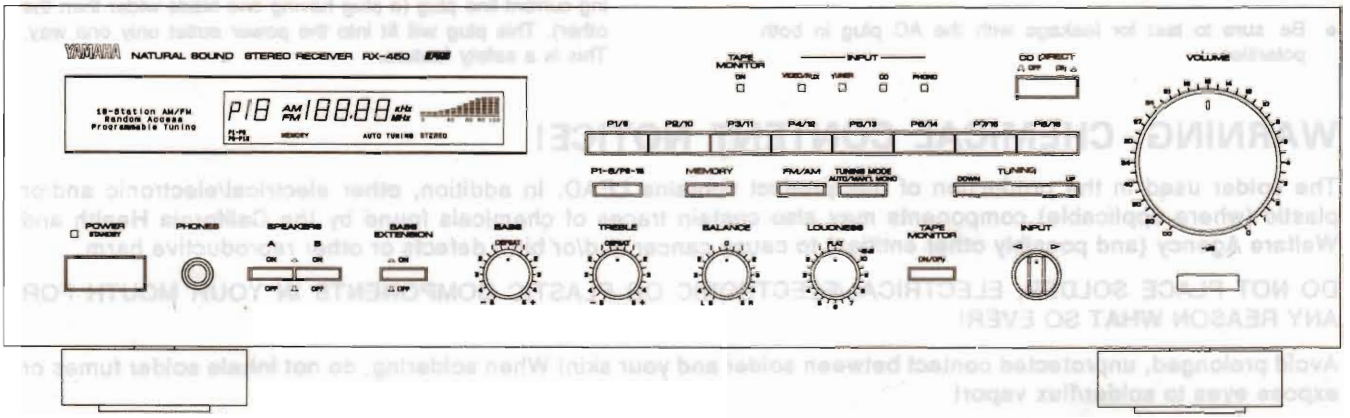
STEREO RECEIVER

RX-450

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 reseach, 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

100364

YAMAHA

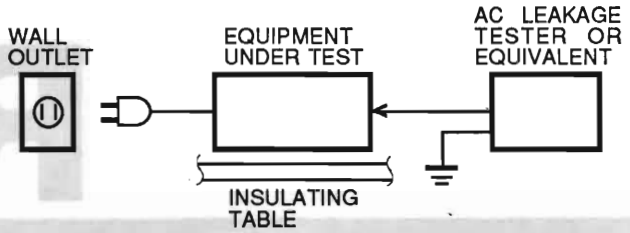
YAMAHA CORPORATION
P.O.Box1 Hamamatsu,Japan

3ZK-823 Printed in Japan '90.1

■ 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.



- **POLARIZATION (U model only)**
  This amplifier product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature.

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.

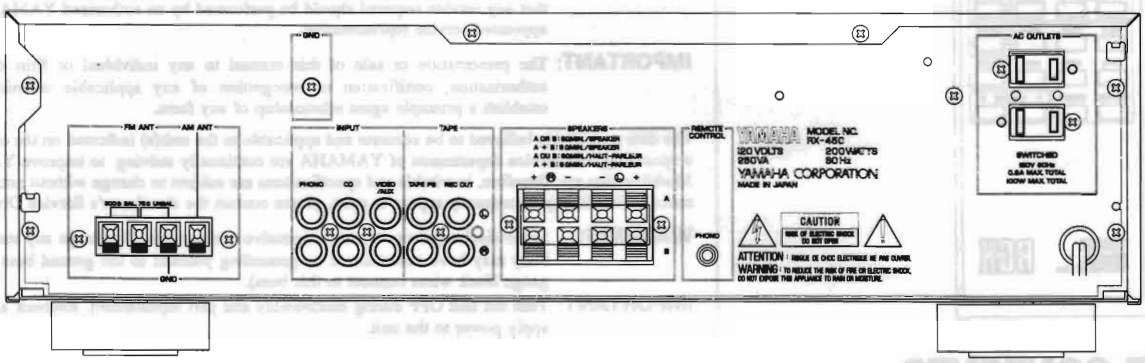
DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!

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

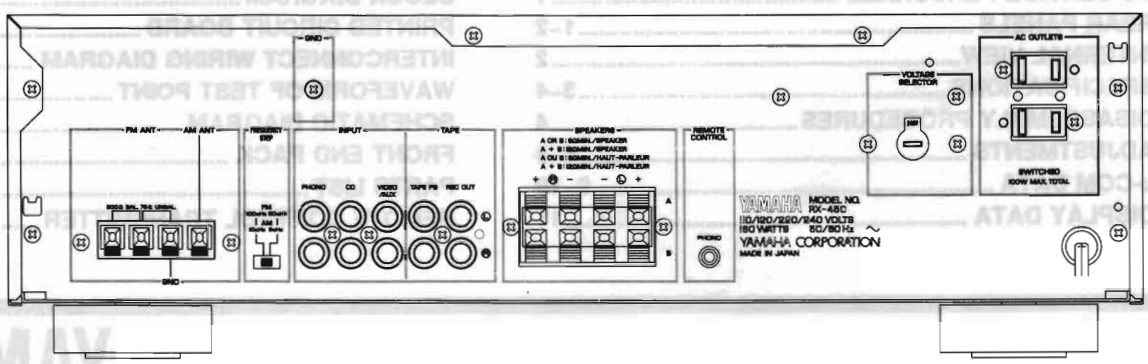
If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ REAR PANELS

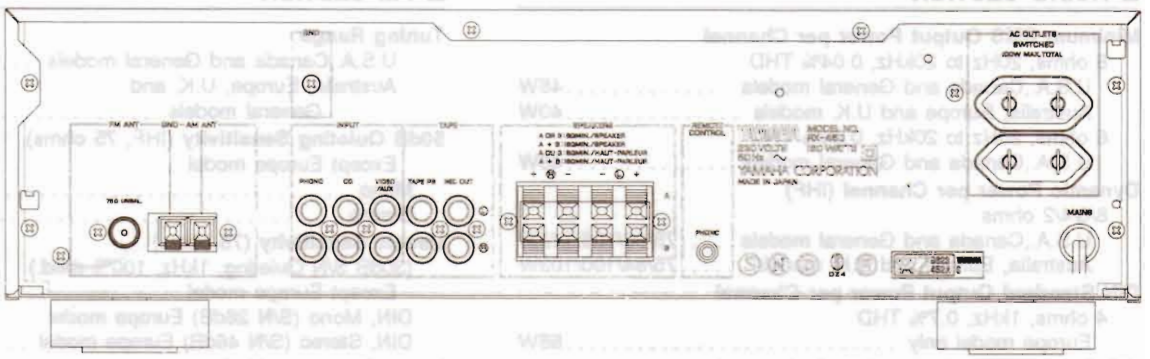
▼ USA & Canadian models



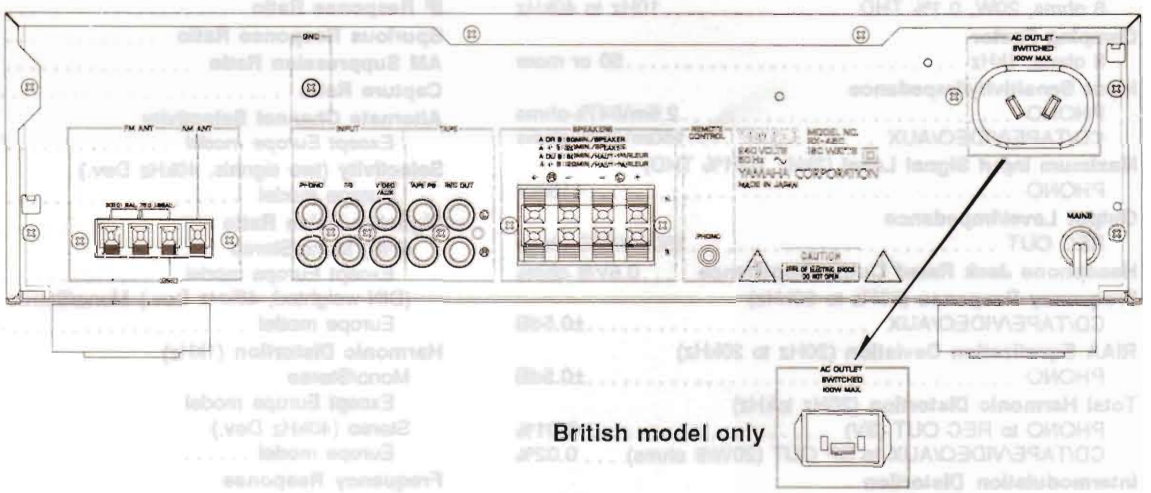
▼ General model



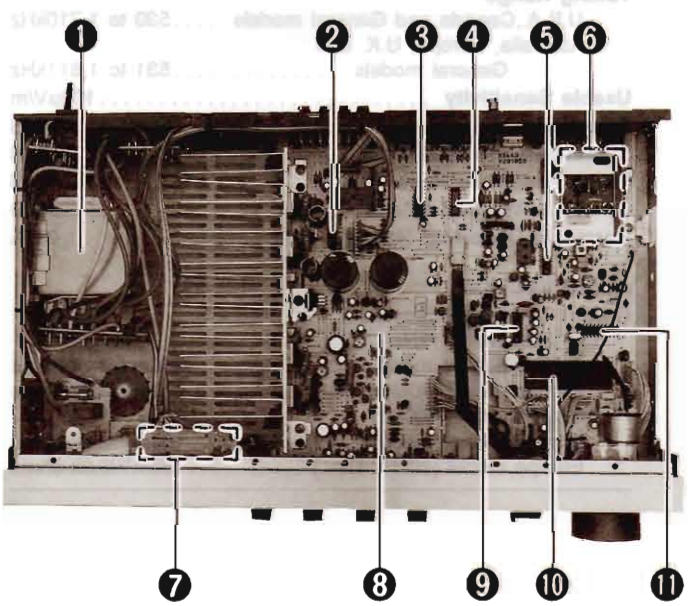
▼ European model



▼ Australian & British models



■ INTERNAL VIEW



❶ POWER TRANSFORMER
❷ D112 : RBV-402
❸ IC103 : TC4053BP (TAPE MONITOR)
❹ IC102 : TC4052BP (INPUT SELECTOR)
❺ IC1 : LA1266 (AM/FM IF)
❻ FRONT END PACK
❼ LCD DISPLAY CIRCUIT BOARD
❽ MAIN CIRCUIT BOARD (1)
❾ IC2 : LA3401 (MPX)
❿ IC4 : LC6554 (4 bit μ-COM)
⓫ IC3 : LM7000N (PLL)

