref. No.	Location
IC 1	B5
IC 2	B2
IC 3	C4
IC 4	C5
IC 5	C4
IC 6	C4
IC 7	D5
IC 8	D5
IC 9	D4
IC 10	D4
IC 11	D4
IC 12	C4
IC 13	C4
IC 14	C3
IC 15	C4
IC 16	C4
IC 17	D4
IC 18	C4
IC 19	E3
IC 20	E5
IC 29	D2
IC 30	B4
IC 31	B5
IC 32	B5
Q 1	B5
Q 2	B5
Q 3	G3
Q 4	G3
Q 5	G3
Q 6	G3
Q 7	G2
Q 8	H2

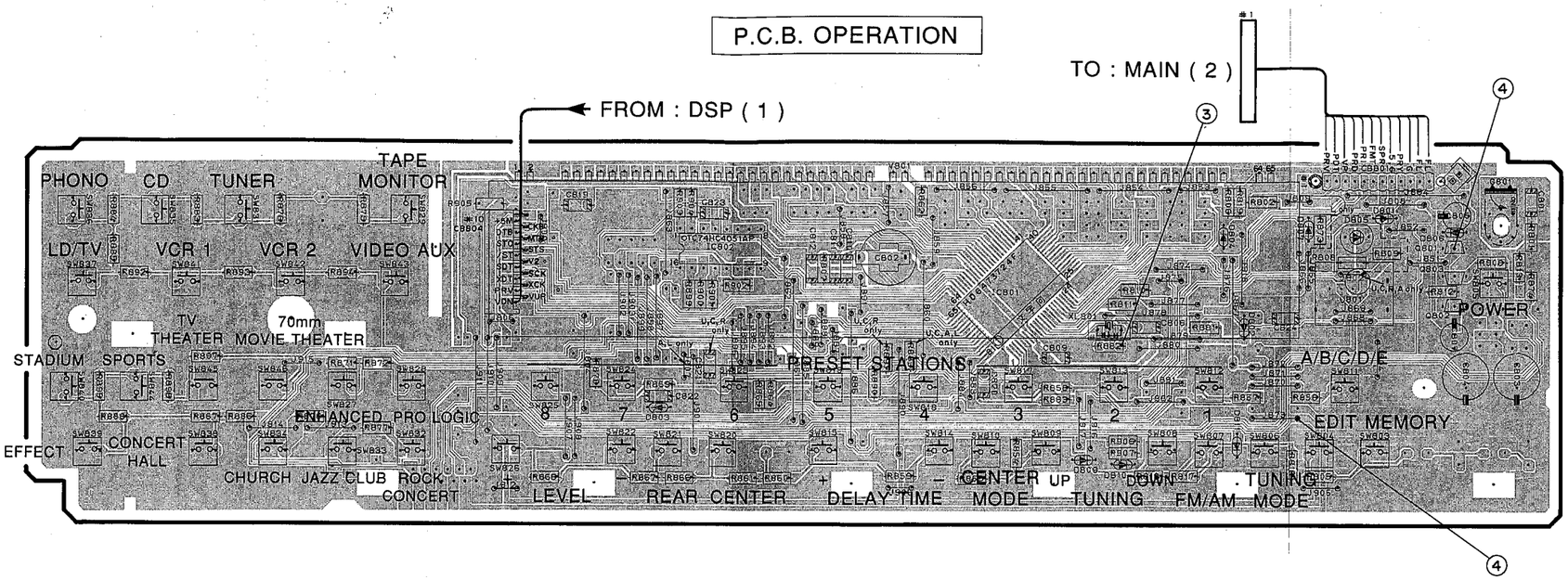
■ PRINTED CIRCUIT BOARD (Foil side)

③ and ④ : TEST POINT WAVEFORMS (See page 35)

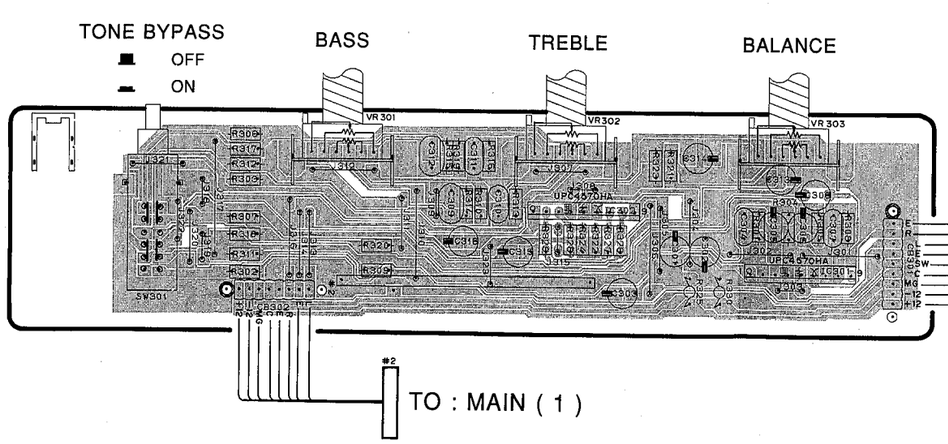
● Semiconductor Location

Ref. No.	Location
IC 22	G4
IC 23	F5
IC 24	G5
IC 25	G5
IC 26	G4
IC 27	G5
IC 28	F4
IC301	D4
IC302	D4
IC801	E2
IC802	D2
Q 9	G4
Q 801	G2
Q 802	G2
Q 803	G2

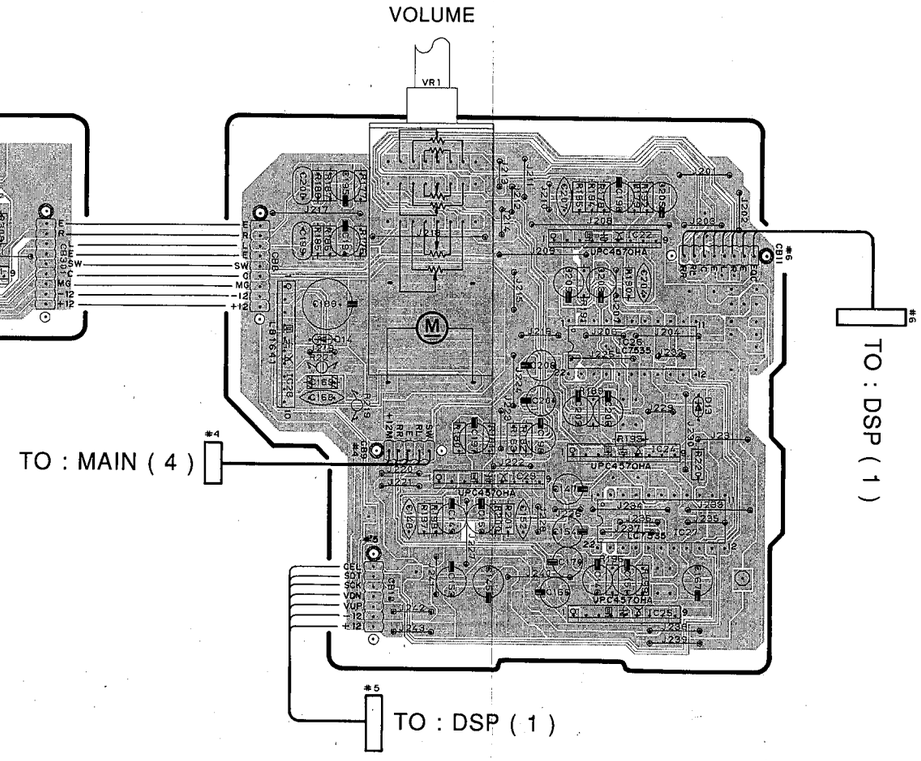
P.C.B. OPERATION



P.C.B. DSP (5)



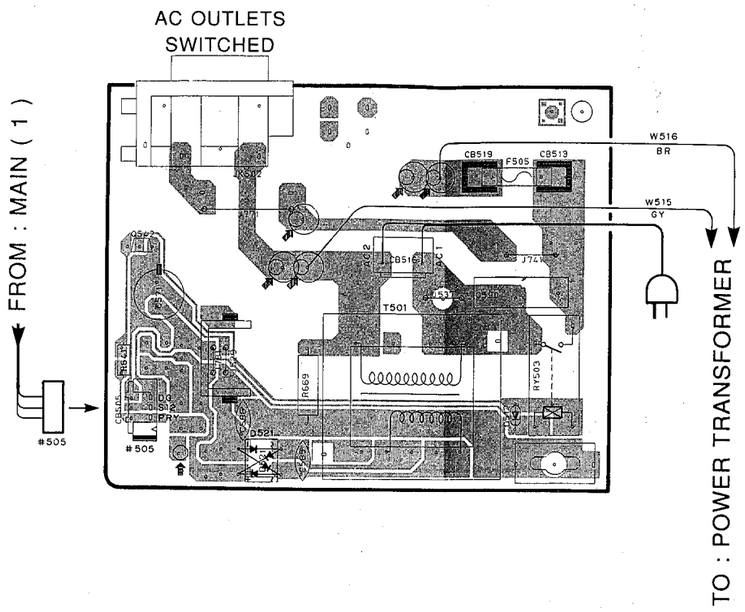
P.C.B. DSP (2)



■ PRINTED CIRCUIT BOARD (Foil side)

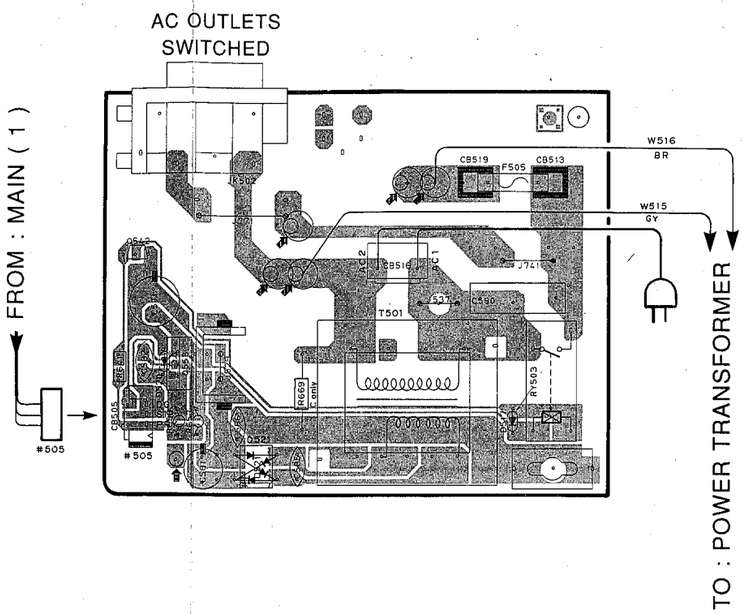
● U model

P.C.B. MAIN (6)



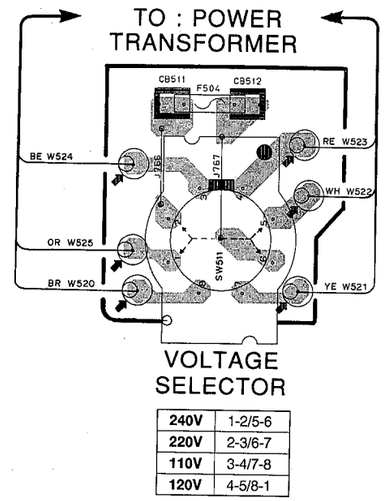
● R,C models

P.C.B. MAIN (6)



● R only

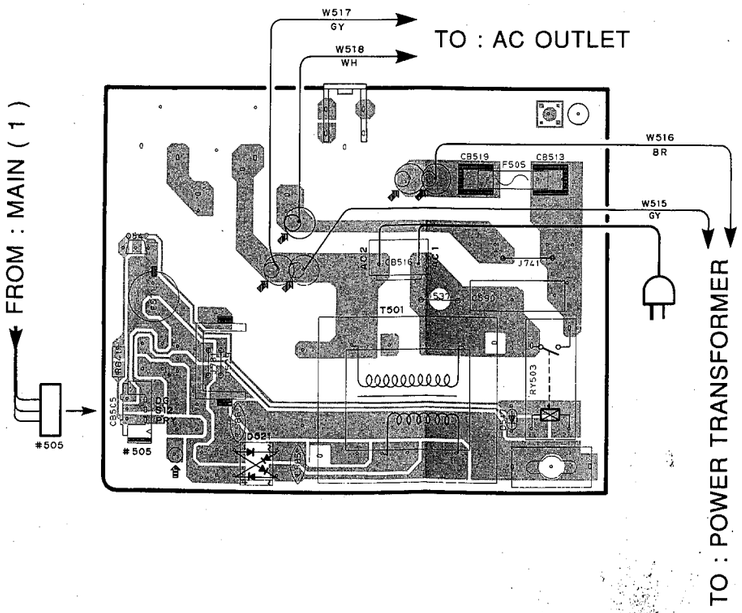
P.C.B. MAIN (8)



240V	1-2/5-6
220V	2-3/6-7
110V	3-4/7-8
120V	4-5/8-1

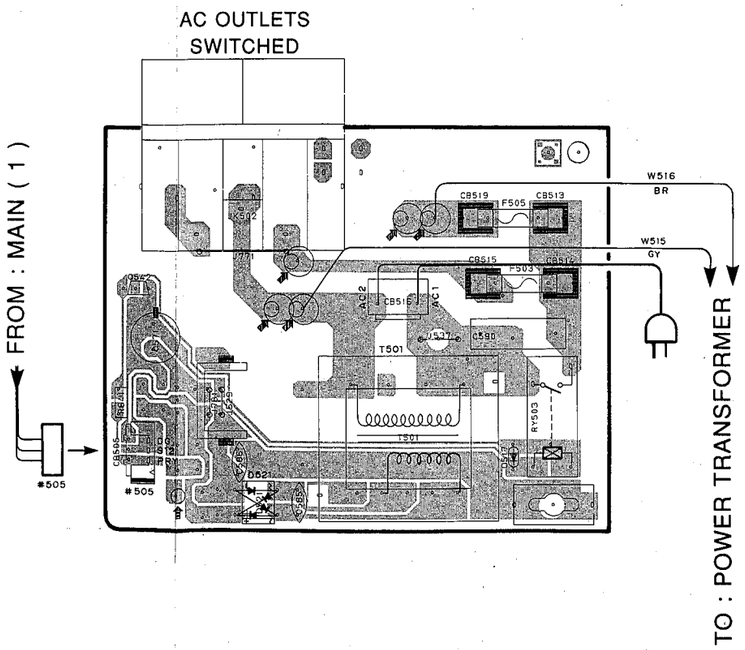
● A model

P.C.B. MAIN (6)

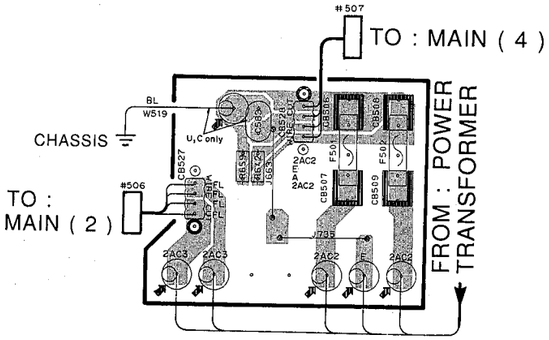


● L model

P.C.B. MAIN (6)

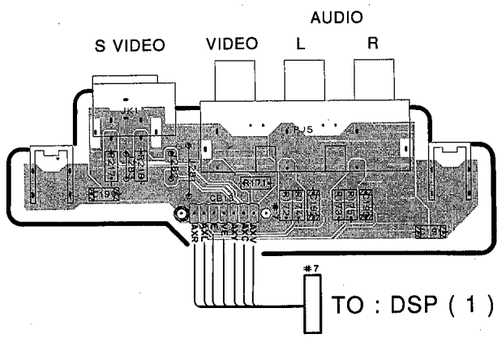


P.C.B. MAIN (7)

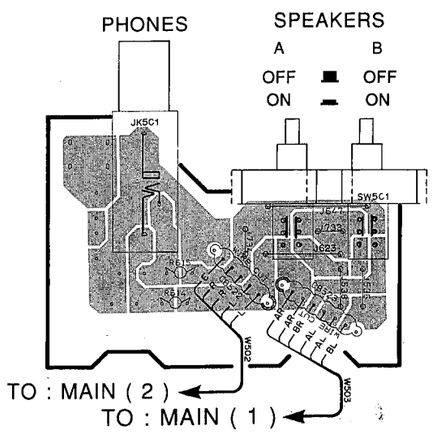


■ PRINTED CIRCUIT BOARD (Foil side)

P.C.B. DSP (4)



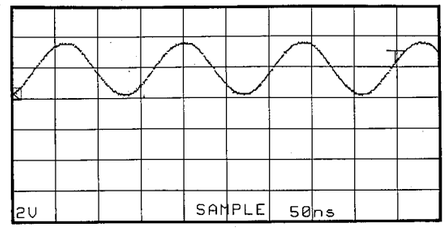
P.C.B. MAIN (3)



■ TEST POINT WAVEFORMS

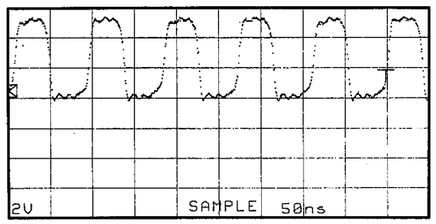
Point ① (Pin 1 of IC2)

V : 2V/div H : 50nsec/div
DC range 1 : 1 probe



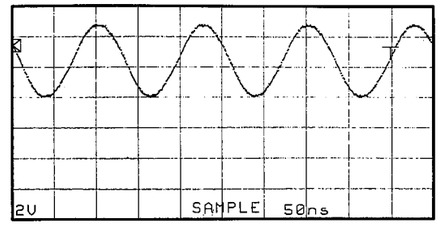
Point ② (Pin 51 of IC7)

V : 2V/div H : 50nsec/div
DC range 1 : 1 probe



Point ③ (Pin 11 of IC801)

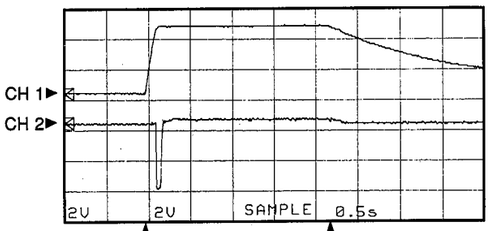
V : 2V/div H : 50nsec/div
DC range 1 : 1 probe



Point ④

[CH 1 : Pin 76 of IC801
CH 2 : Pin 12 of IC801]

V : 2V/div (CH1) V : 2V/div (CH2)
H : 0.5sec/div
DC range 1 : 1 probe



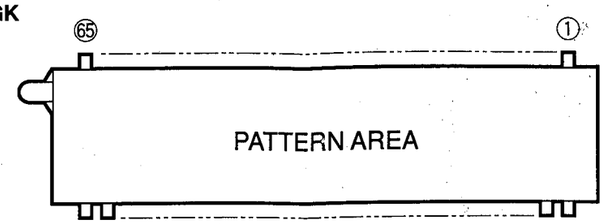
With the POWER switch turned ON, connect the power cord to the AC outlet.

Disconnect the power cord from the AC outlet.

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

■ DISPLAY DATA (VS599400)

● V801 : 16-BT-29GK



● PIN CONNECTION

Pin No.	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47
Connection	F2	F2	NP	NP	NC	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5

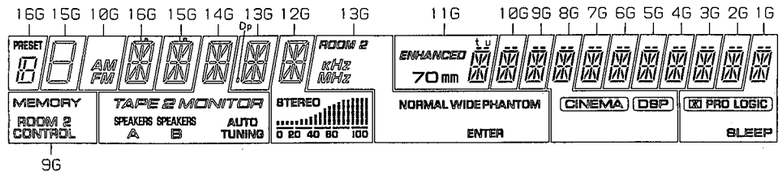
Pin No.	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28
Connection	P4	P3	P2	P1	P19	16G	15G	14G	13G	12G	IC	NP	Fd	Fd	NP	IC	11G	10G	9G

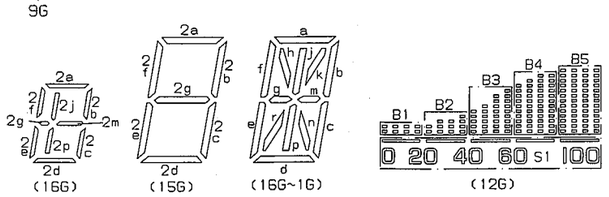
Pin No.	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9
Connection	8G	7G	6G	5G	4G	3G	2G	1G	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Pin No.	8	7	6	5	4	3	2	1
Connection	NC	NC	NC	NC	NP	NP	F1	F1

Note 1) F1, F2 ..... Filament
2) NP ..... No Pin
3) NC ..... No Connection
4) P1~P19 ..... Datum Line
5) 1G~16G ..... Grid
6) IC ..... Internal connection
7) Fd terminals are to be supplied through 3kΩ from Ec.

● GRID ASSIGMENT





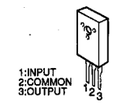
● ANODE CONNECTION

	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G~2G	1G
P1	1a	1a	a	a	a	a	a	a	a	a	a
P2	1b	1b	b	b	b	b	b	b	b	b	b
P3	1c	1c	c	c	c	c	c	c	c	c	c
P4	1d	1d	d	d	d	d	d	d	d	d	d
P5	1e	1e	e	e	e	e	e	e	e	e	e
P6	1f	1f	f	f	f	f	f	f	f	f	f
P7	1g	1g	g	g	g, m	g	g	g	g	g	g
P8	1m	1m	m	m	n	h	h	h	h	h	h
P9	1j, 1p	1j, 1p	j, p	j, p	j, p	j	j	j	j	j	j
P10	1k, 1r	1k, 1r	k, r	h, n	k, r	k	k	k	k	k	k
P11	PRESET	1h, 1n	h	Dp	h	m	m	m	m	m	m
P12	2a	2a	n	kHz	STEREO	n	n	n	n	n	n
P13	2b, 2c	2b	TAPE MONITOR	MHz	B1	p	p	p	p	p	p
P14	2d	2c	2	NORMAL	B2	r	r	r	r	r	r
P15	2e, 2f	2d	SPEAKERS A	WIDE	B3	t	t	t	t	t	t
P16	2g	2e	SPEAKERS B	PHANTOM	B4	u	u	u	u	u	u
P17	2j, 2p	2f	AUTO TUNING	ROOM 2	B5	ENHANCED	AM	MEMORY	CINEMA	—	PRO LOGIC
P18	2m	2g	—	ENTER	S1	70mm	FM	ROOM 2 CONTROL	DSP	—	SLEEP
P19	1h, 1n	—	—	k, r	—	—	—	—	—	—	—

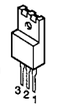
■ PIN CONNECTION DIAGRAM

● ICs

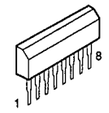
AN78N05



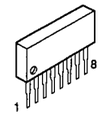
NJM79M12FA



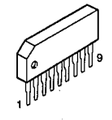
M5220L



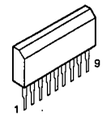
NJM4558L



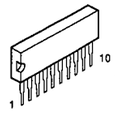
LA7956



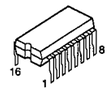
μPC4570HA



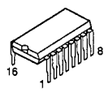
LB1641



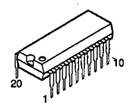
TC4053BP
TC74HC4051AP



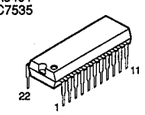
BU2090



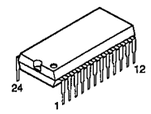
LM7000N



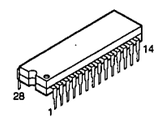
LA3401
LC7535



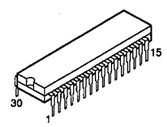
LA1266



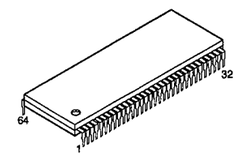
TC51832ASPL-10
TC9273N-004



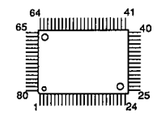
LC78213



YSS223

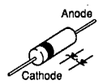


HD6473724F



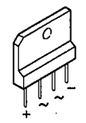
● Diodes

1SS133
1SS270A
1SR139-100

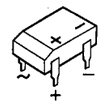


HZS5C2TD
HZS5B2TD
HZS6C2TD
HZS7B2TD
HZS9C2TD
HZS12A2TD
HZS12C2TD
HZS152TD
HZS242TD
HZS302TD
MTJ6.2C

D3SBA20
D5SBA20

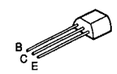


S1NB20



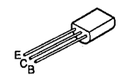
● Transistors

2SA933S (Q, R)
2SA1317 (R, S, T)
2SC2603 (E, F)
2SC3330 (S, T)
2SD1915F (S, T)
DTA114ES
DTC144ES



2SA1708 (S, T)
2SC4488 (S, T)

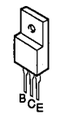
2SA893A (D, E)
2SA970 (GR, BL)
2SA1015 (Y)



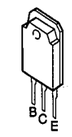
2SC535 (A, B, C)
2SC1815 (Y)
2SC1890A (D, E)
2SC2229 (O, Y)
2SC2240 (GR, BL)
2SD400 (E, F)

2SK30ATM (GR)

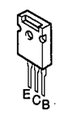
2SA1726 (O, P, Y)
2SC4495 (ST)
2SC4512 (O, P, Y)



2SA1492 (O, P, Y)
2SC3856 (O, P, Y)



2SA1358 (O, Y)
2SC3421 (O, Y)



■ 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 WAVEFORMS (See page 35)

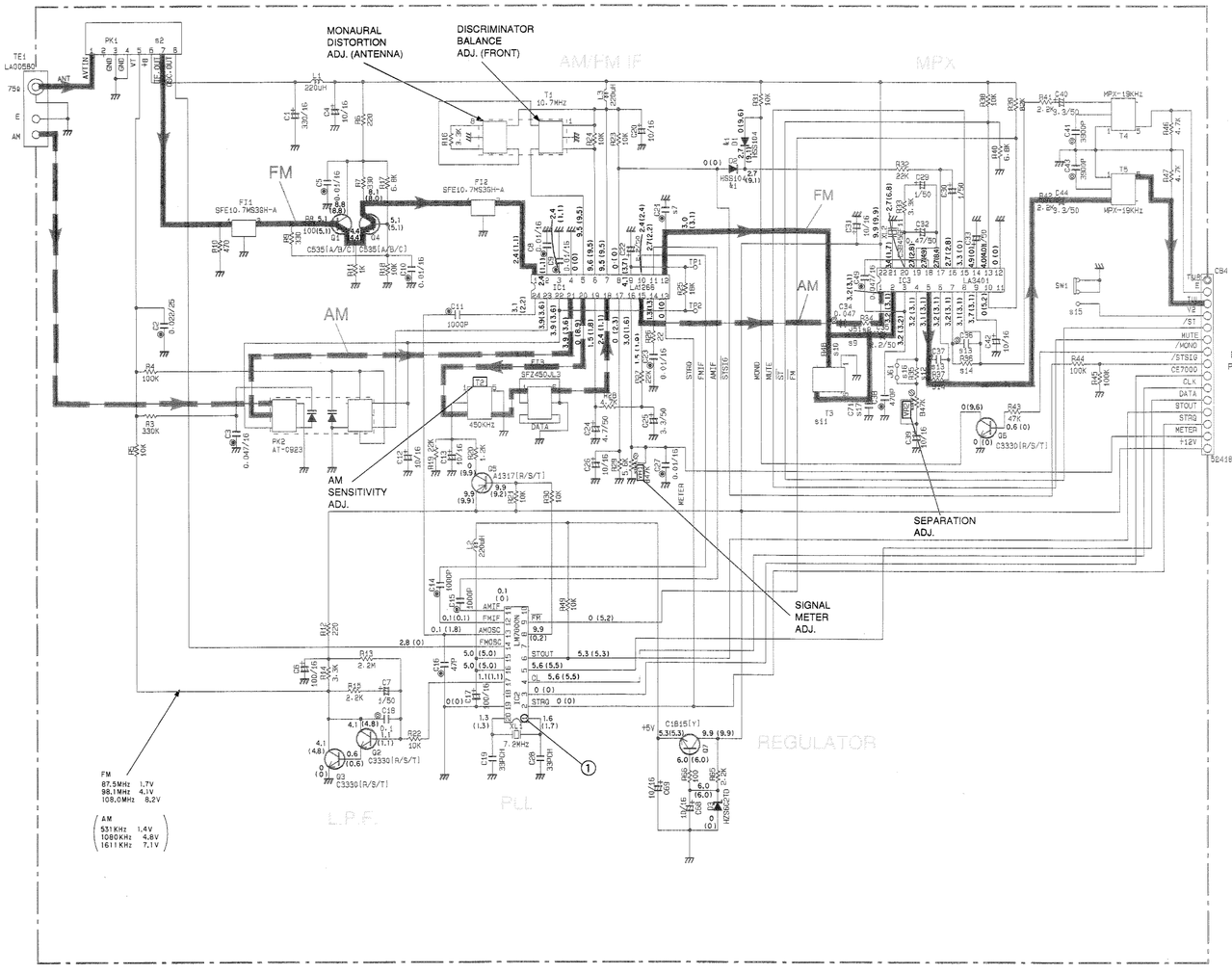
CAPACITOR

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
(J)····· Japanese model
(U)····· U.S.A model
(C)····· Canadian model
(A)····· Australian model
(G)····· European model
(B)····· British model
(R)····· General model
(P)····· RP model