■ SPECIFICATIONS

■ AUDIO SECTION

Minimum RMS Output Power per Channel
8 ohms, 20Hz to 20kHz, 0.04% THD
U.S.A.,Canada and General models 45W
Australia, Europe and U.K. models 40W
6 ohms, 20Hz to 20kHz, 0.06% THD
U.S.A.,Canada and General models 48W
Dynamic Power per Channel (IHF)
8/6/4/2 ohms
U.S.A.,Canada and General models 78/90/108/112W
Australia, Europe and U.K. models 75/84/100/103W
DIN Standard Output Power per Channel
4 ohms, 1kHz, 0.7% THD
Europe model only 55W
IEC Power (1kHz, 0.04% THD, 8 ohms)
Europe model only 50W
Power BandWidth
8 ohms, 20W, 0.1% THD .....10Hz to 40kHz
Damping Factor
8 ohms, 1kHz .....50 or more
Input Sensitivity/Impedance
PHONO 2.5mV/47k-ohms
CD/TAPE/VIDEO/AUX 150mV/50k-ohms
Maximum Input Signal Level (1kHz, 0.01% THD)
PHONO 110mV
Output Level/Impedance
REC OUT .....150mV/550 ohms
Headphone Jack Rated Output/Impedance ...0.6V/8 ohms
Frequency Response (20Hz to 20kHz)
CD/TAPE/VIDEO/AUX .....±0.5dB
RIAA Equalization Deviation (20Hz to 20kHz)
PHONO .....±0.5dB
Total Harmonic Distortion (20Hz tokHz)
PHONO to REC OUT (3V) 0.01%
CD/TAPE/VIDEO/AUX to SP OUT (20W/8 ohms) ... 0.02%
Intermodulation Distortion
CD/TAPE/VIDEO/AUX (Rated Output/8 ohms) 0.04%
Signal-to-Noise Ratio (IHF-A Network)
PHONO (5mV Input Shorted)
U.S.A.,Canada and General models 87dB
Australia Europe and U.K. models 82dB
CD/TAPE/VIDEO/AUX (Shorted) 103dB
Residual Noise (IHF-A Network) 140μV
Channel Separation (1kHz,Vol. –30dB)
PHONO (Input Shorted) 55dB
CD/TAPE/VIDEO/AUX
(input 5.1k-ohms Terminated) 52dB
Tone Control Characteristics
BASS : Boost/cut .....±10dB (50Hz)
Turnover Frequency 350Hz
TREBLE : Boost/cut .....±10dB (20kHz)
Turnover Frequency 3.5kHz
Filter Characteristics
Bass Extension .....60Hz, +8dB
Continuous Loudness Control .....–40dB (1kHz)
(Level related equalization)

■ FM SECTION

Tuning Range
U.S.A.,Canada and General models ...87.5 to 107.9MHz
Australia, Europe, U.K. and
General models .....87.5 to 108.0MHz
50dB Quieting Sensitivity (IHF, 75 ohms)
Except Europe model
Mono 1.55μV (15.1dBf)
Stereo 21μV (37.7dBf)
Usable Sensitivity (75 ohms)
(30dB S/N Quieting, 1kHz, 100% mod.)
Except Europe model 0.8μV (9.3dBf)
DIN, Mono (S/N 26dB) Europe model 0.9μV
DIN, Stereo (S/N 46dB) Europe model 24μV
Image Response Ratio
Except Europe model 45dB
Europe model 80dB
IF Response Ratio 80dB
Spurious Response Ratio 70dB
AM Suppression Ratio 55dB
Capture Ratio 1.5dB
Alternate Channel Selectivity
Except Europe model 85dB
Selectivity (two signals, 40kHz Dev.)
Europe model 50dB
Signal-to-Noise Ratio
(IHF) Mono/Stereo
Except Europe model 81/76dB
(DIN-weighted, 40kHz Dev.) Mono/Stereo
Europe model 75/70dB
Harmonic Distortion (1kHz)
Mono/Stereo
Except Europe model 0.1/0.2%
Stereo (40kHz Dev.)
Europe model 0.2%
Frequency Response
30Hz to 13kHz .....0 ± 0.5dB
20Hz to 15kHz .....0 ± 1.5dB
Stereo Separation (1kHz)
Except Europe model 50dB
Europe model (40kHz Dev.) 50dB

■ AM SECTION

Tuning Range
U.S.A.,Canada and General models ....530 to 1,710kHz
Australia, Europe, U.K. and
General models .....531 to 1,611kHz
Usable Sensitivity 100μV/m
Selectivity 32dB
Signal-to-Noise Ratio 50dB
Image Response Ratio 40dB
Spurious Response Ratio 50dB
Harmonic Distortion (400Hz) 0.3%

AUDIO SECTION
Output Level/Impedance
FM (30% mod., 1kHz)
Except Europe model 500mV/2.2k-ohms
Europe model (40kHz Dev.) 400mV/6.8k-ohms
AM (30% mod., 400Hz)
Except Europe model 150mV/2.2k-ohms
Europe model (40kHz Dev.) 150mV/6.8k-ohms

■ GENERAL

Power Supply
U.S.A. and Canada models .....AC 120V, 60Hz
Australia and U.K. models .....AC 240V, 50Hz
Europe model .....AC 230V, 50Hz
General model .....AC 110-120/220-240V, 60/50Hz

Power Consumption
U.S.A. model 180W
Canadian model 200W
General model 160W
Australia, Europe and U.K. models 160W

AC Outlets
Switched .....100W max.

Dimensions (W x H x D) .....435 x 131 x 291.7mm (17-1/8" x 5-3/16" x 11-1/2")

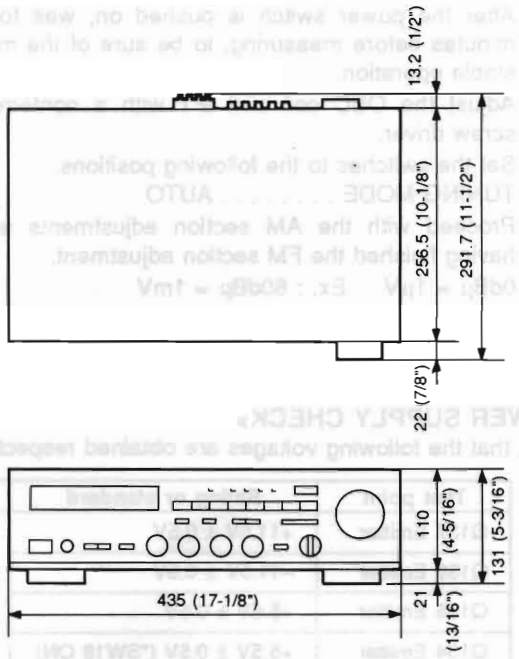
Weight .....5.7 kg (12 lbs. 9 oz.)

Accessories .....AM loop antenna x 1
Indoor FM antenna x 1

** Specifications subject to changeWithout notice.*

U .....USA model
C .....Canadian model
A .....Australian model
B .....British model
G .....European model
R .....General model

● DIMENSIONS



Units : mm (inch)

RX-450

■ DISASSEMBLY PROCEDURES

(Remove parts in the order as numbered.)

1. **Removal of Top Cover**
   Remove 7 screws (①) in Fig. 1 and slide the Top Cover back and up.
2. **Removal of Front Panel**
   Remove 3 screws (②) and 4 hooks in Fig. 1, and pull the Front Panel forward.

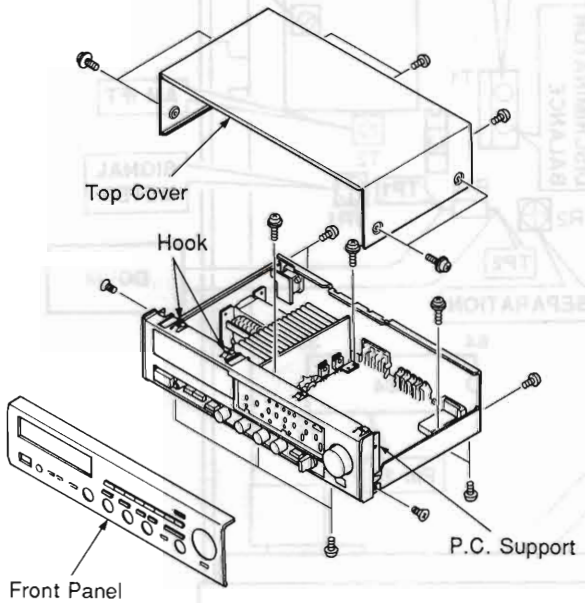


Fig. 1

3. **Check of Main Circuit Board (1) and replacement of parts.**

a. Remove 12 screws (③) in Fig. 1.
b. Remove the P.C. Support.
c. Remove the Main Chassis as shown in Fig. 2.
In this condition it is possible for you check the Main Circuit Board (1), and replace the parts.