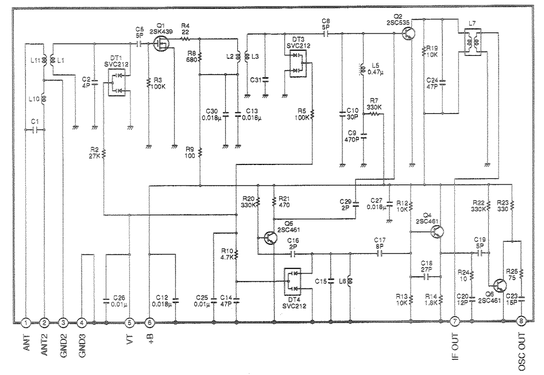


		U·C	R	A·B	G
1					
2	PK1	VR24220	VR24220	VR24220	VQ98750
3					
4					
5					
6					
7	C21	100P	100P	100P	×
8	R34	10K	10K	10K	27K
9	J61	○	○	○	×
10	R48	×	×	×	4.7K
11	T3	×	×	×	VQ96570
12	R35	22K	22K	22K	×
13	C36.37	560P	560P	470P	390P
14	R36.37	100K	100K	100K	120K
15	SW1	×	VF54120	×	×
16	J61	×	×	×	○
17	C71	×	×	×	120PCH

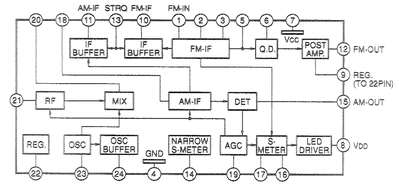
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
M1	D1-2	HSS104
		1SS133
		1SS175

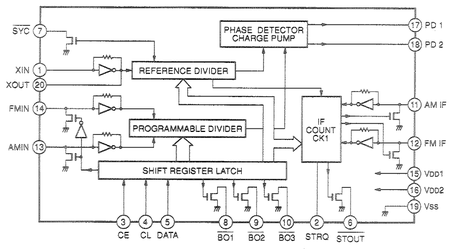
PK1 : ENV-17298GI (VR242200)



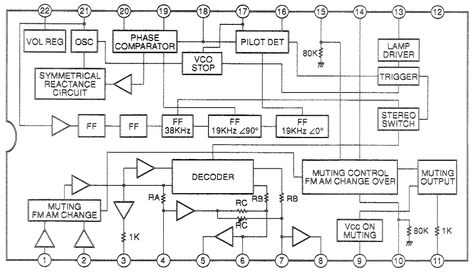
IC1 : LA1266
AM/FM IF



IC2 : LM7000N
PLL Controller



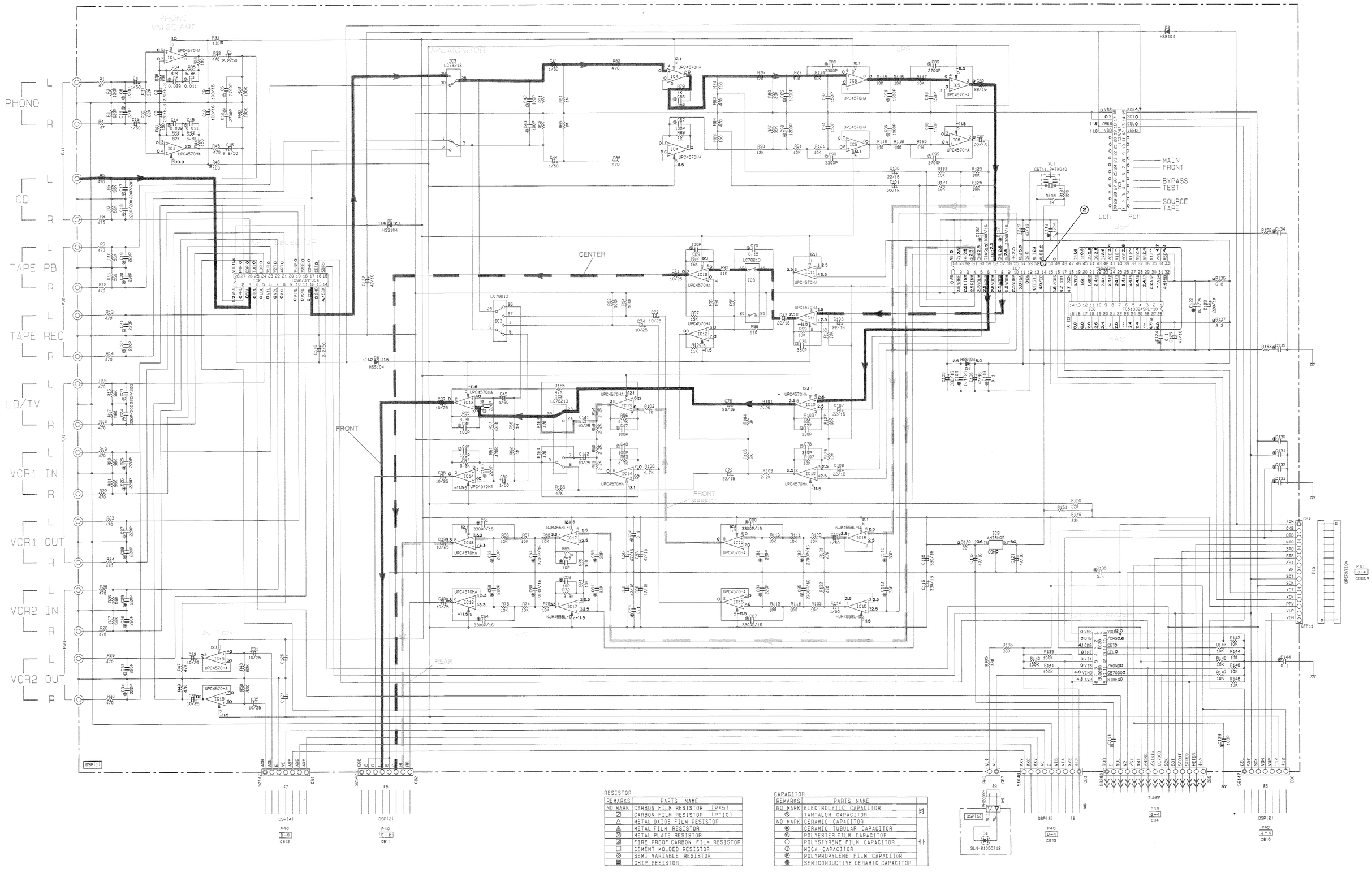
IC3 : LA3401
MPX



** 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 (DSP 1/2)

② : TEST POINT WAVEFORMS (See page 35)



RESISTOR

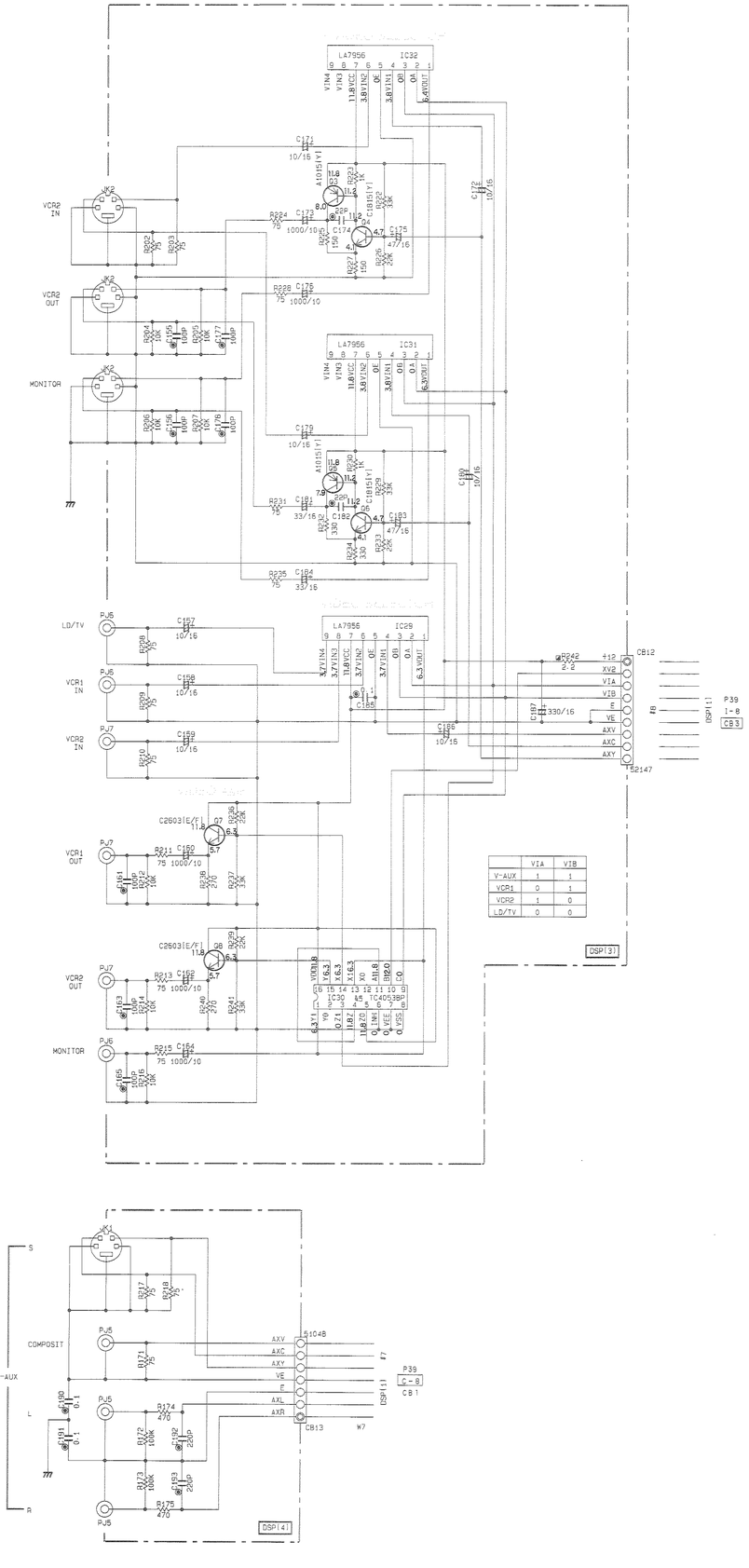
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☑	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

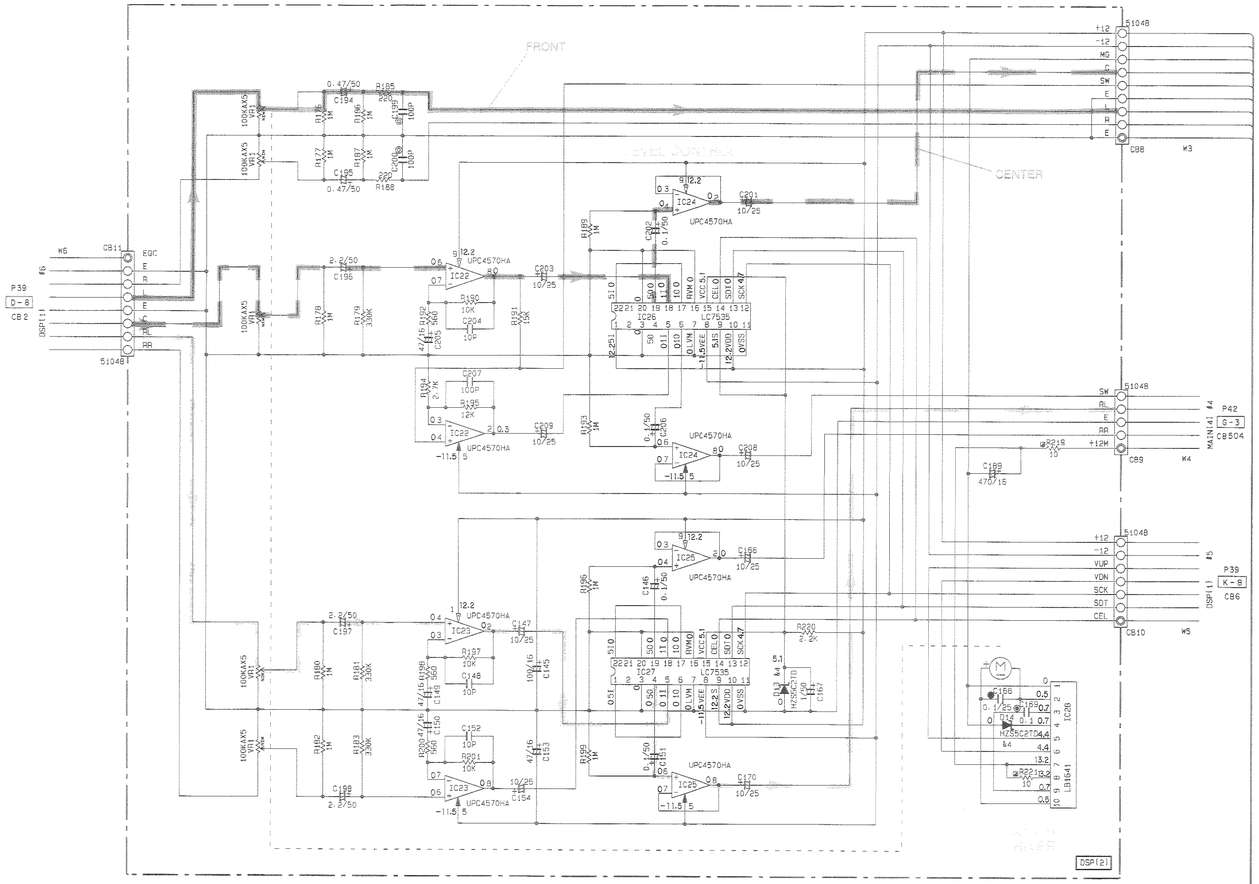
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
◉	CERAMIC TUBULAR CAPACITOR
◎	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
ⓘ	MICA CAPACITOR
ⓟ	POLYPROPYLENE FILM CAPACITOR
◉	SEMICONDUCTIVE CERAMIC CAPACITOR

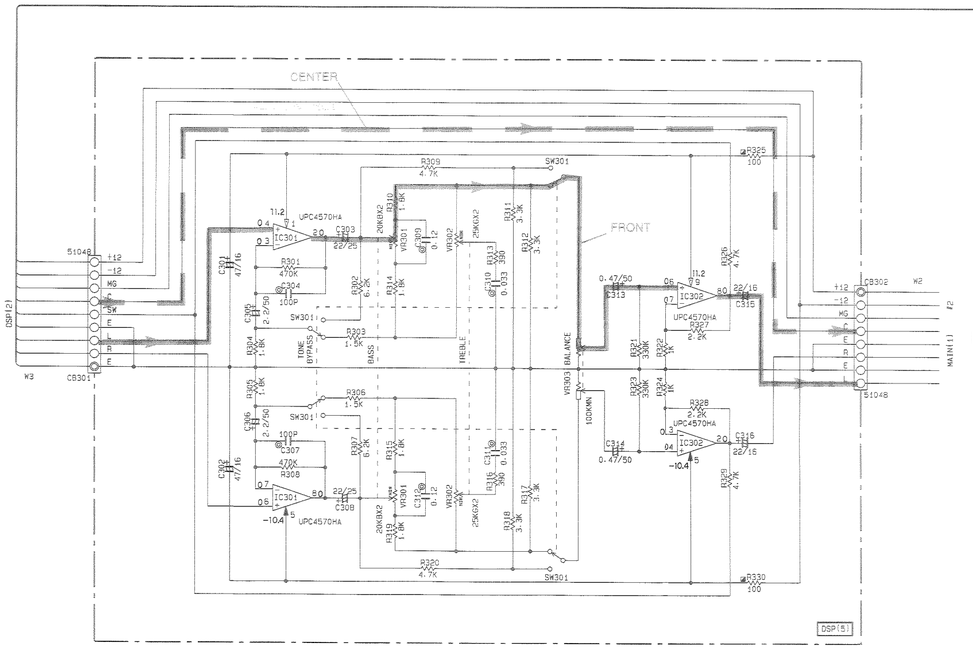
* All voltage are measured with a 10MΩ/DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (DSP 2/2)



	VIA	VIB
V-AUX	1	1
VCR1	0	1
VCR2	1	0
LD/TV	0	0





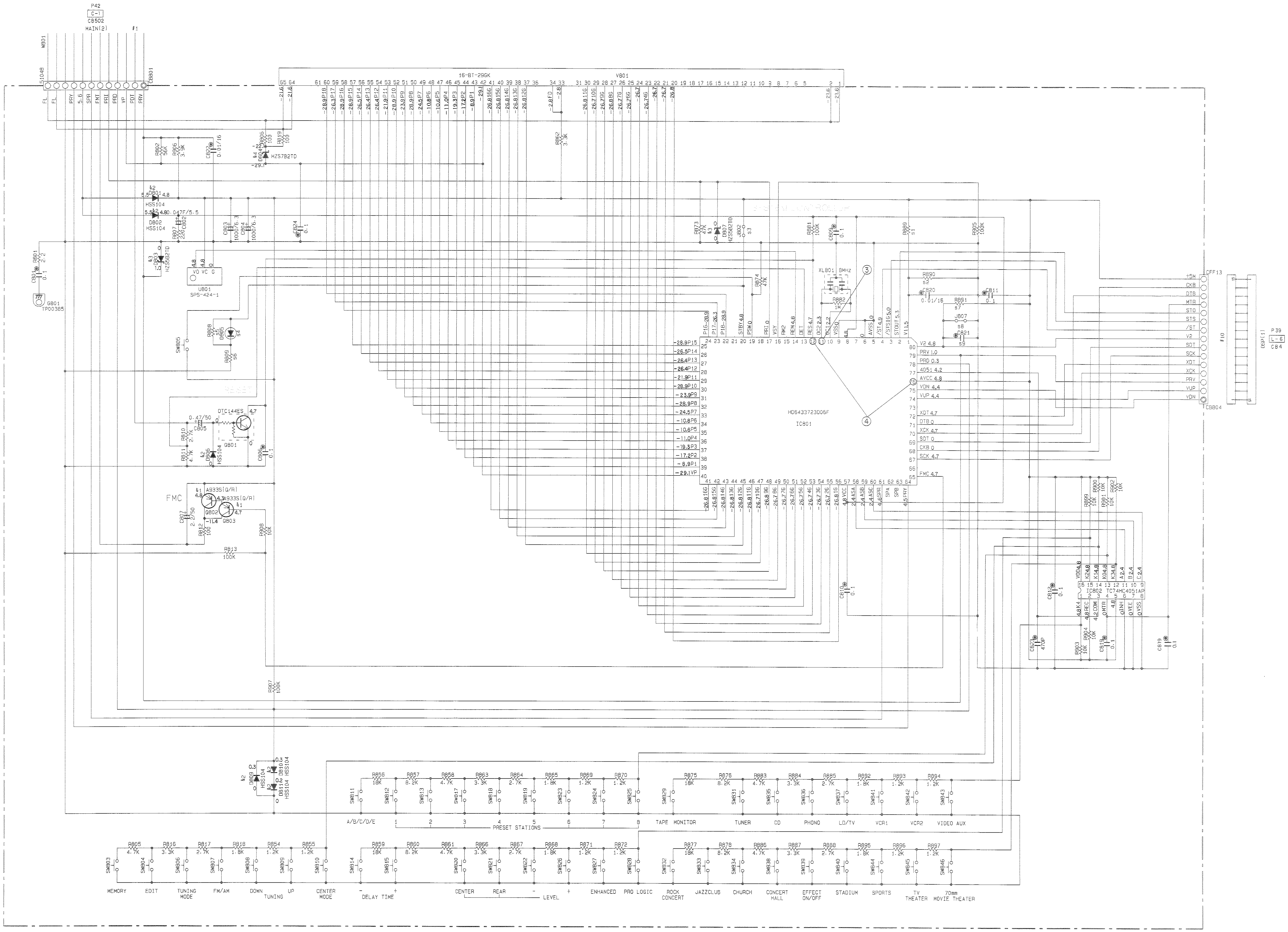
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
&3	Q9	2SA933S(Q/R) 2SA1115(E/F) 2SA1309A(Q/R/S)
&4	D13-14	HZS5C2TD MTZJ5.1B
&5	IC30	TC4053BP UPD4053BC

* 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, ④ : TEST POINT WAVEFORMS (See page 35)



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

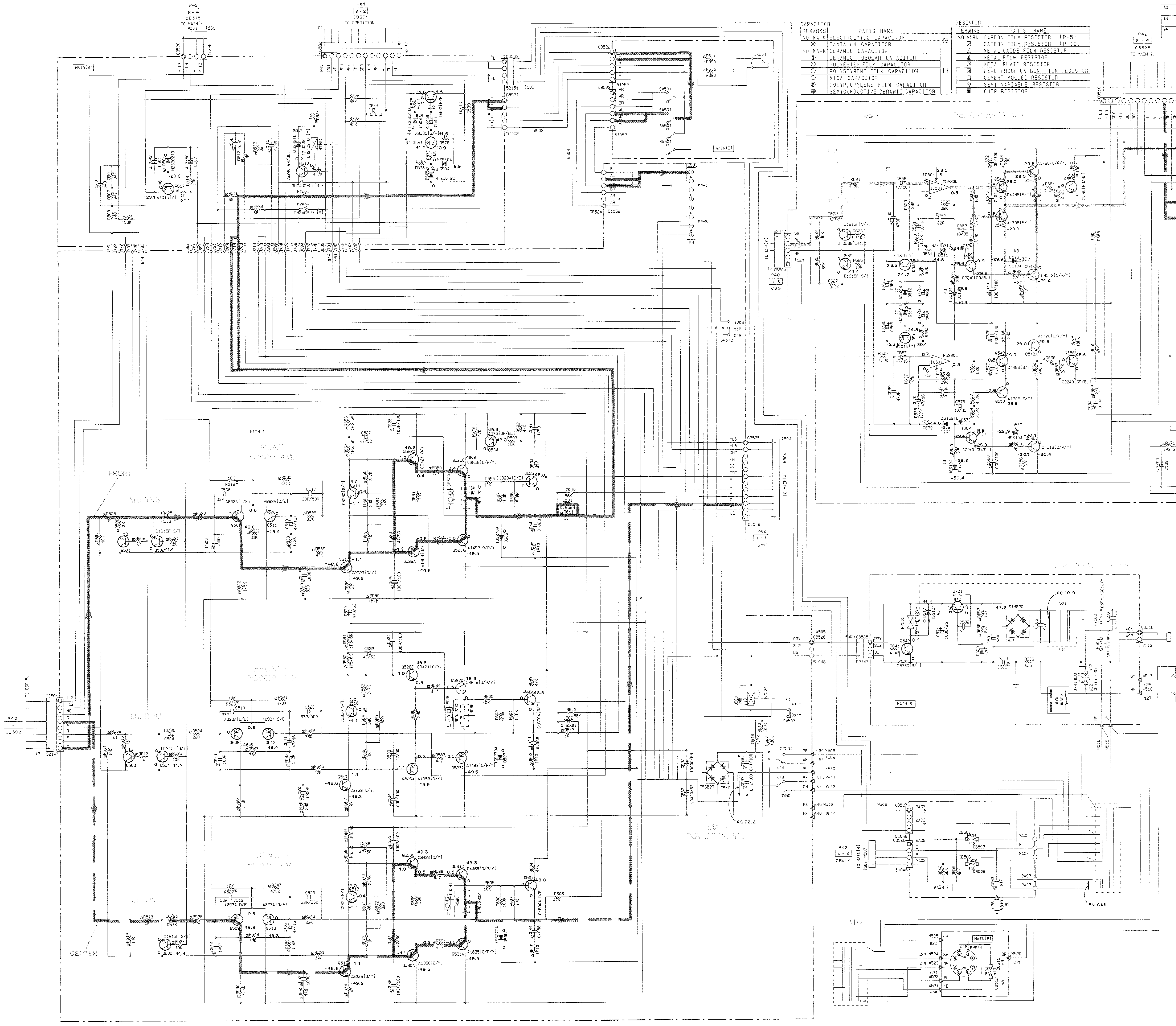
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
&1	Q802, 803	2SA933S(Q/R) 2SA1115(E/F) 2SA1309A(Q/R/S)
&2	D801, 802, 806, 809-811	HSS104 1SS133 1SS176
&3	D803, 807	HZS5B2TD MTZJ4.7C
&4	D804	HZS7B2TD MTZJ7.5A

MODEL No.		RX-V690ML			
s	Circuit No.	U・C	R	A	L
1	R889	27K	×	27K	12K
2	R890	12K	12K	12K	18K
3	J802	○	○	○	×
4	D805	×	×	×	SLR-305VCA47
5	R808	×	×	×	100K
6	R809	×	×	×	270
7	R891	10K	10K	×	×
8	J807	×	×	○	○
9	C821	0.01/16	0.01/16	×	×
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
	PCB	XQ252	XQ252	XQ252	XQ252
	PWB	VS94140	VS94150	VS94160	VS94170

* *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 (MAIN)



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

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name			
&1	Q521	2SA933S(Q/R) 2SA1115(E/F) 2SA1309A(Q/R/S)	&6	D511.515	HZS152TD MTZJ15C
&2	D501	HZS302TD MTZJ30D	&7	D502.512.514.522	HZS242TD MTZJ24D
&3	D504.513.516-519	HSS104 1SS133.1SS176			
&4	D503	HZS6C2TD MTZJ6.2B			
&5	D524	HZS12C2TD MTZJ15A			

		U	C	R	A	L
s1	R505.509	1K	1K	1K	2.2K	2.2K
s2	R506.510	X	X	X	1K	1K
s3	Q501.503	X	X	X	D1915F(S/T)	D1915F(S/T)
s4	R508.512	X	X	X	10K	10K
s5						
s6						
s7	W512	X	VS75110	X	X	X
s8	CB511.512	X	X	VP20650	X	X
s9	TE501	VC31370	VC31370	VC31370	VK50620	VK50620
s10	SW502	X	X	X	VS60250	VS60250
s11	SW503	X	VS60260	X	X	X
s12						
s13	D509	X	HSS104 1SS133 1SS176	X	X	X
s14	RY504	X	VT24310	X	X	X
s15	W511	X	VS71600	X	X	X
s16	F501.502	5A125V	5A125V	5A125V	T4AL250V	T4AL250V
s17	C583	0.1	0.1	X	X	X
s18	SW511	X	X	VA96180	X	X
s19	F504	X	X	4A250V	X	X
s20	W520	X	X	VR41430	X	X
s21	W525	X	X	VG37110	X	X
s22	W524	X	X	VG37120	X	X
s23	W523	X	X	VG37130	X	X
s24	W522	X	X	VG37140	X	X
s25	W521	X	X	VG37150	X	X
s26	W517	X	X	X	VQ10540	X
s27	W518	X	X	X	VQ10530	X
s28	W519	VS71620	VS71620	X	X	X
s29	JK502	VK48060	VK48060	VK48060	X	VK48070
s30	J741	0	0	0	0	X
s31	F503	X	X	X	X	T2.5AL250V
s32	CB514.515	X	X	X	X	VP20650
s33	F505	8A125V	8A125V	8A125V	4A250V	4A250V
s34	T501	XC083	X0519	XC082	XC084	XC084
s35	R669	1/2P2.2M	1/2P2.2M	X	X	X
s36	C581	X	47/25	47/63	X	X
s37	R657.658	X	56	5.6K	X	X
s38	D520	X	HZS12B2TD MTZJ13B	HZS12B2TD MTZJ13B	X	X
s39	W508	X	VS71590	X	X	X
s40	W513.514	VS71590	X	VS71590	VS71590	VS71590
S41	C582	X	1000P	1000P	X	X
S42	Q553	X	D2396(J/K)	D2396(J/K)	X	X
S43	J781	0	X	X	0	0
s44	J793.791	X	X	X	0	0
S45						
S46						
S47	R501.502	X	X	X	4.7K	4.7K
S48	R503	X	X	X	15K	15K
S49	C502	X	X	X	1/50	1/50
S50						
s51	J762	X	0	X	X	X
s52	W509	X	VS75120	X	X	X
s53						
s54						
s55						
s56						

* *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 parts No. of the carbon resistors, refer to 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.TNTL.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.FLM	:	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.