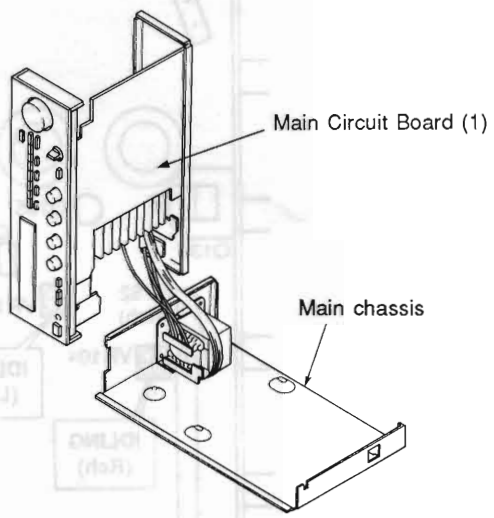


Fig. 2

■ ADJUSTMENTS

1. Before adjustment

1) After the power switch is pushed on, wait for 5 minutes before measuring, to be sure of the most stable operation.
2) Adjust the OSC coil and IFT with a nonferrous screw driver.
3) Set the switches to the following positions.
   TUNING MODE . . . . . AUTO
4) Proceed with the AM section adjustments after having finished the FM section adjustment.
5) 0dBμ = 1μV Ex. : 60dBμ = 1mV

2. Measuring instruments abbreviation

FM SG : FM signal generator
SSG : Stereo signal generator
AM SG : AM signal generator
DIST.M : Distortion meter
FC : Frequency counter
A.C.V.M. : AC voltmeter
D.C.V.M. : DC voltmeter

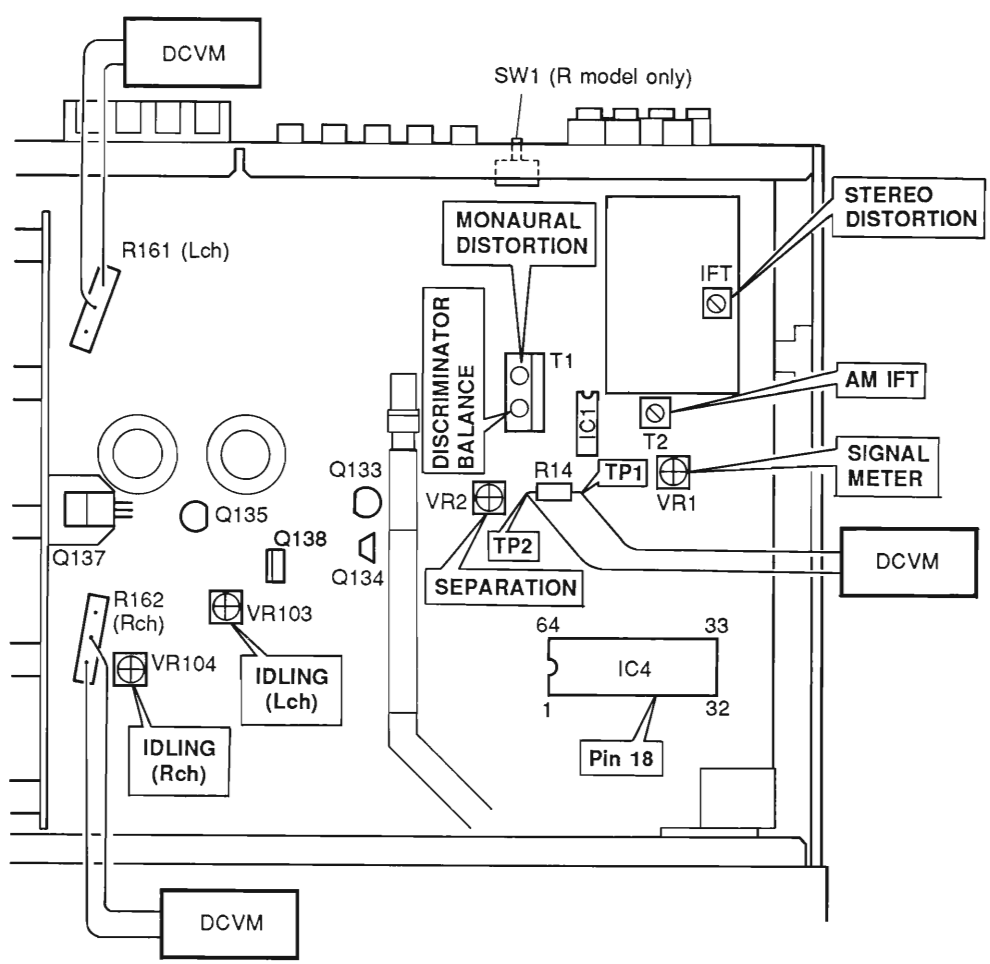
<POWER SUPPLY CHECK>

Check that the following voltages are obtained respectively across each test point and ground on main circuit.

Test point	Rating or standard	Remark
Q137 Emitter	+11.5V ± 0.5V	Make sure that AC line voltage comes within: Models U, C: 120V ± 10%; G: 220V ± 10%; A, B: 240V ± 10%
Q138 Emitter	–11.5V ± 0.5V	
Q135 Emitter	+5.6V ± 0.5V	
Q134 Emitter	+5.5V ± 0.5V (*SW18 ON)	
Q133 Collector	+10.8V ± 0.5V (*SW18 ON)	

*** SW18: POWER SWITCH**

● TEST POINT



<AUDIO SECTION>

● IDLING CURRENT ADJUSTMENT

When replacing the power and drive transistors, adjust idling current. After the power has been turned on, age about 5 minutes in non loaded condition. Adjust VR103 (Lch) and VR104 (Rch) so that the voltage across the terminals of R161 and R162 come to 6 m — 15 mV DC.

Test points		Adjustment point	Rating
Lch	Across the terminals of R161	VR103	6 mV — 15 mV DC
Rch	Across the terminals of R162	VR104	6 mV — 15 mV DC

<FM TUNER SECTION>

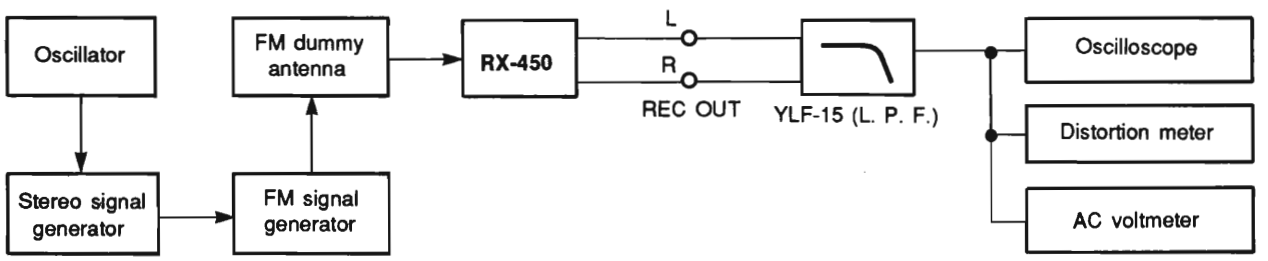
- Use 19kHz L.P.F. to measure the output.
- 100% modulation means that the Frequency Deviation is 75kHz. (R, U, C, A, B)
- For the G model, Frequency Deviation is 40kHz.
- For the G, B models, install the Matching Transformer and connect FM SG.
- Shorting Pin 18 of IC4 and GND while set at FM will result in automatic memory of each preset from P1/P9 to P8/P16 as given in the under table. This is convenient when making an adjustment.

Note : The memory content preset by the user will be erased entirely.

	SW101 * (R model only)		P1/P9	P2/P10	P3/P11	P4/P12	P5/P13	P6/P14	P7/P15	P8/P16
U, C	AM 10kHz	FM 200kHz	AM 630kHz	AM 1080kHz	AM 1440kHz	FM 87.5MHz	FM 95.1MHz	FM 98.1MHz	FM 101.5MHz	FM 107.9MHz
A, B, G	AM 9kHz	FM 50kHz	AM 630kHz	AM 1080kHz	AM 1440kHz	FM 87.5MHz	FM 95.1MHz	FM 98.1MHz	FM 101.5MHz	FM 108.0MHz

Note : * Marked.
U, C models change by step of AM 10kHz, FM 200kHz.
A, G, B models change by step of AM 9kHz, FM 50kHz.
Every time you push SW1, the SW1 will change to Step of U, C or to Step of A, B, G.

● Connection diagram (Instrumention required)



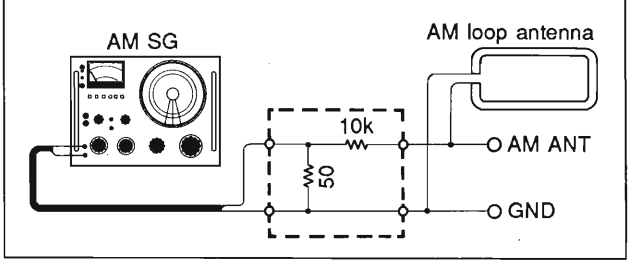
Step	Item to be adjusted	Connection terminal	Instrument required	Adjustment locations	Adjustment method	Rating or standard	Remarks
1	Discriminator balance	FM ANT Except G model 300Ω G model only 75Ω	FM SG 98.1MHz 70dBμ MONO 100Hz 100% MOD	T1 (CENTER)	Receive 98.1MHz and confirm that the voltage at both ends of R14 (TP1 and TP2) is DC 0V ± 50mV.	0V ± 50mV DCVM	Tuned point
		Both ends of R14 (TP1 and TP2)	DCVM				
2	Monaural distortion	FM ANT Except G model 300Ω G model only 75Ω	FM SG 98.1MHz 70dBμ MONO 100Hz 100% MOD	T1 (MONO)	Make distortion rate minimum		
		REC OUT	LPF, DIST-M				
3	Stereo distortion	FM ANT Except G model 300Ω G model only 75Ω	FM SG, SSG 98.1MHz 70dBμ STEREO (L or R) 1kHz 100% MOD	Front end IFT	Make distortion minimum	–46dB or less (G model only –40dB or less)	Check that STEREO indicator lights.
		REC OUT	LPF, DIST-M				