P.C.B. DSP

	Schm Ref.	PART NO.	Description		
*		VS941800	P.C.B.	DSP	
	CB1	VK025100	CN.BS.PIN	7P	
	CB2	VK025200	CN.BS.PIN	8P	
	CB3	Vi878700	CN.BS.PIN	9P	
*	CB4	VR358600	CN.BS.PIN	15P	
*	CB5	VQ963600	CN.BS.PIN	15P	
	CB6	VK025100	CN.BS.PIN	7P	
	CB7	VD004500	CN.BS.PIN	2P	
	CB8	Vi878700	CN.BS.PIN	9P	
	CB9	Vi878300	CN.BS.PIN	5P	
	CB10	Vi878500	CN.BS.PIN	7P	
	CB11	Vi878600	CN.BS.PIN	8P	
	CB12	VK025300	CN.BS.PIN	9P	
	CB13	Vi878500	CN.BS.PIN	7P	
	CB301	Vi878700	CN.BS.PIN	9P	
	CB302	Vi878600	CN.BS.PIN	8P	
	C1	VJ839200	C.EL	2.2uF	50V
	C2	UA654390	C.MYLAR	0.039uF	50V
	C3	UA654110	C.MYLAR	0.011uF	50V
	C4	VJ839100	C.EL	1uF	50V
	C5	UA653270	C.MYLAR	2700pF	50V
	C6	UA652220	C.MYLAR	220pF	50V
	C7	VC815000	C.EL	220uF	6.3V
	C8	VC815000	C.EL	220uF	6.3V
	C9	VF964800	C.EL	100uF	16V
	C10	VF964800	C.EL	100uF	16V
	C11	UA652220	C.MYLAR	220pF	50V
	C12	UA653270	C.MYLAR	2700pF	50V
	C13	VJ839100	C.EL	1uF	50V
	C14	UA654390	C.MYLAR	0.039uF	50V
	C15	UA654110	C.MYLAR	0.011uF	50V
	C16	VJ839200	C.EL	2.2uF	50V
	C17	VK534000	C.PP	220pF	200V
	C18	VK534000	C.PP	220pF	200V
	C19	VG278400	C.CE.TUBLR	220pF	50V
	C20	VG278400	C.CE.TUBLR	220pF	50V
	C21	UA652220	C.MYLAR	220pF	50V
	C22	UA652220	C.MYLAR	220pF	50V
	C23	VK534000	C.PP	220pF	200V
	C24	VK534000	C.PP	220pF	200V
	C25	VG278400	C.CE.TUBLR	220pF	50V
	C26	VG278400	C.CE.TUBLR	220pF	50V
	C27	UA652220	C.MYLAR	220pF	50V
	C28	UA652220	C.MYLAR	220pF	50V
	C29	VG278400	C.CE.TUBLR	220pF	50V
	C30	VG278400	C.CE.TUBLR	220pF	50V
	C31	UM417100	C.EL	10uF	50V
	C32	UM417100	C.EL	10uF	50V
	C33	UA652220	C.MYLAR	220pF	50V
	C34	UA652220	C.MYLAR	220pF	50V
	C35	UM417100	C.EL	10uF	50V
	C36	UM417100	C.EL	10uF	50V
	C37	UM417100	C.EL	10uF	50V

* New Parts

	Schm Ref.	PART NO.	Description		
	C38	UM417100	C.EL	10uF	50V
	C39	UM417100	C.EL	10uF	50V
	C40	UM417100	C.EL	10uF	50V
	C41	VJ839100	C.EL	1uF	50V
	C42	UA652100	C.MYLAR	100pF	50V
	C43	UA652100	C.MYLAR	100pF	50V
	C44	VJ839100	C.EL	1uF	50V
	C45	VJ839100	C.EL	1uF	50V
	C46	UA652100	C.MYLAR	100pF	50V
	C47	UA652100	C.MYLAR	100pF	50V
	C48	UA652100	C.MYLAR	100pF	50V
	C49	UA652100	C.MYLAR	100pF	50V
	C50	VJ839100	C.EL	1uF	50V
	C51	VG279600	C.CE.TUBLR	3300pF	16V
	C52	VH053100	C.CE.TUBLR	0.1uF	50V
	C53	VG278400	C.CE.TUBLR	220pF	50V
	C54	VG279500	C.CE.TUBLR	2700pF	16V
	C55	VG277000	C.CE.TUBLR	33pF	50V
	C56	VJ837200	C.EL	47uF	16V
	C57	VF466600	C.CE.TUBLR	10pF	50V
	C58	VF466600	C.CE.TUBLR	10pF	50V
	C59	VG278400	C.CE.TUBLR	220pF	50V
	C60	VG279500	C.CE.TUBLR	2700pF	16V
	C61	VG277000	C.CE.TUBLR	33pF	50V
	C62	VJ837200	C.EL	47uF	16V
	C63	VH053100	C.CE.TUBLR	0.1uF	50V
	C64	VG279600	C.CE.TUBLR	3300pF	16V
*	C65	UA253120	C.MYLAR	1200pF	50V
	C66	UA652100	C.MYLAR	100pF	50V
	C67	UA652100	C.MYLAR	100pF	50V
*	C68	UA253120	C.MYLAR	1200pF	50V
	C69	UA652100	C.MYLAR	100pF	50V
	C70	UA655150	C.MYLAR	0.15uF	50V
	C71	UM417100	C.EL	10uF	50V
	C72	UM417100	C.EL	10uF	50V
	C73	UM407220	C.EL	22uF	25V
	C74	UM417100	C.EL	10uF	50V
	C75	UA652330	C.MYLAR	330pF	50V
	C76	UM407220	C.EL	22uF	25V
	C77	UA652330	C.MYLAR	330pF	50V
	C78	UA652330	C.MYLAR	330pF	50V
	C79	UM407220	C.EL	22uF	25V
	C80	VG279600	C.CE.TUBLR	3300pF	16V
	C81	VG278400	C.CE.TUBLR	220pF	50V
	C82	VG279500	C.CE.TUBLR	2700pF	16V
	C83	VJ837200	C.EL	47uF	16V
	C84	VG278400	C.CE.TUBLR	220pF	50V
	C85	VG279500	C.CE.TUBLR	2700pF	16V
	C86	VJ837200	C.EL	47uF	16V
	C87	VG279600	C.CE.TUBLR	3300pF	16V
*	C88	UA253330	C.MYLAR	3300pF	50V
	C89	UA653270	C.MYLAR	2700pF	50V
	C90	UM407220	C.EL	22uF	25V

* New Parts

P.C.B. DSP

	Schm Ref.	PART NO.	Description		
*	C91	UA253100	C.MYLAR	1000pF	50V
	C92	FG212150	C.CE	150pF	50V
	C93	FG212150	C.CE	150pF	50V
	C94	FG212150	C.CE	150pF	50V
	C95	FG212150	C.CE	150pF	50V
*	C96	UA253100	C.MYLAR	1000pF	50V
	C97	UM407220	C.EL	22uF	25V
*	C98	UA253330	C.MYLAR	3300pF	50V
	C99	UA653270	C.MYLAR	2700pF	50V
	C100	UM407220	C.EL	22uF	25V
	C101	UM407220	C.EL	22uF	25V
	C102	VG279600	C.CE.TUBLR	3300pF	16V
	C103	UM407220	C.EL	22uF	25V
	C104	VD930900	C.CE.SMI	0.1uF	25V
	C105	UJ638330	C.EL	330uF	16V
	C106	VJ837200	C.EL	47uF	16V
	C107	UM407220	C.EL	22uF	25V
	C108	UM407220	C.EL	22uF	25V
	C109	VJ839100	C.EL	1uF	50V
	C110	VG277000	C.CE.TUBLR	33pF	50V
	C112	VJ837200	C.EL	47uF	16V
	C113	VG277000	C.CE.TUBLR	33pF	50V
	C114	VJ839100	C.EL	1uF	50V
	C115	VG287800	C.EL	330uF	16V
	C116	VG287800	C.EL	330uF	16V
	C117	VG279600	C.CE.TUBLR	3300pF	16V
	C118	VH053100	C.CE.TUBLR	0.1uF	50V
	C119	VD930900	C.CE.SMI	0.1uF	25V
	C120	VJ837200	C.EL	47uF	16V
	C121	VJ837200	C.EL	47uF	16V
	C122	VD930900	C.CE.SMI	0.1uF	25V
	C123	VE117600	C.EL	220uF	10V
	C124	VH053100	C.CE.TUBLR	0.1uF	50V
	C125	VJ837200	C.EL	47uF	16V
	C129	VF466800	C.CE.TUBLR	100pF	50V
	C136	VH053100	C.CE.TUBLR	0.1uF	50V
	C137	VJ837200	C.EL	47uF	16V
	C140	VJ839200	C.EL	2.2uF	50V
	C141	UM417100	C.EL	10uF	50V
	C142	UM417100	C.EL	10uF	50V
	C144	VH053100	C.CE.TUBLR	0.1uF	50V
	C145	VF964800	C.EL	100uF	16V
	C146	UM215100	C.EL	0.1uF	50V
	C147	UM417100	C.EL	10uF	50V
	C148	FG211100	C.CE	10pF	50V
	C149	VJ837200	C.EL	47uF	16V
	C150	VJ837200	C.EL	47uF	16V
	C151	UM215100	C.EL	0.1uF	50V
	C152	FG211100	C.CE	10pF	50V
	C153	VJ837200	C.EL	47uF	16V
	C154	UM417100	C.EL	10uF	50V
	C155	VF466800	C.CE.TUBLR	100pF	50V
	C156	VF466800	C.CE.TUBLR	100pF	50V

*New Parts

Schm Ref.	PART NO.	Description		
C157	VJ836900	C.EL	10uF	16V
C158	VJ836900	C.EL	10uF	16V
C159	VJ836900	C.EL	10uF	16V
C160	VF637900	C.EL	1000uF	10V
C161	VF466800	C.CE.TUBLR	100pF	50V
C162	VF637900	C.EL	1000uF	10V
C163	VF466800	C.CE.TUBLR	100pF	50V
C164	VF637900	C.EL	1000uF	10V
C165	VF466800	C.CE.TUBLR	100pF	50V
C166	UM417100	C.EL	10uF	50V
C167	VJ839100	C.EL	1uF	50V
C168	VD930900	C.CE.SMI	0.1uF	25V
C169	VH053100	C.CE.TUBLR	0.1uF	50V
C170	UM417100	C.EL	10uF	50V
C171	VJ836900	C.EL	10uF	16V
C172	VJ836900	C.EL	10uF	16V
C173	VF637900	C.EL	1000uF	10V
C174	VG276600	C.CE.TUBLR	22pF	50V
C175	VJ837200	C.EL	47uF	16V
C176	VF637900	C.EL	1000uF	10V
C177	VF466800	C.CE.TUBLR	100pF	50V
C178	VF466800	C.CE.TUBLR	100pF	50V
C179	VJ836900	C.EL	10uF	16V
C180	VJ836900	C.EL	10uF	16V
C181	UM397330	C.EL	33uF	16V
C182	VG276600	C.CE.TUBLR	22pF	50V
C183	VJ837200	C.EL	47uF	16V
C184	UM397330	C.EL	33uF	16V
C185	VH053100	C.CE.TUBLR	0.1uF	50V
C186	VJ836900	C.EL	10uF	16V
C187	UJ638330	C.EL	330uF	16V
C189	UJ638470	C.EL	470uF	16V
C190	VH053100	C.CE.TUBLR	0.1uF	50V
C191	VH053100	C.CE.TUBLR	0.1uF	50V
C192	VG278400	C.CE.TUBLR	220pF	50V
C193	VG278400	C.CE.TUBLR	220pF	50V
C194	VJ839000	C.EL	0.47uF	50V
C195	VJ839000	C.EL	0.47uF	50V
C196	VJ839200	C.EL	2.2uF	50V
C197	VJ839200	C.EL	2.2uF	50V
C198	VJ839200	C.EL	2.2uF	50V
C199	UA652100	C.MYLAR	100pF	50V
C200	UA652100	C.MYLAR	100pF	50V
C201	UM417100	C.EL	10uF	50V
C202	UM215100	C.EL	0.1uF	50V
C203	UM417100	C.EL	10uF	50V
C204	FG211100	C.CE	10pF	50V
C205	VJ837200	C.EL	47uF	16V
C206	UM215100	C.EL	0.1uF	50V
C207	FG212100	C.CE	100pF	50V
C208	UM417100	C.EL	10uF	50V
C209	UM417100	C.EL	10uF	50V
C301	VG291200	C.EL	47uF	50V

*New Parts

P.C.B. DSP & MAIN

	Schm Ref.	PART NO.	Description		
	C302	VG291200	C.EL	47uF	50V
	C303	VE020300	C.EL	22uF	50V
	C304	UA652100	C.MYLAR	100pF	50V
	C305	VJ839200	C.EL	2.2uF	50V
	C306	VJ839200	C.EL	2.2uF	50V
	C307	UA652100	C.MYLAR	100pF	50V
	C308	VE020300	C.EL	22uF	50V
	C309	UA655120	C.MYLAR	0.12uF	50V
	C310	UA654330	C.MYLAR	0.033uF	50V
	C311	UA654330	C.MYLAR	0.033uF	50V
	C312	UA655120	C.MYLAR	0.12uF	50V
	C313	VJ839000	C.EL	0.47uF	50V
	C314	VJ839000	C.EL	0.47uF	50V
	C315	UM407220	C.EL	22uF	25V
	C316	UM407220	C.EL	22uF	25V
	D1	VD631600	DIODE	1SS133,176,HSS104	
	D2	VD631600	DIODE	1SS133,176,HSS104	
	D3	VD631600	DIODE	1SS133,176,HSS104	
	D4	VP976900	LED(or)	SLN-210DCT12	
	D5	VD631600	DIODE	1SS133,176,HSS104	
	D13	VM974200	DIODE.ZENR	HZS5C2TD 5.0V	
	D14	VM974200	DIODE.ZENR	HZS5C2TD 5.0V	
	IC1	XB247301	IC	uPC4570HA	
*	IC2	XP580A00	IC	TC9273N-004	
	IC3	XP896A00	IC	LC78213	
	IC4	XB247301	IC	uPC4570HA	
	IC5	XB247301	IC	uPC4570HA	
	IC6	XB247301	IC	uPC4570HA	
	IC7	XL816A00	IC	YSS223-K	
	IC8	XN667A00	IC	TC51832SPL-10 PS-R	
	IC9	XA507A00	IC	AN78N05	
	IC10	XB247301	IC	uPC4570HA	
	IC11	XB247301	IC	uPC4570HA	
	IC12	XB247301	IC	uPC4570HA	
	IC13	XB247301	IC	uPC4570HA	
	IC14	XB247301	IC	uPC4570HA	
*	IC15	XQ212A00	IC	NJM4558LD	
	IC16	XB247301	IC	uPC4570HA	
*	IC17	XQ212A00	IC	NJM4558LD	
	IC18	XB247301	IC	uPC4570HA	
	IC19	XB247301	IC	uPC4570HA	
*	IC20	XP265A00	IC	BU2090	
	IC22	XB247301	IC	uPC4570HA	
	IC23	XB247301	IC	uPC4570HA	
	IC24	XB247301	IC	uPC4570HA	
	IC25	XB247301	IC	uPC4570HA	
	IC26	XE536001	IC	LC7535	
	IC27	XE536001	IC	LC7535	
	IC28	XF494A00	IC	LB1641	
	IC29	XH436A00	IC	LA7956	
	IC30	iG055100	IC	TC4053BP	
	IC31	XH436A00	IC	LA7956	
	IC32	XH436A00	IC	LA7956	