Step	Item to be adjusted	Connection terminal	Instrument required	Adjustment locations	Adjustment method	Rating or standard	Remarks
4	Confirmation of Monaural distortion	FM ANT Except G model 300Ω G model only 75Ω	FM SG 98.1MHz 70dBμ MONO 1kHz 100% MOD		Confirm that the monaural distortion is satisfied the specifications.	–56dB or less (G model only –46dB or less)	
		REC OUT	LPF, DIST-M				
5	Sensitivity	FM ANT Except G model 300Ω G model only 75Ω	FM SG 98.1MHz MONO 1kHz 100% MOD		Read antenna terminal voltage with an S/N ratio of 30dB using an FM SG.	10dBμ or less (Except G model) 6dBμ or less (G model only)	FM ANT 300Ω 9dBμ or less (Except G model)
		REC OUT	ACVM				
6	Separation adjustment	FM ANT Except G model 300Ω G model only 75Ω	FM SG, SSG 98.1MHz 70dBμ STEREO (L or R) 1kHz 100% MOD	VR2 (SEPARATION)	Set SSG output to L or R and make signal leakage for opposite channel minimum	36dB or less	
		REC OUT	LPF ACVM				
7	Confirmation of Discriminator balance	FM ANT Except G model 300Ω G model only 75Ω	FM SG 98.1MHz 70dBμ MONO 1kHz 100% MOD		Confirm that the voltage at both ends of R14 (TP1 and TP2) is DC 0V ± 50mV.		If not, return to step one and readjust.
		Both ends of R14 (TP1 and TP2)	DCVM				
8	Signal meter	FM ANT Except G model 300Ω G model only 75Ω	FM SG 98.1MHz 45dBμ/75Ω MONO 1kHz 30% MOD	VR1	Adjust VR1, so that all indicators light up		Confirm that all signal quality indicators goes out at deturned point.
9	Confirmation ofauto search reception	FM ANT Except G model 300Ω G model only 75Ω	FM SG 98.1MHz 26dBμ/75Ω MONO 1kHz 30% MOD		Confirm that auto search reception is possible with the tuning key.		Confirm that muting is performed at auto reception.

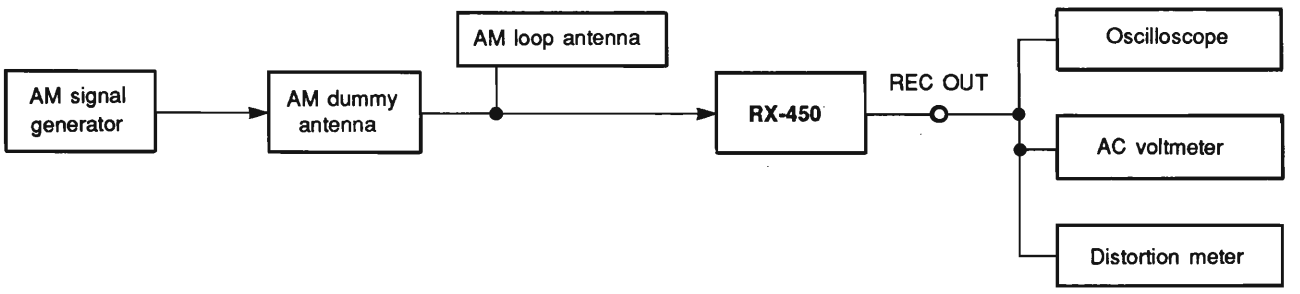
<AM TUNER SECTION>

- Connect the AM loop antenna to the AM ANT terminal.
- Connect the AM dummy antenna for adjustment to AM SG.
- Check that the AM SG precision is within ±0.1kHz.

AM DUMMY ANTENNA CONNECTION



- **Connection diagram (Instrumention required)**



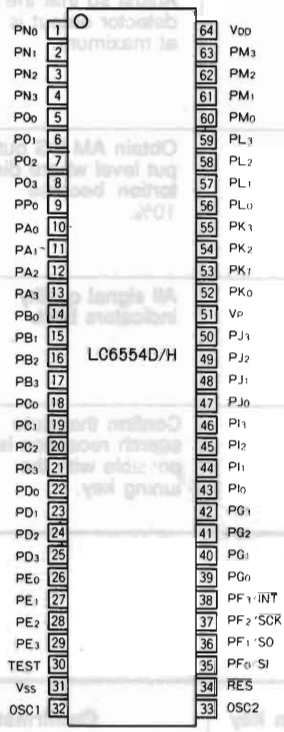
Step	Item to be adjusted	Connection terminal	Instrument required	Adjustment locations	Adjustment method	Remarks or standard
1	IFT Adjustment	AM ANT	AM dummy antenna AM SG 1080kHz 400Hz, 30% MOD	T2	Adjust so that the detector output is at maximum.	Non AGC
		REC OUT	ACVM			
2	Confirmation of sensitivity	AM ANT	AM dummy antenna AM SG 1080kHz 400Hz, 30% MOD		Obtain AM SG output level where distortion become 10%.	60dBμ or less
		REC OUT	ACVM, DIST-M			
3	Signal meter full-scale	AM ANT	AM dummy antenna AM SG 1080kHz 100dBμ 400Hz, 30% MOD		All signal quality indicators light.	Confirm that all signal quality indicators goes out at deturned point.
4	Confirmation auto-search	AM ANT	AM dummy antenna AM SG 1080kHz 65dBμ 400Hz, 30% MOD		Confirm that auto search reception is possible with the tuning key.	Confirm that muting is performed at auto reception.

<DIGITAL CONTROL SECTION>

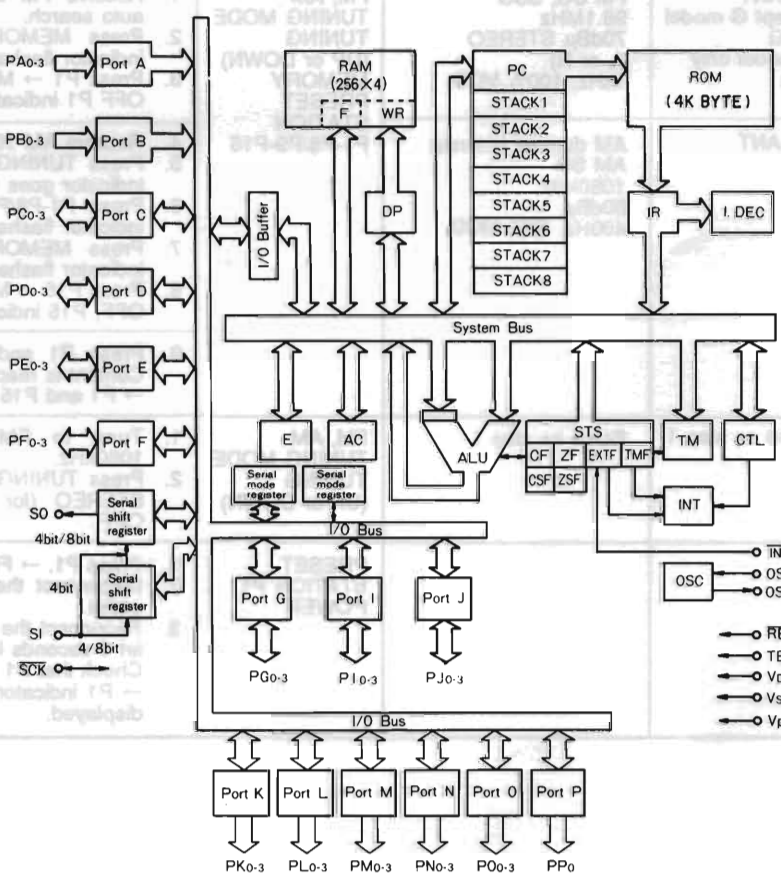
Step	Confirmation item	Connection terminal	Instrument required	Operation key	Confirmation method
1	Press memory	FM ANT Except G model 300Ω G model only 75Ω	FM SG, SSG 98.1MHz 70dBμ STEREO (L or R) 1kHz, 100% MOD	FM, AM TUNING MODE TUNING (UP or DOWN) MEMORY PRESET STATION P1-P8/P9-P16	1. Receive FM 98.1MHz by means of auto search. 2. Press MEMORY key → MEMORY indicator flashes about 5 seconds. 3. Press P1 → MEMORY indicator goes OFF P1 indicator lights.
		AM ANT	AM dummy antenna AM SG 1080kHz 80dBμ 400Hz, 30% MOD		4. Receive AM 1080kHz 5. Press TUNING MODE key → AUTO indicator goes OFF. 6. Press P1-P8/P9-P16 key → P9-P16 indicator flashes. 7. Press MEMORY key → MEMORY indicator flashes about 5 seconds. 8. Press P15 → MEMORY indicator goes OFF, P15 indicator light.
					9. Press P1 and P15 and check that Content is read out properly. → P1 and P15 light.
2	Tuning modes	Same as step 1	Same as step 1	FM, AM TUNING MODE TUNING (UP or DOWN)	1. Tune to FM 98.1MHz and AM 1080kHz. 2. Press TUNING MODE key → AUTO. STEREO (for FM) indicators goes OFF.
3	Last station memory			PRESET STATION P1 POWER	1. Press P1. → FM 98.1MHz is read out. 2. Disconnect the power cord from AC outlet. 3. Reconnect the power cord to AC outlet 5 seconds later. 4. Check that P1 content is read out. → P1 indicator lights. FM 98.1MHz is displayed.

■ μ-COM DATA

IC4 : LC6554
(4-bit μ-COM)



RAM	:	Data memory
F	:	Flag
WR	:	Working register
AC	:	Accumulator
ALU	:	Arithmetic and logic unit
DP	:	Data pointer
E	:	E register
CTL	:	Control register
OSC	:	Oscillator
TM	:	Timer
STS	:	Status register
ROM	:	Program memory
PC	:	Program counter
INT	:	Interrupt control
IR	:	Instruction register
I. DEC	:	Instruction decoder
CF, CSF	:	Carry flag, carry save flag
ZF, ZSF	:	Zero flag, zero save flag
EXTF	:	External interrupt request
TMF	:	Internal interrupt request



Pin No.	Pin Name	I/O	Description	Function	Pin No.	Pin Name	I/O	Description	Function
1	PN0	O		NC	64	VDD	—	VDD	+5V
2	PN1	O		NC	63	PM3	O	PLRS	Player Control Signal
3	PN2	O		NC	62	PM2	O		NC
4	PN3	O		NC	61	PM1	O		NC
5	PO0	O	D1	KEY DIGIT	60	PM0	O		NC
6	PO1	O	D2		59	PL3	O	V DN	Volume Down
7	PO2	O	D3		58	PL2	O	V UP	Volume Up
8	PO3	O	D4		57	PL1	O		NC
9	PP0	O	D5		56	PL0	O	P ON	Main Drive
10	PA0	I	K1	KEY IN	55	PK3	O		NC
11	PA1	I	K2		54	PK2	O		NC
12	PA2	I	K3		53	PK1	O		NC
13	PA3	I	K4		52	PK0	O		NC
14	PB0	I		NC	51	VP	—		to GND
15	PB1	I		NC	50	PJ3	O	LED5	TAPE MONI
16	PB2	I	PODN	POWER DOWN DET	49	PJ2	O	STBY	LED for Stand By
17	PB3	I	HOLD	GND	48	PJ1	O	B	MUTING
18	PC0	I		NC	47	PJ0	O	A, C	TAPE MONITOR
19	PC1	I	A1	TUNER MARKET SELECT	46	PI3	O	T MUTE	Tuner Mute
20	PC2	I	A2	TUNER MARKET SELECT	45	PI2	O	MONO	Monoral
21	PC3	I	PSW	POWER SW	44	PI1	O	$\overline{INH}$	LC75821, $\overline{INH}$
22	PD0	O	A	INPUT SELECTOR	43	PI0	O	CE2	LC75821, CE
23	PD1	O	B		42	PG3	O	STRQ	LM7000, STRQ
24	PD2	O	INH		41	PG2	O	CEI	LM7000, CE
25	PD3	O		NC	40	PG1	O	CL	Serial Clock
26	PE0	O	LED1	LED PHONO	39	PG0	O	DATA	Serial Data
27	PE1	O	LED2	LED CD	38	PF3/$\overline{INT}$	I	REMO	Remote Control Input
28	PE2	O	LED3	LED TUNER	37	PF2/$\overline{SCK}$	I	STO	ST OUT
29	PE3	O	LED4	LED AUX	36	PF1/SO	I	$\overline{STSG}$	STOP SIGNAL
30	TEST	—		GND	35	PF0/SI	I	$\overline{ST}$	STEREO
31	Vss	—		GND	34	$\overline{RES}$	I		Reset
32	OSCI	—			33	OSC2	—		

PIN 47 : TAPE MONITOR

	ON	OFF
PJO	0	1

PIN 19, 20 : TUNER MARKET SELECT

	E	U	R
A2	0	1	0,1
A1	1	0	1

PIN : 22, 23, 24, INPUT SELECT

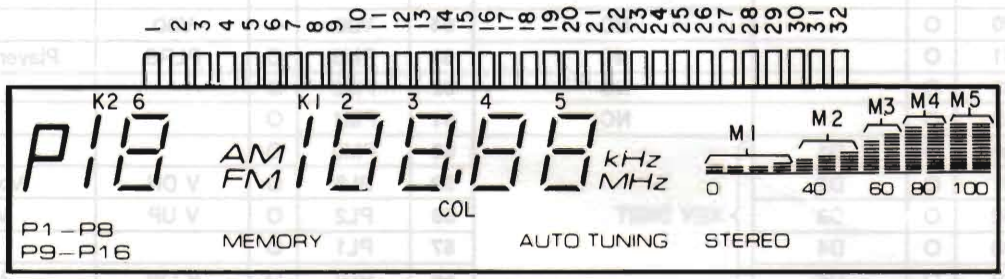
	PHONO	CD	TUNER	AUX
PD0	0	1	0	1
PD1	0	0	1	1
PD2	0	0	0	0

KEY MATRIX

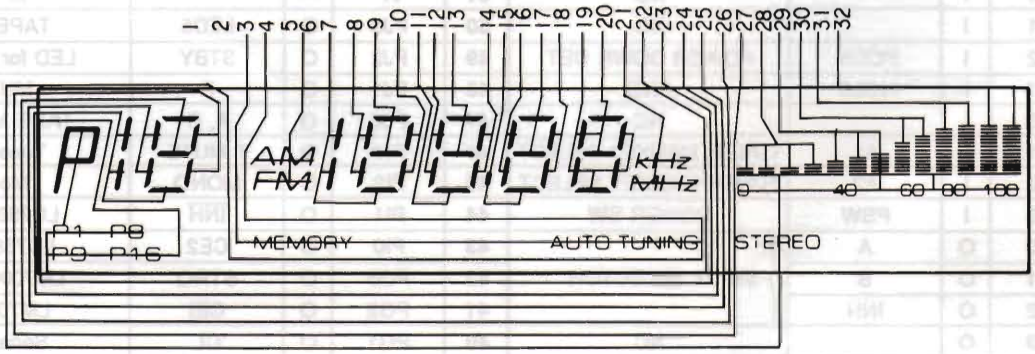
	K1	K2	K3	K4
D1	—	—	MEMO	A/B
D2	TUNER ▷	TUNER ◁	FM/AM	AUTO/MAN'L
D3	P1/P9	P2/P10	P3/P11	P4/P12
D4	P5/P13	P6/P14	P7/P15	P8/P16
D5	TAPE MONI	—	INPUT ◁ DN	INPUT ▷ UP