* New Parts

	Schm Ref.	PART NO.	Description		
	IC301	XB247301	IC	uPC4570HA	
	IC302	XB247301	IC	uPC4570HA	
*	JK1	VS867300	CN	4P	
	JK2	VN938100	CN.DIN	3P S	
	PJ1	VK421600	JACK.PIN	4P	
	PJ2	VT029100	JACK.PIN	4P	
	PJ3	VT029100	JACK.PIN	4P	
	PJ4	VJ794600	JACK.PIN	6P	
*	PJ5	VS549000	JACK.PIN	3P	
	PJ6	VJ695900	JACK.PIN	3P	
	PJ7	VJ695900	JACK.PIN	3P	
	Q3	iA101521	TR	2SA1015 Y	
	Q4	iC1815C0	TR	2SC1815 Y	
	Q5	iA101521	TR	2SA1015 Y	
	Q6	iC1815C0	TR	2SC1815 Y	
	Q7	iC260320	TR	2SC2603 E,F	
	Q8	iC260320	TR	2SC2603 E,F	
	R31	HV455100	R.CAR.FP	100Ω	1/4W
	R46	HV455100	R.CAR.FP	100Ω	1/4W
	R130	HV454220	R.CAR.FP	22Ω	1/4W
	R136	HV453680	R.CAR.FP	6.8Ω	1/4W
	R137	HV453220	R.CAR.FP	2.2Ω	1/4W
	R219	HV454100	R.CAR.FP	10Ω	1/4W
	R221	HV454100	R.CAR.FP	10Ω	1/4W
	R242	HV453220	R.CAR.FP	2.2Ω	1/4W
	R325	HV455100	R.CAR.FP	100Ω	1/4W
	R330	HV455100	R.CAR.FP	100Ω	1/4W
	SW301	VN010700	SW.PUSH	PSE4/2 S	
*	VR1	VS868300	VR.MTR	A100KΩ	
*	VR301	VP741800	VR	B20KΩ	
*	VR302	VP741900	VR	G25KΩ	
*	VR303	VP742000	VR	MN100KΩ	
	XL1	VK175200	RSNR.CE	11.28MHz	
		VB966900	CN	IMSA-6024	
		BB071360	SCR.TERM	8.3x13	
*		VR264300	PLATE.GND		
*		VS710100	P.C.B.	MAIN(U)	
*		VS710200	P.C.B.	MAIN(C)	
*		VS710300	P.C.B.	MAIN(R)	
*		VS710400	P.C.B.	MAIN(A)	
*		VS710500	P.C.B.	MAIN(L)	
	CB501	VK025200	CN.BS.PIN	8P	
	CB502	VK027100	CN.BS.PIN	12P	
*	CB503	VK026300	CN.BS.PIN	4P	
	CB504	VK024900	CN.BS.PIN	5P	
	CB505	VK024700	CN.BS.PIN	3P	
	CB506	VP206500	HOLDER.FUS	EYF-52BC	
	CB507	VP206500	HOLDER.FUS	EYF-52BC	
	CB508	VP206500	HOLDER.FUS	EYF-52BC	
	CB509	VP206500	HOLDER.FUS	EYF-52BC	

* New Parts

P.C.B. MAIN

Schm Ref.	PART NO.	Description		
CB510	VK025600	CN. BS. PIN	12P	
CB511	VP206500	HOLDER. FUS	EYF-52BC(R)	
CB512	VP206500	HOLDER. FUS	EYF-52BC(R)	
CB513	VP206500	HOLDER. FUS	EYF-52BC	
CB514	VP206500	HOLDER. FUS	EYF-52BC(L)	
CB515	VP206500	HOLDER. FUS	EYF-52BC(L)	
CB516	VG879900	CN. BS. PIN	2P	
* CB517	VL766100	CN. JUMPER	4P	
CB518	VK024800	CN. BS. PIN	4P	
CB519	VP206500	HOLDER. FUS	EYF-52BC	
CB520	Vi878200	CN. BS. PIN	4P	
* CB521	VQ584700	CN. BS. PIN	5P	
* CB522	VQ584700	CN. BS. PIN	5P	
* CB523	VQ584800	CN. BS. PIN	6P	
* CB524	VQ584800	CN. BS. PIN	6P	
CB525	Vi879000	CN. BS. PIN	12P	
CB526	Vi878100	CN. BS. PIN	3P	
CB527	Vi878200	CN. BS. PIN	4P	
CB528	Vi878200	CN. BS. PIN	4P	
CB529	LA002110	TERM. WRAP	2P	
CB530	LA002110	TERM. WRAP	2P	
CB531	LA002110	TERM. WRAP	2P	
C501	UM416470	C. EL	4.7uF	50V
C502	VJ839100	C. EL	1uF	50V(AL)
C503	UM417100	C. EL	10uF	50V
C504	UM417100	C. EL	10uF	50V
C506	VK399200	C. MYLAR. ML	0.39uF	50V
C507	UM416470	C. EL	4.7uF	50V
C508	FG251330	C. CE	33pF	50V
C509	UA652100	C. MYLAR	100pF	50V
C510	FG251330	C. CE	33pF	50V
C511	UA652100	C. MYLAR	100pF	50V
C512	FG251330	C. CE	33pF	50V
C513	UM417100	C. EL	10uF	50V
C514	UA652100	C. MYLAR	100pF	50V
C516	VK399200	C. MYLAR. ML	0.39uF	50V
C517	VS696700	C. CE	33pF	500V
C518	VJ837200	C. EL	47uF	16V
* C519	UA253100	C. MYLAR	1000pF	50V
C520	VS696700	C. CE	33pF	500V
C521	VJ837200	C. EL	47uF	16V
* C522	UA253100	C. MYLAR	1000pF	50V
C523	VS696700	C. CE	33pF	500V
C524	VJ837200	C. EL	47uF	16V
* C525	UA253100	C. MYLAR	1000pF	50V
* C526	VR325000	C. MYLAR	100pF	100V
C527	UJ667470	C. EL	47uF	50V
C528	UJ667470	C. EL	47uF	50V
* C529	VR325000	C. MYLAR	100pF	100V
C530	VK347900	C. EL	470uF	63V
* C531	VR325000	C. MYLAR	100pF	100V
C532	UJ667470	C. EL	47uF	50V
C533	UJ667470	C. EL	47uF	50V

* New Parts

Schm Ref.	PART NO.	Description		
* C534	VR325000	C. MYLAR	100pF	100V
* C535	VR325000	C. MYLAR	100pF	100V
C536	UJ667470	C. EL	47uF	50V
C537	UJ667470	C. EL	47uF	50V
* C538	VR325000	C. MYLAR	100pF	100V
C539	VJ836900	C. EL	10uF	16V
C540	VJ839200	C. EL	2.2uF	50V
C541	VJ839100	C. EL	1uF	50V
C542	UA654680	C. MYLAR	0.068uF	50V
C543	UA654680	C. MYLAR	0.068uF	50V
C544	UA654680	C. MYLAR	0.068uF	50V
* C552	VS578300	C. EL	10000uF	63V
* C553	VS578300	C. EL	10000uF	63V
* C556	VS745400	C. POL. MT	0.1uF	100V
* C557	VS745400	C. POL. MT	0.1uF	100V
C558	VJ837200	C. EL	47uF	16V
C559	FG251220	C. CE	22pF	50V
C560	UA652470	C. MYLAR	470pF	50V
C561	VJ837200	C. EL	47uF	16V
C562	UM417100	C. EL	10uF	50V
C563	UM417100	C. EL	10uF	50V
C564	VJ839000	C. EL	0.47uF	50V
C565	VJ839000	C. EL	0.47uF	50V
C566	UM417100	C. EL	10uF	50V
C567	VJ837200	C. EL	47uF	16V
C568	FG251220	C. CE	22pF	50V
C569	UA652470	C. MYLAR	470pF	50V
C570	VJ837200	C. EL	47uF	16V
C571	VF606700	C. EL	1000uF	25V
* C572	VR325000	C. MYLAR	100pF	100V
* C573	UA654100	C. MYLAR	0.01uF	50V
C574	VF466800	C. CE. TUBLR	100pF	50V
* C575	VR325000	C. MYLAR	100pF	100V
* C576	VR325000	C. MYLAR	100pF	100V
* C577	UA654100	C. MYLAR	0.01uF	50V
C578	UM417100	C. EL	10uF	50V
C579	VF466800	C. CE. TUBLR	100pF	50V
* C580	VR325000	C. MYLAR	100pF	100V
C581	Ui377470	C. EL	47uF	63V(R)
C581	UJ667470	C. EL	47uF	50V(C)
C582	FG213100	C. CE	1000pF	50V(CR)
C583	UA655100	C. MYLAR	0.1uF	50V(UC)
C584	UA654470	C. MYLAR	0.047uF	50V
C585	FG214100	C. CE	0.01uF	50V
* C586	UA654100	C. MYLAR	0.01uF	50V
C587	VL544800	C. EL	3300uF	35V
C588	VG289900	C. EL	2200uF	35V
C589	UM416470	C. EL	4.7uF	50V
* C590	VS741700	C. CE. SAFTY	0.01uF	275V
* C591	VS745400	C. POL. MT	0.1uF	100V
* C592	VS745400	C. POL. MT	0.1uF	100V
C593	UJ667470	C. EL	47uF	50V
C594	VJ839000	C. EL	0.47uF	50V

* New Parts

P.C.B. MAIN

	Schm Ref.	PART NO.	Description	
	C595	VJ837200	C.EL	47uF 16V
	C596	VF466900	C.CE.TUBLR	470pF 50V
	C597	VF466900	C.CE.TUBLR	470pF 50V
	C598	VF466900	C.CE.TUBLR	470pF 50V
	C599	VF466900	C.CE.TUBLR	470pF 50V
	C600	VF466900	C.CE.TUBLR	470pF 50V
	C601	UA654470	C.MYLAR	0.047uF 50V
	C602	VJ839000	C.EL	0.47uF 50V
	C611	VF760000	C.EL	100uF 10V
*	D501	VM976500	DIODE.ZENR	HZS302TD 30V
	D502	VM976300	DIODE.ZENR	HZS242TD 24V
	D503	VM974500	DIODE.ZENR	HZS6C2TD 6.0V
	D504	VD631600	DIODE	1SS133,176,HSS104
	D505	VG438100	DIODE.ZENR	MTZJ6.2C 6.2V
	D506	VN008700	DIODE	1SS270A
	D507	VN008700	DIODE	1SS270A
	D508	VN008700	DIODE	1SS270A
	D509	VD631600	DIODE	1SS133,176,(C)
⚠	D510	VN011400	DIODE.BRG	D5SB20 5A 200V
	D511	VM975800	DIODE.ZENR	HZS152TD 15V
	D512	VM976300	DIODE.ZENR	HZS242TD 24V
	D513	VD631600	DIODE	1SS133,176,HSS104
	D514	VM976300	DIODE.ZENR	HZS242TD 24V
	D515	VM975800	DIODE.ZENR	HZS152TD 15V
	D516	VD631600	DIODE	1SS133,176,HSS104
	D517	VD631600	DIODE	1SS133,176,HSS104
	D518	VD631600	DIODE	1SS133,176,HSS104
	D519	VD631600	DIODE	1SS133,176,HSS104
*	D520	VM975600	DIODE.ZENR	HZS12B2TD 12V(CR)
⚠	D521	VR253700	DIODE.BRG	S1NB20 1.0A 200V
	D522	VM976300	DIODE.ZENR	HZS242TD 24V
⚠	D523	VN011300	DIODE.BRG	D3SBA20 4A 200V
	D524	VM975700	DIODE.ZENR	HZS12C2TD 12V
⚠	F501	KB000790	FUSE	T4.0A 250V(AL)
⚠*	F501	VS823000	FUSE	T5.0A 125V(UCR)
⚠	F502	KB000790	FUSE	T4.0A 250V(AL)
⚠*	F502	VS823000	FUSE	T5.0A 125V(UCR)
⚠	F503	KB002980	FUSE	T2.5A 250V(L)
⚠	F504	KB000790	FUSE	T4.0A 250V(R)
⚠	F505	KB000790	FUSE	T4.0A 250V(AL)
⚠*	F505	VS823300	FUSE	T8.0A 125V(UCR)
	IC501	iG092000	IC	M5220L
	IC502	XD343A00	IC	NJM79M12FA
	JK501	LB301720	JACK.PHONE	
⚠	JK502	VK480600	OUTLET.AC	(UCR)
⚠	JK502	VK480700	OUTLET.AC	(L)
*	L501	VR906600	COIL	0.95uH
*	L502	VR906600	COIL	0.95uH
*	L503	VP575600	COIL	1.5uH
*	L504	VP575600	COIL	1.5uH
*	L505	VP575600	COIL	1.5uH
	PJ501	VR245000	JACK.PIN	6P
	Q501	VK432900	TR	2SD1915F S,T(AL)

* New Parts

	Schm Ref.	PART NO.	Description	
	Q502	VK432900	TR	2SD1915F S,T
	Q503	VK432900	TR	2SD1915F S,T(AL)
	Q504	VK432900	TR	2SD1915F S,T
	Q505	VK432900	TR	2SD1915F S,T
	Q506	iA101521	TR	2SA1015 Y
*	Q507	VP883000	TR	2SA893A D,E
*	Q508	VP883000	TR	2SA893A D,E
*	Q509	VP883000	TR	2SA893A D,E
	Q510	iC224030	TR	2SC2240 GR,BL
*	Q511	VP883000	TR	2SA893A D,E
*	Q512	VP883000	TR	2SA893A D,E
*	Q513	VP883000	TR	2SA893A D,E
	Q514	VC218900	TR	2SC3330 R,S,T
*	Q515	VR325600	TR	2SC2229 O,Y
	Q516	VC218900	TR	2SC3330 R,S,T
*	Q517	VR325600	TR	2SC2229 O,Y
	Q518	VC218900	TR	2SC3330 R,S,T
*	Q519	VR325600	TR	2SC2229 O,Y
	Q520	iD040040	TR	2SD400
	Q521	iA093320	TR	2SA933S Q,R
	Q522	iX603580	TR	2SA1358
	Q522	iX603590	TR	2SC3421
#	Q523	iX606460	TR	2SA1492 O,P,Y
#	Q523	iX606470	TR	2SC3856 O,P,Y
	Q526	iX603580	TR	2SA1358
	Q526	iX603590	TR	2SC3421
#	Q527	iX606460	TR	2SA1492 O,P,Y
#	Q527	iX606470	TR	2SC3856 O,P,Y
	Q530	iX603580	TR	2SA1358
	Q530	iX603590	TR	2SC3421
#	Q531	iX633340	TR	2SA1695 O,P,Y
#	Q531	iX633350	TR	2SC4468 O,P,Y
	Q534	iA097000	TR	2SA970 GR,BL
*	Q535	VP883100	TR	2SC1890A D,E
*	Q536	VP883100	TR	2SC1890A D,E
*	Q537	VP883100	TR	2SC1890A D,E
	Q538	VK432900	TR	2SD1915F S,T
	Q539	VK432900	TR	2SD1915F S,T
	Q540	iC1815C0	TR	2SC1815 Y
	Q541	iA101521	TR	2SA1015 Y
	Q542	VC218900	TR	2SC3330 R,S,T
	Q543	iX619590	TR	2SA1726 O,P,Y
	Q543	iX619600	TR	2SC4512 O,P,Y
*	Q544	VP872700	TR	2SC4488 S,T
*	Q545	VP872600	TR	2SA1708 S,T
	Q546	iC224030	TR	2SC2240 GR,BL
	Q548	iX619590	TR	2SA1726 O,P,Y
	Q548	iX619600	TR	2SC4512 O,P,Y
*	Q549	VP872700	TR	2SC4488 S,T
*	Q550	VP872600	TR	2SA1708 S,T
	Q551	iC224030	TR	2SC2240 GR,BL
	Q553	VR510800	TR	2SD2396 J,K(CR)
	Q555	iC224030	TR	2SC2240 GR,BL