■ DISPLAY DATA

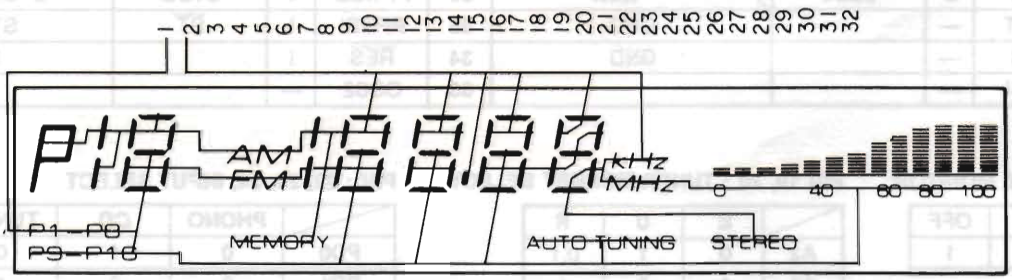
LCD8046MJP



SEGMENTS

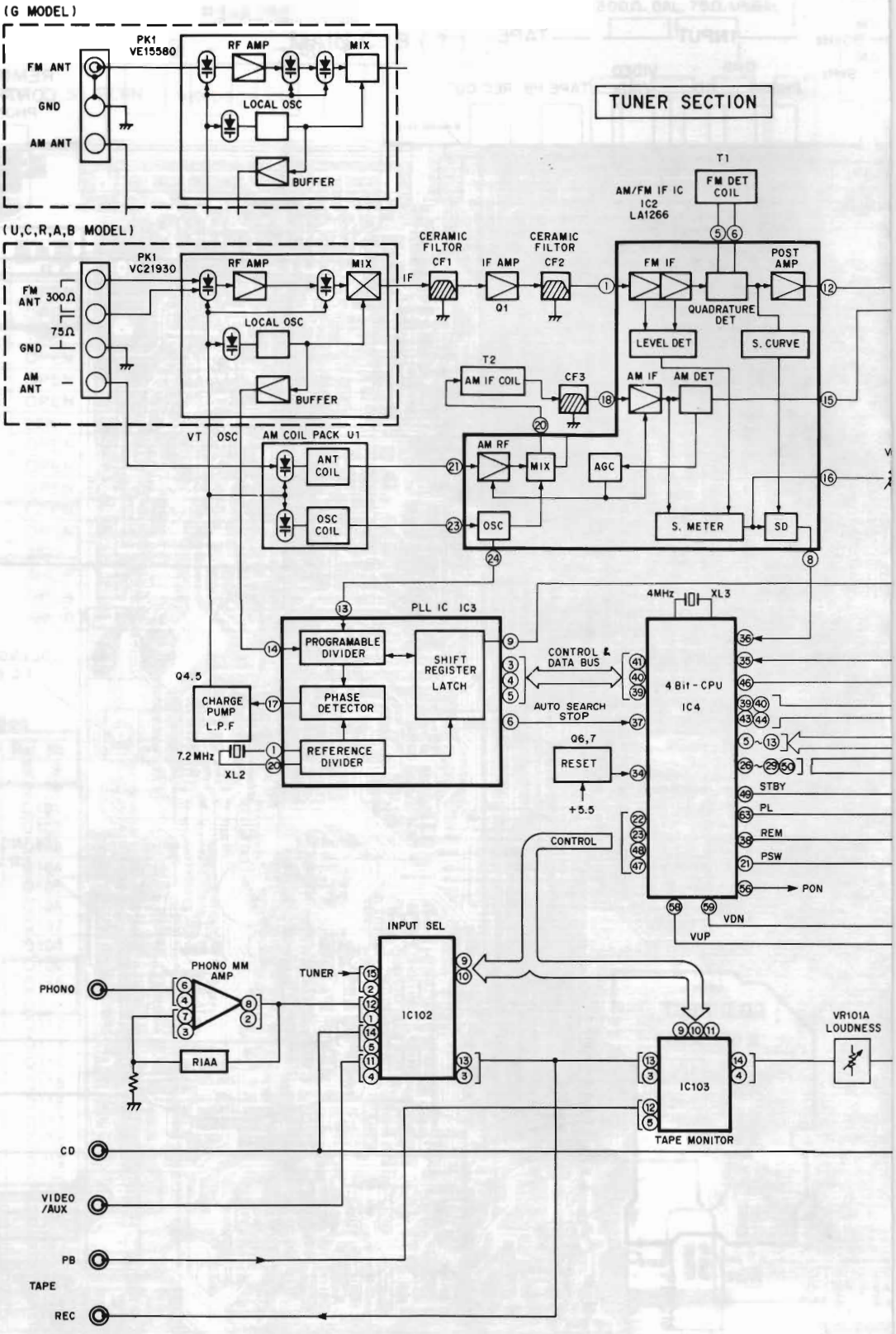


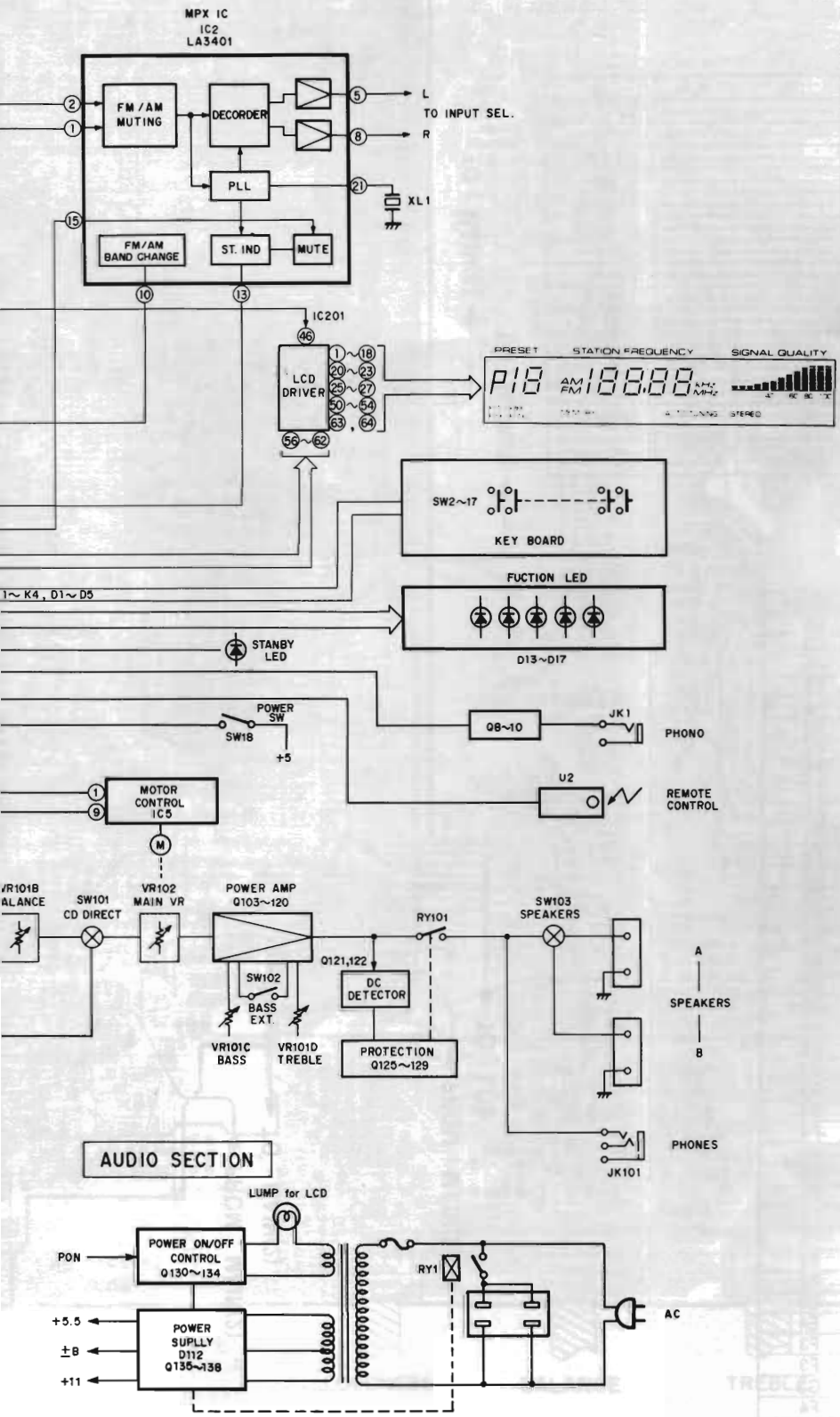
COMMON



IC PinNo	63	64	2	3	1	4	5	6	7	8	9	10	11	12	13	14
NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
COM1	-	COM	MEMORY	STEREO	-	AM	K1	2f	2a	2b	-	3f	3a	3b	COL	4f
COM2	COM	-	AUTO TUNING	0-100	-	FM	2d	2e	2g	2c	3d	3e	3g	3c	4d	4e
IC PinNo	15	16	17	18	20	21	22	23	25	26	27	50	51	52	53	54
NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
COM1	4a	4b	5cd	5af	kHz	P	-	K2	6f	6a	6b	-	-	-	-	-
COM2	4g	4c	5be	5g	MHz	P1-P8	P9-P16	6d	6e	6g	6c	M1	M2	M3	M4	M5

I BLOCK DIAGRAM



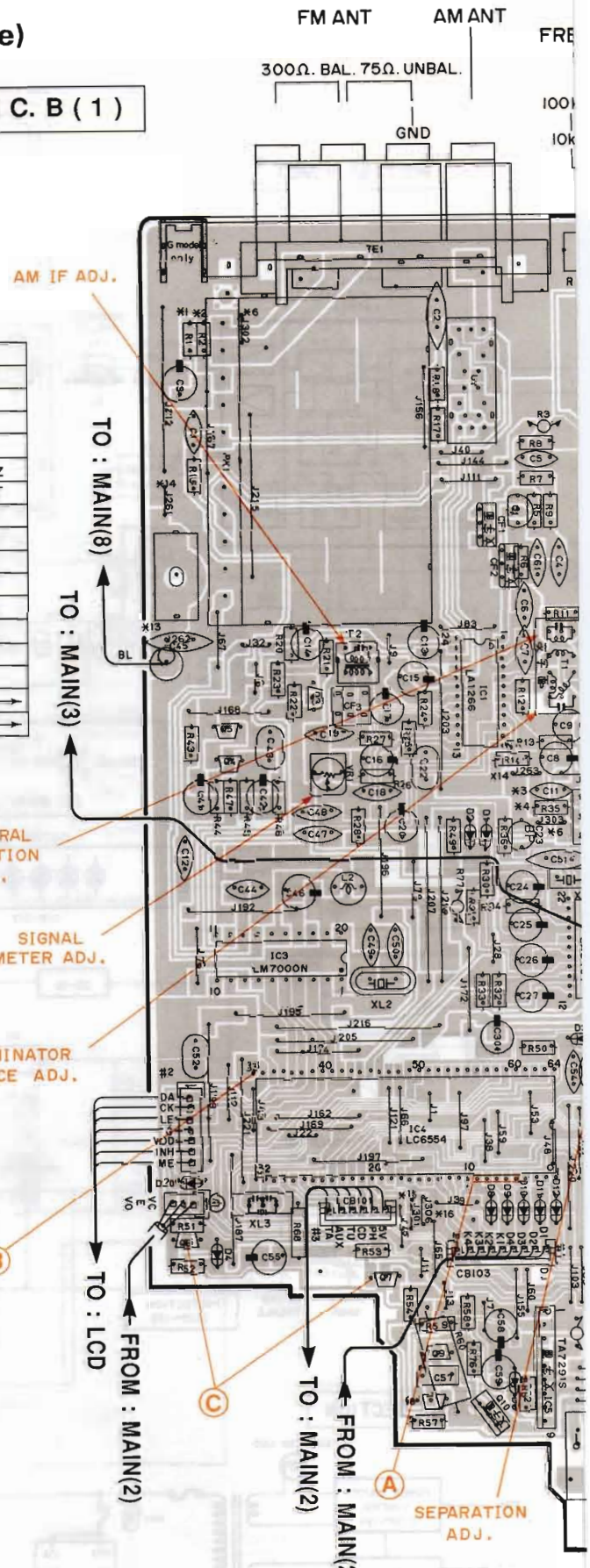

MPX IC
IC2
LA3401
FM/AM MUTING
DECORDER
PLL
FM/AM BAND CHANGE
ST. IND
MUTE
L
TO INPUT SEL.
R
XL1
IC201
LCD DRIVER
PRESET
STATION FREQUENCY
SIGNAL QUALITY
P10
AM
FM
STEREO
SW2~17
KEY BOARD
FUCTION LED
D13~D17
STANBY LED
POWER SW
SW18
+5
Q8~10
JK1
PHONO
MOTOR CONTROL IC5
U2
REMOTE CONTROL
VR101B ALANCE
SW101 CD DIRECT
VR102 MAIN VR
POWER AMP Q103~120
RY101
SW103 SPEAKERS
Q121,122
SW102
BASS EXT.
DC DETECTOR
VR101C BASS
VR101D TREBLE
PROTECTION Q125~129
A
SPEAKERS
B
PHONES
JK101
AUDIO SECTION
LUMP for LCD
PON
POWER ON/OFF CONTROL Q130~134
RY1
AC
+5.5
±8
+11
POWER SUPLLY D112 Q135~138

■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

MAIN C. B (1)

Ⓐ to Ⓒ : WAVEFORM OF TEST POINT (See page 21)



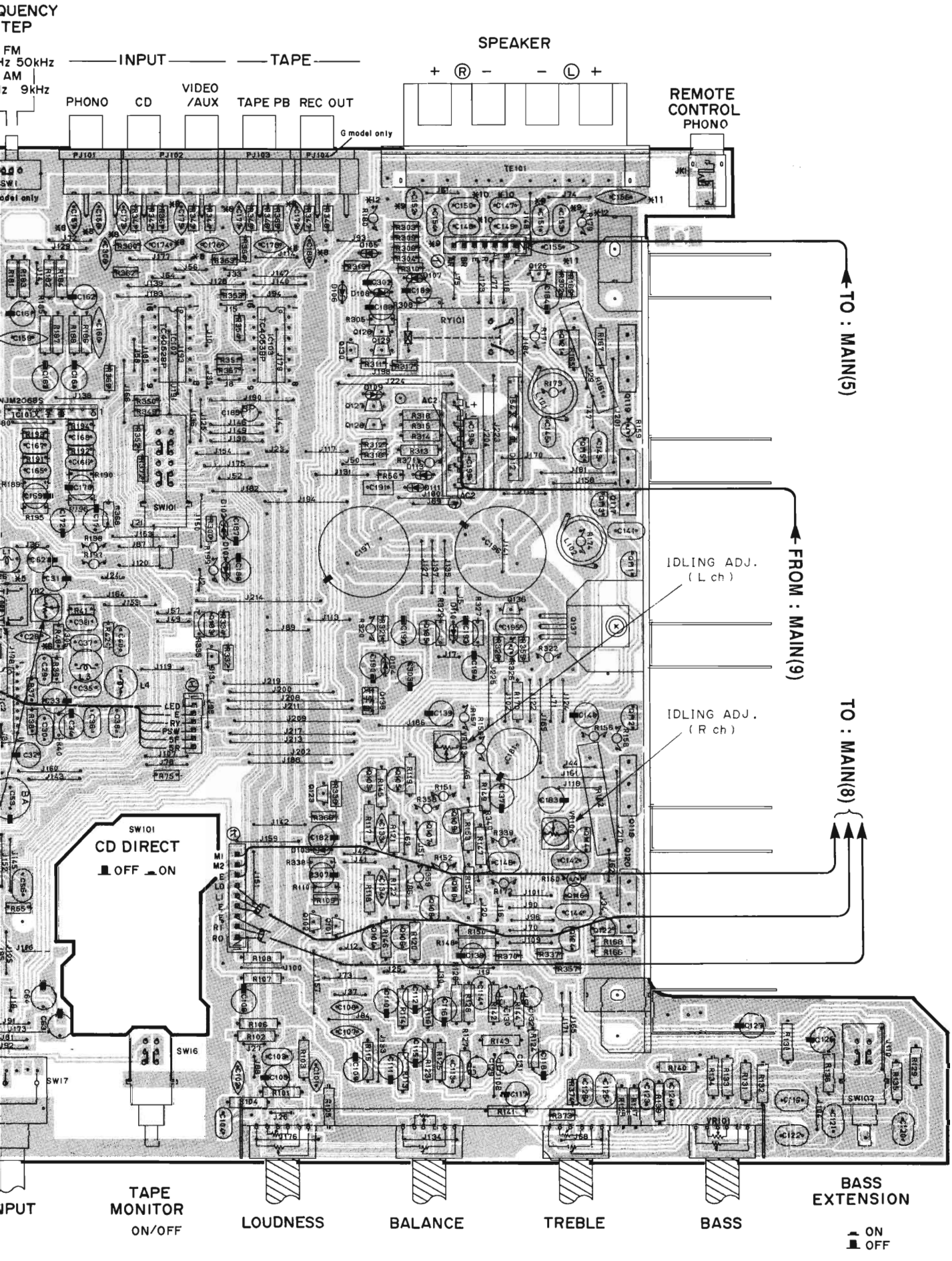
X:Marked

		U.C	R	A.B	G
*1	R1	OPEN	→	→	220K
*2	R2	OPEN	→	→	100K
*3	C11	100P	→	→	OPEN
*4	R35	OPEN	→	→	4.7K
*5	T3	OPEN	→	→	114KHz
*6	J302. 303	OPEN	→	→	SHORT
*7	R48	22K	→	→	J305
*8	C157. 158. 173~180	OPEN	→	→	220P
*9	C151~154.	OPEN	→	→	2200P
*10	C147~150	OPEN	→	→	0.01
*11	C155. 156	OPEN	→	→	0.022
*12	R179. 180	OPEN	→	→	2.2
*13	C45	J262	→	→	0.047
*14	J261. 263	SHORT	→	→	OPEN
*15	J301	OPEN	→	SHORT	→
*16	J306	SHORT	OPEN	→	→

● **Semiconductor Location**

Ref. No.	Location
D 1	D3
D 2	D3
D 3	D4
D 4	C5
D 6	D5
D 8	D4
D 9	D4
D 10	D4
D 11	D4
D 12	D4
D 20	C4
D101	E3
D102	E3
D103	F4
D104	F4
D105	F2
D106	F2
D107	F2
D108	F2
D109	F3
D110	F3
D111	F3
D112	F3
D113	F3
IC 1	D3
IC 2	D4
IC 3	C4
IC 4	D4
IC 5	D5
IC101	D3
IC102	E2
IC103	E2
Q 1	D2
Q 3	D3
Q 4	C3
Q 5	C3
Q 6	C5
Q 7	D5
Q 8	D5

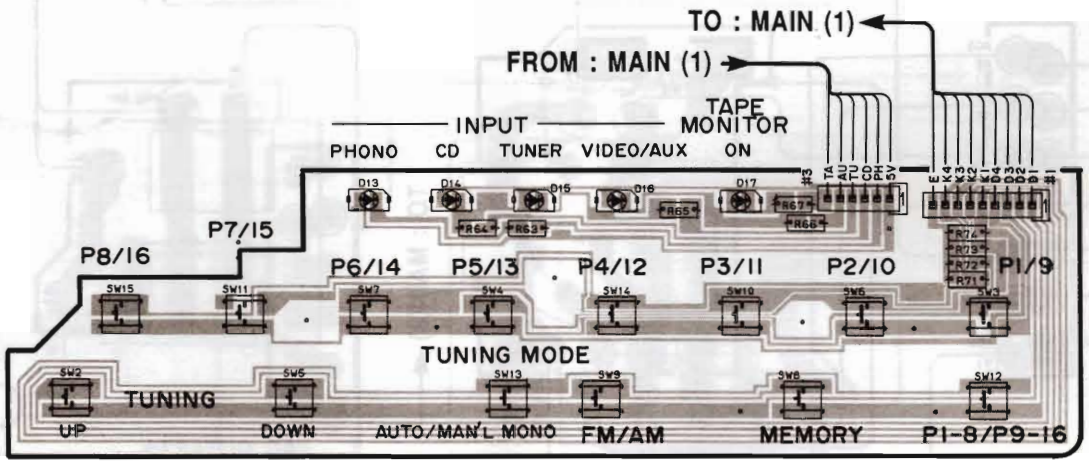
Ref. No.	Location
Q 9	D5
Q 10	D5
Q101	F5
Q102	F5
Q103	F4
Q104	F5
Q105	F4
Q106	F5
Q107	F4
Q108	F5
Q109	F4
Q110	F4
Q111	G3
Q112	G4
Q113	G3
Q114	G4
Q115	G3
Q116	G4
Q117	G3
Q118	G4
Q119	G3
Q120	G4
Q121	G2
Q122	G5
Q123	F4
Q124	G5
Q125	F2
Q126	F2
Q127	F3
Q128	F3
Q129	F2
Q130	F2
Q133	E3
Q134	E4
Q135	F3
Q136	F3
Q137	G3
Q138	F4


QUENCY
TEP
FM
Hz 50kHz
AM
z 9kHz
INPUT
TAPE
PHONO
CD
VIDEO /AUX
TAPE PB
REC OUT
G model only
SPEAKER
+ R −
− L +
REMOTE CONTROL PHONO
TO : MAIN(5)
FROM : MAIN(9)
TO : MAIN(8)
IDLING ADJ. (L ch)
IDLING ADJ. (R ch)
SW101
CD DIRECT
OFF ON
SW16
SW17
SW102
VR101
TAPE MONITOR ON/OFF
LOUDNESS
BALANCE
TREBLE
BASS
BASS EXTENSION
ON
OFF

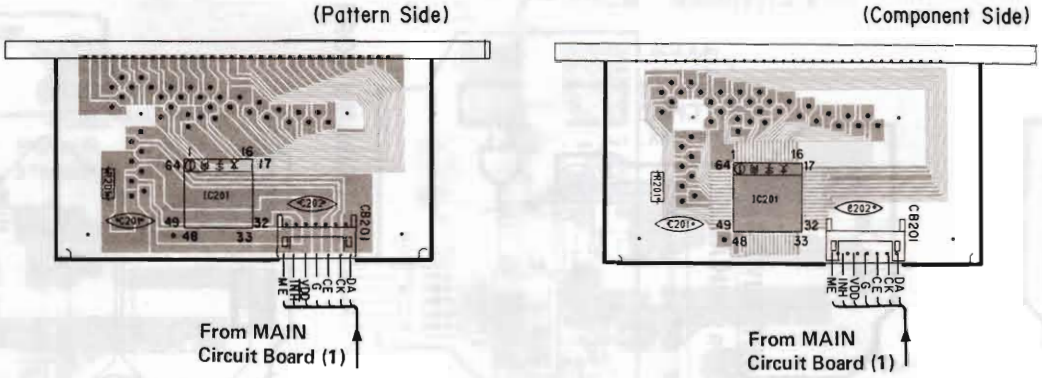
■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