* New Parts

P.C.B. MAIN & OPERATION

	Schm Ref.	PART NO.	Description		
	Q556	iC224030	TR	2SC2240 GR,BL	
	Q557	VN996900	TR	2SC4495	
	Q558	iE000020	FET	2SK30ATM GR	
	Q559	VK432900	TR	2SD1915F S,T	
	Q560	VK432900	TR	2SD1915F S,T	
	Q561	VK432900	TR	2SD1915F S,T	
	R517	HV456100	R.CAR.FP	1KΩ	1/4W
	R531	HV455150	R.CAR.FP	150Ω	1/4W
*	R553	HL316560	R.MTL.OXD	5.6KΩ	1W
*	R554	HL316560	R.MTL.OXD	5.6KΩ	1W
	R555	HV456270	R.CAR.FP	2.7KΩ	1/4W
	R557	HV455820	R.CAR.FP	820Ω	1/4W
	R558	VK189000	R.FUS	1KΩ	1/4W
	R559	HV454470	R.CAR.FP	47Ω	1/4W
	R560	HL314100	R.MTL.OXD	10Ω	1W
*	R561	HL316560	R.MTL.OXD	5.6KΩ	1W
*	R562	HL316560	R.MTL.OXD	5.6KΩ	1W
	R563	HV456270	R.CAR.FP	2.7KΩ	1/4W
	R565	HV455820	R.CAR.FP	820Ω	1/4W
	R566	VK189000	R.FUS	1KΩ	1/4W
	R567	HV454470	R.CAR.FP	47Ω	1/4W
*	R568	HL316560	R.MTL.OXD	5.6KΩ	1W
*	R569	HL316560	R.MTL.OXD	5.6KΩ	1W
	R570	HV456270	R.CAR.FP	2.7KΩ	1/4W
	R572	HV455820	R.CAR.FP	820Ω	1/4W
	R573	VK189000	R.FUS	1KΩ	1/4W
	R574	HV454470	R.CAR.FP	47Ω	1/4W
	R580	HV453470	R.CAR.FP	4.7Ω	1/4W
	R581	VK188400	R.FUS	330Ω	1/4W
	R582	VJ695400	R.WW	0.22Ωx2	3W
	R583	HV453470	R.CAR.FP	4.7Ω	1/4W
	R584	HV453470	R.CAR.FP	4.7Ω	1/4W
	R585	VK188400	R.FUS	330Ω	1/4W
	R586	VJ695400	R.WW	0.22Ωx2	3W
	R587	HV453470	R.CAR.FP	4.7Ω	1/4W
	R588	HV453470	R.CAR.FP	4.7Ω	1/4W
	R589	VK188400	R.FUS	330Ω	1/4W
*	R590	HZ003780	R.MTL.PLAT	0.22Ω+0.22	5W
	R591	HV453470	R.CAR.FP	4.7Ω	1/4W
	R598	HL314100	R.MTL.OXD	10Ω	1W
	R603	HL314100	R.MTL.OXD	10Ω	1W
	R609	HL314100	R.MTL.OXD	10Ω	1W
	R611	HV454100	R.CAR.FP	10Ω	1/4W
	R613	HV454100	R.CAR.FP	10Ω	1/4W
	R614	VP944500	R.MTL.OXD	390Ω	1W
	R615	VP944500	R.MTL.OXD	390Ω	1W
	R633	HV455390	R.CAR.FP	390Ω	1/4W
	R640	HV455390	R.CAR.FP	390Ω	1/4W
	R643	HV455330	R.CAR.FP	330Ω	1/4W
	R644	VE869300	R.MTL.OXD	0.1Ω	2W
	R648	HV454220	R.CAR.FP	22Ω	1/4W
	R649	HV454470	R.CAR.FP	47Ω	1/4W
	R650	HV455330	R.CAR.FP	330Ω	1/4W

* New Parts

	Schm Ref.	PART NO.	Description		
	R652	VE869300	R.MTL.OXD	0.1Ω	2W
	R655	HV454220	R.CAR.FP	22Ω	1/4W
	R656	HV454470	R.CAR.FP	47Ω	1/4W
	R657	HV454560	R.CAR.FP	56Ω	1/4W(C)
	R657	HV456560	R.CAR.FP	5.6KΩ	1/4W(R)
	R658	HV454560	R.CAR.FP	56Ω	1/4W(C)
	R658	HV456560	R.CAR.FP	5.6KΩ	1/4W(R)
	R661	HV456150	R.CAR.FP	1.5KΩ	1/4W
	R662	HV456220	R.CAR.FP	2.2KΩ	1/4W
	R666	HV456150	R.CAR.FP	1.5KΩ	1/4W
	R667	HV456220	R.CAR.FP	2.2KΩ	1/4W
	R668	HV453220	R.CAR.FP	2.2Ω	1/4W
	R670	HV454100	R.CAR.FP	10Ω	1/4W
	R671	HL313220	R.MTL.FLM	2.2Ω	1W
	R672	HV455150	R.CAR.FP	150Ω	1/4W
	R673	HL313220	R.MTL.FLM	2.2Ω	1W
	R674	HV453220	R.CAR.FP	2.2Ω	1/4W
	R687	HV454100	R.CAR.FP	10Ω	1/4W
	R688	HV453220	R.CAR.FP	2.2Ω	1/4W
	R689	HV454100	R.CAR.FP	10Ω	1/4W
	R690	HL325470	R.MTL.OXD	470Ω	2W
	R700	HL325470	R.MTL.OXD	470Ω	2W
	RY501	VK438300	RELAY	DH24D2-OTM-	
	RY502	VS533600	RELAY	DC DH24D2-OS(M)II	
	RY503	VH230800	RELAY	G5P-1-DC12V	
	RY504	VT243100	RELAY	DC DH12D2-0(C)	
	SW501	VJ850200	SW.PUSH	PSE021A2KP 2	
*	SW502	VS602600	SW.SLIDE	SS070-P022 A(AL)	
*	SW503	VS602600	SW.SLIDE	SS070-P022 A(C)	
⚠	SW511	VA961800	VOLT.SELCT	ESE-37247-F(R)	
⚠	T501	XC082A00	TRANS.PWR	(R)	
⚠	T501	XC083A00	TRANS.PWR	(U)	
⚠	T501	XC084A00	TRANS.PWR	(AL)	
⚠	T501	XQ519A00	TRANS.PWR	(C)	
	TE501	VC313700	TERM.SP	8P(UCR)	
	TE501	VK506200	TERM.SP	8P(AL)	
*	TE502	VS578600	TERM.SP	8P	
		VJ828000	PIN	IMSA-6024-03E	
		VS605900	HEAT.SINK	DPS15-45(R)	
		VS606000	HEAT.SINK	DPS35-45	
		BB071360	SCR.TERM	8.3x13	
*		VR264300	PLATE.GND		
		EP630280	SCR.BND.HD	3x10	FCRM3-BL
*		VS941400	P.C.B.	OPERATION(UC)	
*		VS941500	P.C.B.	OPERATION(R)	
*		VS941600	P.C.B.	OPERATION(A)	
*		VS941700	P.C.B.	OPERATION(L)	
	CB801	Vi879000	CN.BS.PIN	12P	
*	CB804	VR362200	CN.BS.PIN	15P	
	C801	VH053100	C.CE.TUBLR	0.1uF	50V

* New Parts

P.C.B. OPERATION & TUNER

Schm Ref.	PART NO.	Description	
C802	VE632800	C.EL	0.047F 5.5V
C803	VF637900	C.EL	1000uF 10V
C804	VF637900	C.EL	1000uF 10V
C805	VJ839000	C.EL	0.47uF 50V
C806	VH053100	C.CE.TUBLR	0.1uF 50V
C807	VJ839200	C.EL	2.2uF 50V
C809	VH053100	C.CE.TUBLR	0.1uF 50V
C810	VH053100	C.CE.TUBLR	0.1uF 50V
C811	VH053100	C.CE.TUBLR	0.1uF 50V
C812	VH053100	C.CE.TUBLR	0.1uF 50V
C819	VH053100	C.CE.TUBLR	0.1uF 50V
C820	VF467300	C.CE.TUBLR	0.01uF 16V
C821	VF467300	C.CE.TUBLR	0.01uF 16V(UCR)
C822	VF467300	C.CE.TUBLR	0.01uF 16V
C823	VF466900	C.CE.TUBLR	470pF 50V
C824	VH053100	C.CE.TUBLR	0.1uF 50V
D801	VD631600	DIODE	1SS133,176,HSS104
D802	VD631600	DIODE	1SS133,176,HSS104
D803	VM974100	DIODE.ZENR	HZS5B2TD 5.0V
D804	VM974700	DIODE.ZENR	HZS7B2TD 7.0V
D805	VP594000	LED(re)	SLR-305VCA47(L)
D806	VD631600	DIODE	1SS133,176,HSS104
D807	VM974100	DIODE.ZENR	HZS5B2TD 5.0V
D809	VD631600	DIODE	1SS133,176,HSS104
D810	VD631600	DIODE	1SS133,176,HSS104
D811	VD631600	DIODE	1SS133,176,HSS104
G801	VR463400	TERM.GND	D3.5 TP00385
IC801	XQ329B00	IC	HD6433723D06F
IC802	XL493A00	IC	TC74HC4051AP
Q801	VG722000	TR.DGT	DTC144ES
Q802	iA093320	TR	2SA933S Q,R
Q803	iA093320	TR	2SA933S Q,R
SW803	VG392900	SW.TACT	SKHVAA
SW804	VG392900	SW.TACT	SKHVAA
SW805	VG392900	SW.TACT	SKHVAA
SW806	VG392900	SW.TACT	SKHVAA
SW807	VG392900	SW.TACT	SKHVAA
SW808	VG392900	SW.TACT	SKHVAA
SW809	VG392900	SW.TACT	SKHVAA
SW810	VG392900	SW.TACT	SKHVAA
SW811	VG392900	SW.TACT	SKHVAA
SW812	VG392900	SW.TACT	SKHVAA
SW813	VG392900	SW.TACT	SKHVAA
SW814	VG392900	SW.TACT	SKHVAA
SW815	VG392900	SW.TACT	SKHVAA
SW817	VG392900	SW.TACT	SKHVAA
SW818	VG392900	SW.TACT	SKHVAA
SW819	VG392900	SW.TACT	SKHVAA
SW820	VG392900	SW.TACT	SKHVAA
SW821	VG392900	SW.TACT	SKHVAA
SW822	VG392900	SW.TACT	SKHVAA
SW823	VG392900	SW.TACT	SKHVAA
SW824	VG392900	SW.TACT	SKHVAA

* New Parts

Schm Ref.	PART NO.	Description	
SW825	VG392900	SW.TACT	SKHVAA
SW826	VG392900	SW.TACT	SKHVAA
SW827	VG392900	SW.TACT	SKHVAA
SW828	VG392900	SW.TACT	SKHVAA
SW829	VG392900	SW.TACT	SKHVAA
SW831	VG392900	SW.TACT	SKHVAA
SW832	VG392900	SW.TACT	SKHVAA
SW833	VG392900	SW.TACT	SKHVAA
SW834	VG392900	SW.TACT	SKHVAA
SW835	VG392900	SW.TACT	SKHVAA
SW836	VG392900	SW.TACT	SKHVAA
SW837	VG392900	SW.TACT	SKHVAA
SW838	VG392900	SW.TACT	SKHVAA
SW839	VG392900	SW.TACT	SKHVAA
SW840	VG392900	SW.TACT	SKHVAA
SW841	VG392900	SW.TACT	SKHVAA
SW842	VG392900	SW.TACT	SKHVAA
SW843	VG392900	SW.TACT	SKHVAA
SW844	VG392900	SW.TACT	SKHVAA
SW845	VG392900	SW.TACT	SKHVAA
SW846	VG392900	SW.TACT	SKHVAA
* U801	VR023400	L.DETCT	SPS-424-1
* V801	VS599400	FL.DSPLY	16-BT-29GK
XL801	VE222400	RSNR.CE	8MHz
	VJ828000	PIN	IMSA-6024-03E
*	VR380100	SPACER	FL-T6
*	VS588900	SHEET	
	VR341800	P.C.B.	TUNER(UC)
	VR341900	P.C.B.	TUNER(R)
	VR342000	P.C.B.	TUNER(AL)
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
C16	VF466700	C.CE.TUBLR	47pF 50V
C17	VF964800	C.EL	100uF 16V

* New Parts

P.C.B. TUNER

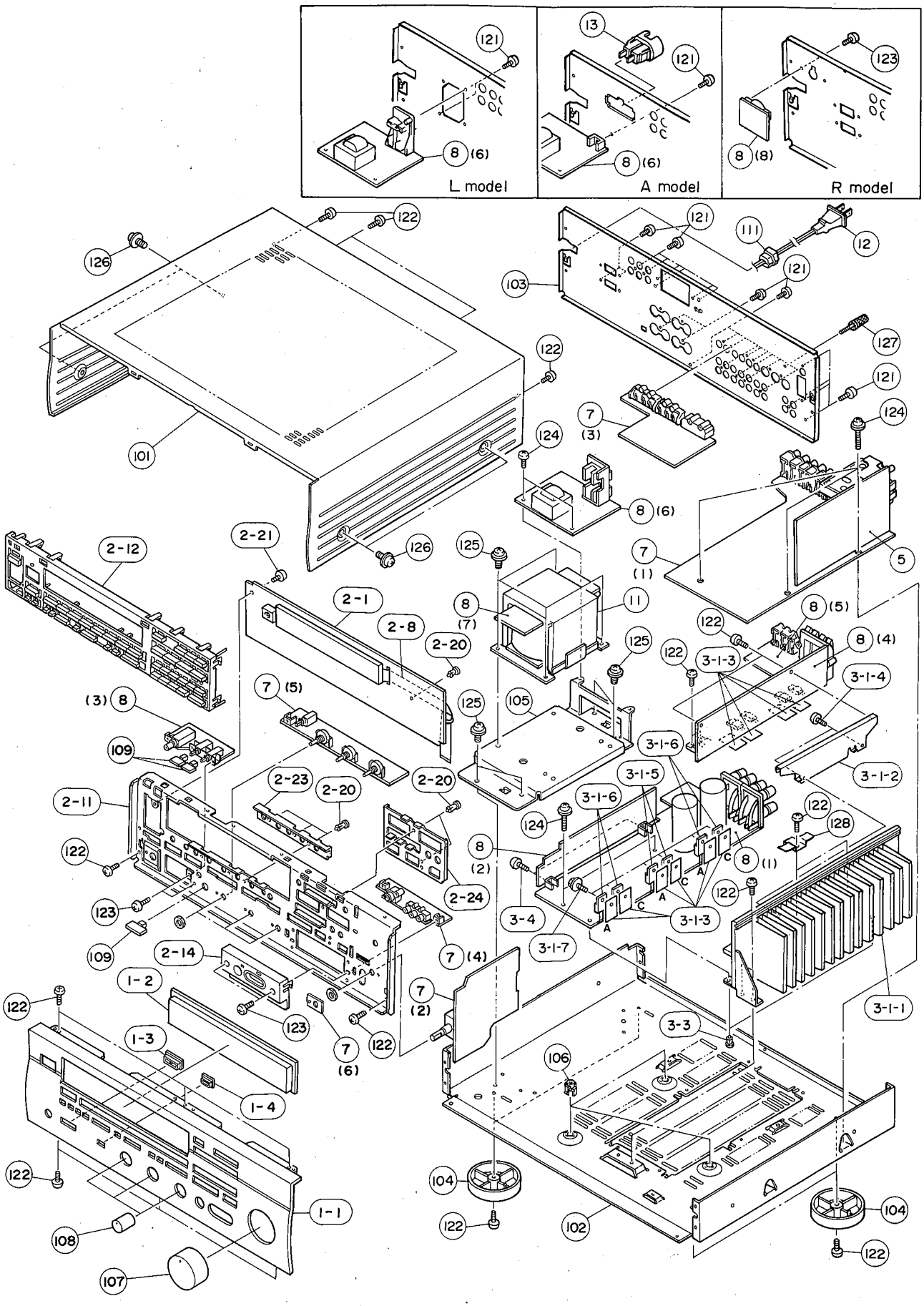
	Schm Ref.	PART NO.	Description		
	C18	UA655100	C.MYLAR	0.1uF	50V
	C19	VA761200	C.CE	33pF	50V
	C20	VJ836900	C.EL	10uF	16V
	C21	VF466800	C.CE.TUBLR	100pF	50V
	C22	VJ839200	C.EL	2.2uF	50V
	C23	VF467300	C.CE.TUBLR	0.01uF	16V
	C24	UM416470	C.EL	4.7uF	50V
	C25	UM216330	C.EL	3.3uF	50V
	C26	VJ836900	C.EL	10uF	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(AL)
	C36	UA652680	C.MYLAR	680pF	50V(UCR)
	C37	UA652470	C.MYLAR	470pF	50V(AL)
	C37	UA652680	C.MYLAR	680pF	50V(UCR)
	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	COIL.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	
	Q6	VC218900	TR	2SC3330 R,S,T	
	Q7	iC1815C0	TR	2SC1815 Y	

*New Parts

	Schm Ref.	PART NO.	Description	
	SW1	VF541200	SW.SLIDE	SSSF11(R)
	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	LA004120	PIN.TEST	
	TP2	LA004120	PIN.TEST	
	VR1	VJ694000	VR.TRIM	B47KΩ
	VR2	VJ694000	VR.TRIM	B47KΩ
	XL1	QU003800	RSNR.CRYS	7.2MHz
	XL2	GG000750	RSNR.CE	18.95MHz
		BB071360	SCR.TERM	8.3x13
*		VR282500	PLATE	ANT.

*New Parts

■ EXPLODED VIEW



■ MECHANICAL PARTS

	Ref. No.	PART NO.	Description	Remarks	Markets
*	1- 1	VS588500	FRONT PANEL		
*	1- 2	VS588700	WINDOW PANEL		(UCRA)
*	1- 2	VS588800	WINDOW PANEL		(L)
*	1- 3	VQ793400	BUTTON GUIDE		
	1- 4	CB660830	ESCUTCHEON 3x14		
*	2- 1	VS941400	P.C.B. ASS'Y OPERATION		(UC)
*	2- 1	VS941500	P.C.B. ASS'Y OPERATION		(R)
*	2- 1	VS941600	P.C.B. ASS'Y OPERATION		(A)
*	2- 1	VS941700	P.C.B. ASS'Y OPERATION		(L)
*	2- 8	VS756900	CONNECTOR, FLAT CABLE 15P 250mm		
*	2-11	VS588600	SUB CHASSIS		
*	2-12	VS588400	BUTTON, CASE		
*	2-14	VS195900	ESCUTCHEON		
*	2-20	VQ368600	PUSH RIVET P3555-B		
	2-21	Ei330086	BIND HEAD B-TITE SCREW 3x8 FCRM3-BL		
*	2-23	VS738700	SUPPORT/BT		
*	2-24	VS738900	SUPPORT/BI		
*	3-1-1	VS002400	HEAT SINK ASS'Y		
*	3-1-2	VQ796100	SUPPORT, PCB		
	3-1-3	VK195900	SHEET 19x24		
	3-1-4	Ei330086	BIND HEAD B-TITE SCREW 3x8 FCRM3-BL		
#	3-1-5	iX633340	TRANSISTOR 2SA1695 O,P,Y	Q531A	
#	3-1-5	iX633350	TRANSISTOR 2SC4468 O,P,Y	Q531C	
#	3-1-6	iX606460	TRANSISTOR 2SA1492 O,P,Y	Q523A,Q527A	
#	3-1-6	iX606470	TRANSISTOR 2SC3856 O,P,Y	Q523C,Q527C	
	3-1-7	VK173200	SCREW, TRANSISTOR 3x15 SP FCM3		
*	3-3	VQ368600	PUSH RIVET P3555-B		
	3-4	ED330066	BIND HEAD SCREW 3x6 FCRM3-BL		
	5	VR341800	P.C.B. ASS'Y TUNER		(UC)
	5	VR341900	P.C.B. ASS'Y TUNER		(R)
	5	VR342000	P.C.B. ASS'Y TUNER		(AL)
*	7	VS941800	P.C.B. ASS'Y DSP		
*	8	VS710100	P.C.B. ASS'Y MAIN		(U)
*	8	VS710200	P.C.B. ASS'Y MAIN		(C)
*	8	VS710300	P.C.B. ASS'Y MAIN		(R)
*	8	VS710400	P.C.B. ASS'Y MAIN		(A)
*	8	VS710500	P.C.B. ASS'Y MAIN		(L)
⚠*	11	XQ253A00	POWER TRANSFORMER		(U)
⚠*	11	XQ254A00	POWER TRANSFORMER		(C)
⚠*	11	XQ255A00	POWER TRANSFORMER		(R)
⚠*	11	XQ256A00	POWER TRANSFORMER		(A)
⚠*	11	XQ257A00	POWER TRANSFORMER		(L)
⚠*	12	VQ508500	POWER CORD ASS'Y		(R)
⚠*	12	VQ508600	POWER CORD ASS'Y		(A)
⚠*	12	VS168300	POWER CORD ASS'Y		(UC)
⚠*	12	VS168400	POWER CORD ASS'Y		(L)
⚠	13	VP418700	AC OUTLET 2P		(A)
	15	CB069250	BINDING TIE BK-1		
*	101	VS001200	TOP COVER		
*	102	VS001400	CHASSIS		
*	103	VS002700	REAR PANEL		(U)
*	103	VS002800	REAR PANEL		(C)
*	103	VS002900	REAR PANEL		(R)
*	103	VS003000	REAR PANEL		(A)
*	103	VS221600	REAR PANEL		(L)
	104	VQ780300	LEG D60xH16		
*	105	VS001900	FRAME, PCB		
*	106	VR264400	SPACER, H8		
	107	VQ945500	KNOB WITH LED D42		
*	108	VS409600	KNOB D18		
	109	VQ779000	BUTTON 3x14		
	111	VN158600	CORD STOPPER No.2104		
	121	EN301010	BIND HEAD BONDING TAP. SCREW 3x8 FCRM3-BL		
	122	Ei330086	BIND HEAD B-TITE SCREW 3x8 FCRM3-BL		
	123	ED330066	BIND HEAD SCREW 3x6 FCRM3-BL		
	124	VT669400	PW HEAD B-TITE SCREW 3x15-8 MFC2		
	125	EL300470	BW HEAD S-TITE SCREW 4x8-10 FCRM3-BL		
	126	EL300470	BW HEAD S-TITE SCREW 4x8-10 FCRM3-BL		
	127	AA627310	GROUND TERMINAL		
*	128	VS349300	SUPPORT TR		
			ACCESSORIES		
*	200	VS713700	REMOTE CONTROL TRANSMITTER		
	200-1	CX676010	LID	103RRC-031-01R	
*		VQ147100	ANTENNA, FM 1P 1.4m		
*		VR248500	ANTENNA, AM LOOP 1P 1.0m		
			BATTERY, MANGANESE SUM-3,AA,R06		

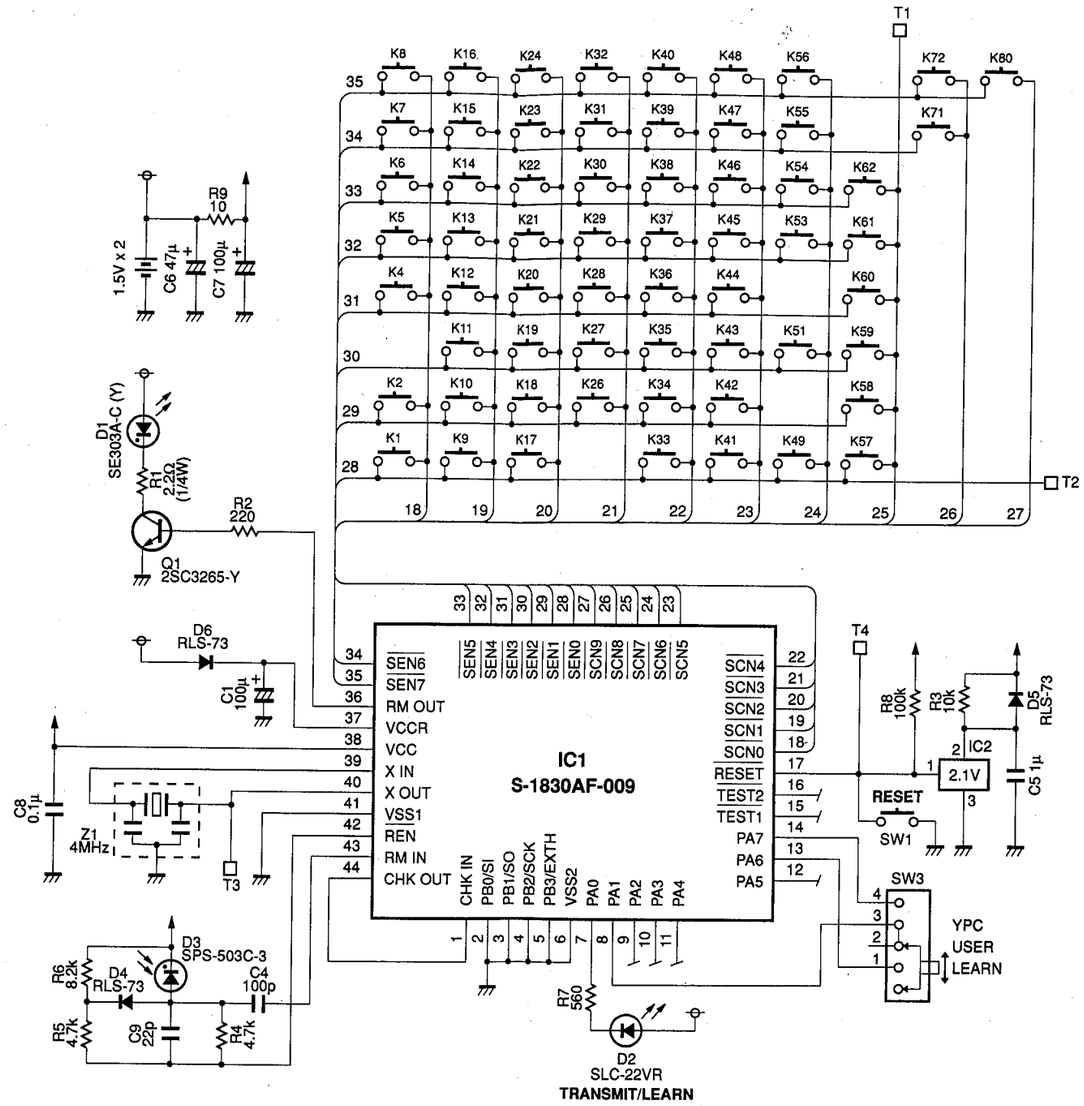
* New Parts

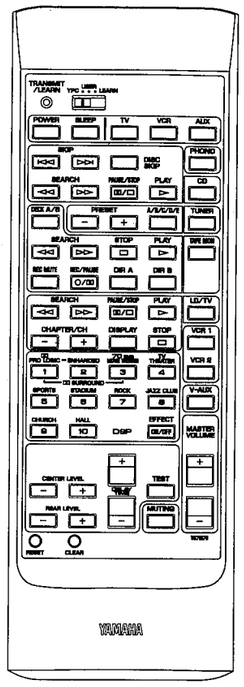
* New Parts

RX-V690

REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM





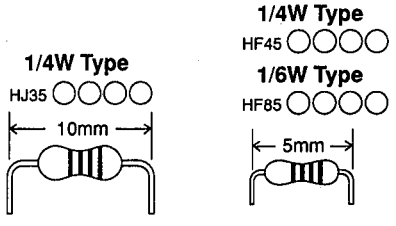
KEY No.	FUNCTION	CONTROL CODE
1	INPUT AUX	—
2	INPUT PHONO	7A-14
4	INPUT VCR	—
5	INPUT TV	—
6	CD DISC SKIP	7A-4F
7	SLEEP	7A-57
8	POWER	7A-1F
9	INPUT TUNER	7A-16
10	INPUT CD	7A-15
11	CD PLAY ►	7A-08
12	CD PAUSE/STOP ▮▮/■	7A-09
13	CD SEARCH ►►	7A-0C
14	CD SEARCH ◄◄	7A-0D
15	CD SKIP ►►▮	7A-0A
16	CD SKIP ▮◄◄	7A-0B
17	TAPE MON	7A-18
18	TUNER A/B/C/D/E	7A-12
19	TAPE PLAY ►	7A-00
20	TUNER PRESET +	7A-10
21	TAPE STOP ■	7A-03
22	TAPE SEARCH ►►	7A-02

KEY No.	FUNCTION	CONTROL CODE
23	TUNER PRESET –	7A-11
24	TAPE DECK A/B	7A-06
26	INPUT LD/TV	7A-17
27	LD PLAY ►	7C-05
28	TAPE DIR B	7A-40
29	TAPE DIR A	7A-07
30	TAPE REC PAUSE	7A-04
31	TAPE REC MUTE	7A-05
32	TAPE SEARCH ◄◄	7A-01
33	INPUT VCR 1	7A-0F
34	LD STOP ■	7C-5B
35	LD DISPLAY	7C-13
36	LD PAUSE/STOP ▮▮/■	7C-04
37	LD SEARCH ◄◄	7C-07
38	LD CHAPTER/CH +	7C-03
39	LD CHAPTER/CH –	7C-02
40	LD SEARCH ►►	7C-06
41	INPUT VCR 2	7A-13
42	INPUT V-AUX	7A-55
43	DSP 4	7A-8B
44	DSP 8	7A-8D

KEY No.	FUNCTION	CONTROL CODE
45	DSP 7	7A-8C
46	DSP 3	7A-8A
47	DSP 2	7A-89
48	DSP 1	7A-88
49	MASTER VOL +	7A-1A
51	EFFECT ON/OFF	7A-56
53	DSP 10	7A-91
54	DSP 6	7A-8F
55	DSP 9	7A-90
56	DSP 5	7A-8E
57	MASTER VOL –	7A-1B
58	TEST	7A-85
59	MUTING	7A-1C
60	DELAY TIME –	7A-53
61	DELAY TIME +	7A-52
62	CENTER LEVEL +	7A-82
68	REAR LEVEL +	7A-5E
71	CENTER LEVEL –	7A-83
72	REAR LEVEL –	7A-5F
80	CLEAR	

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 4470	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			



1992

RX-V690

YAMAHA

RX-V690