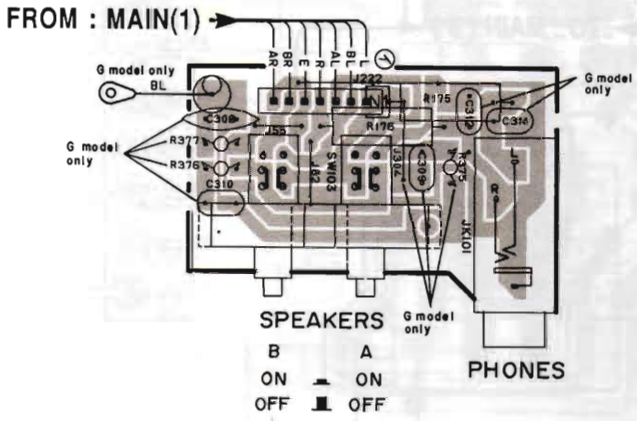
MAIN C. B (2)



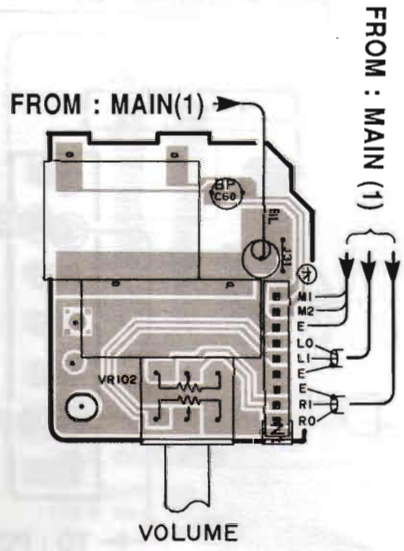
LCD C. B



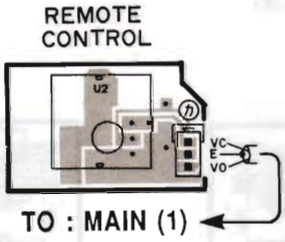
MAIN C. B (5)



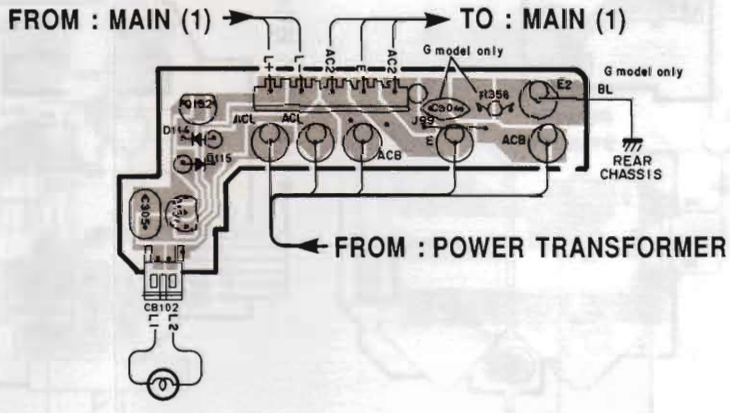
MAIN C. B (8)



MAIN C. B (12)



MAIN C. B (9)

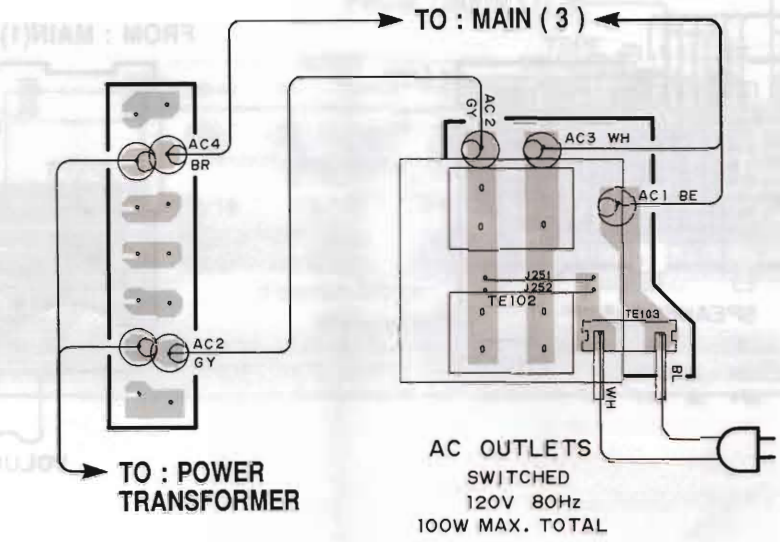


■ PRINTED CIRCUIT BOARD (Foil side)

● U, C models

MAIN C. B (10)

MAIN C. B (7)

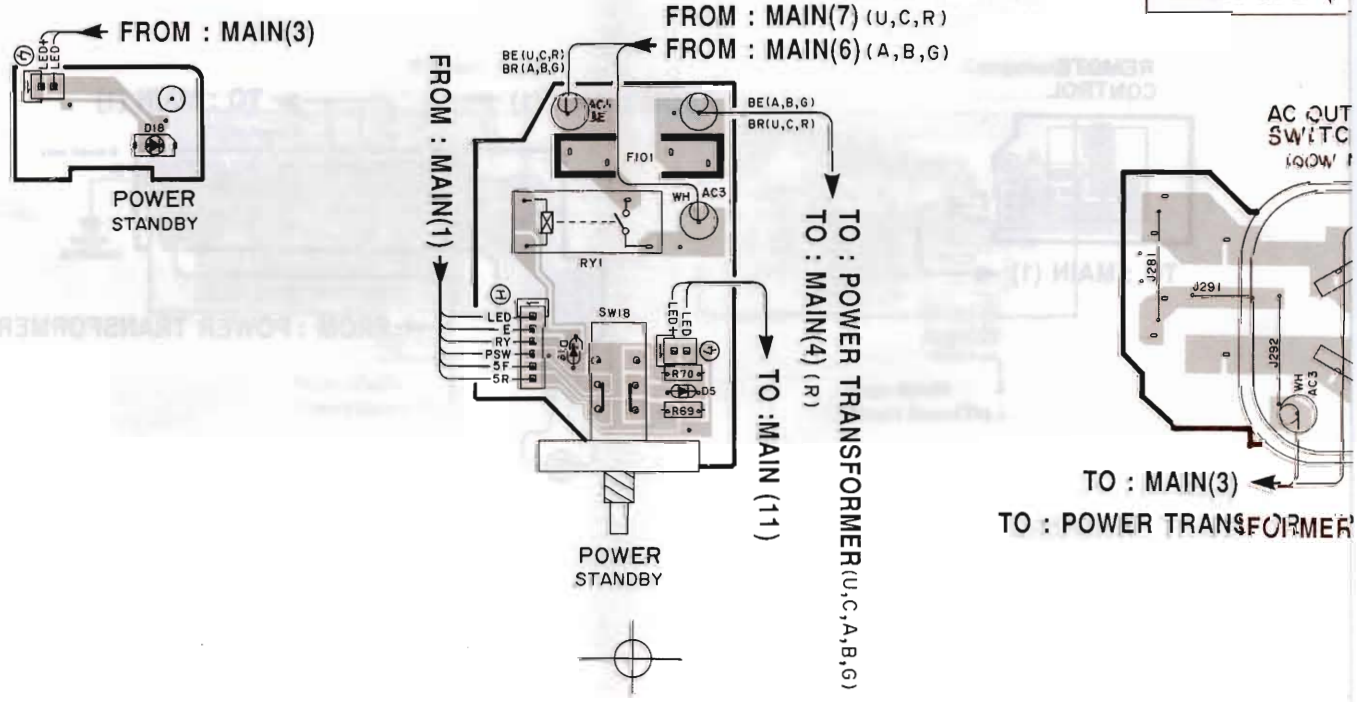


MAIN C. B (11)

MAIN C. B (3)

● A model

MAIN C. B (

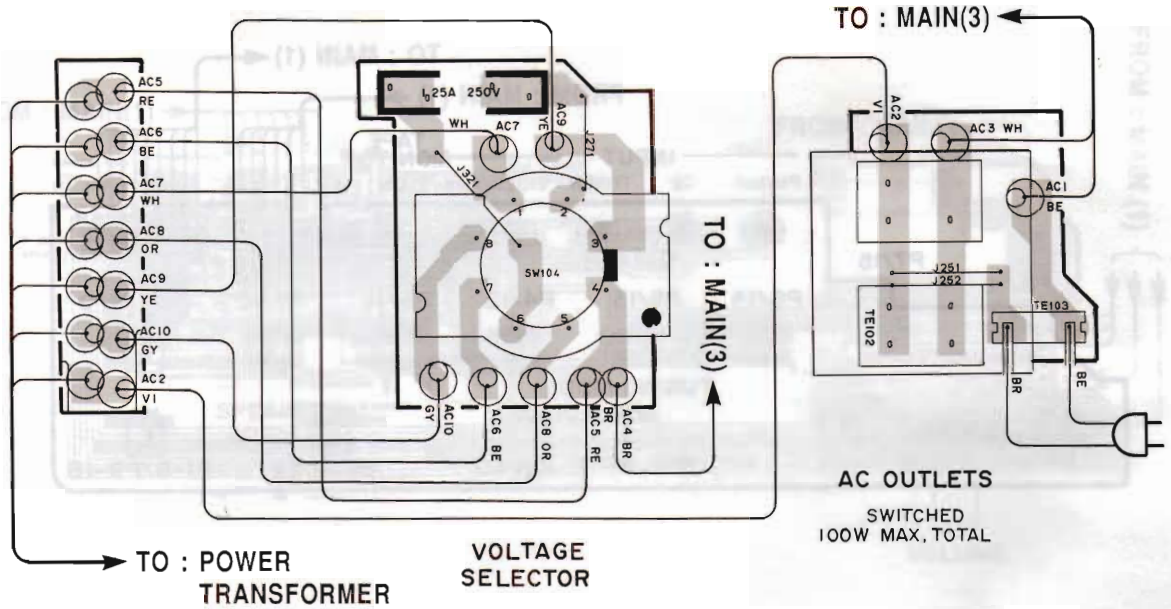


● R model

MAIN C. B (10)

MAIN C. B (4)

MAIN C. B (7)

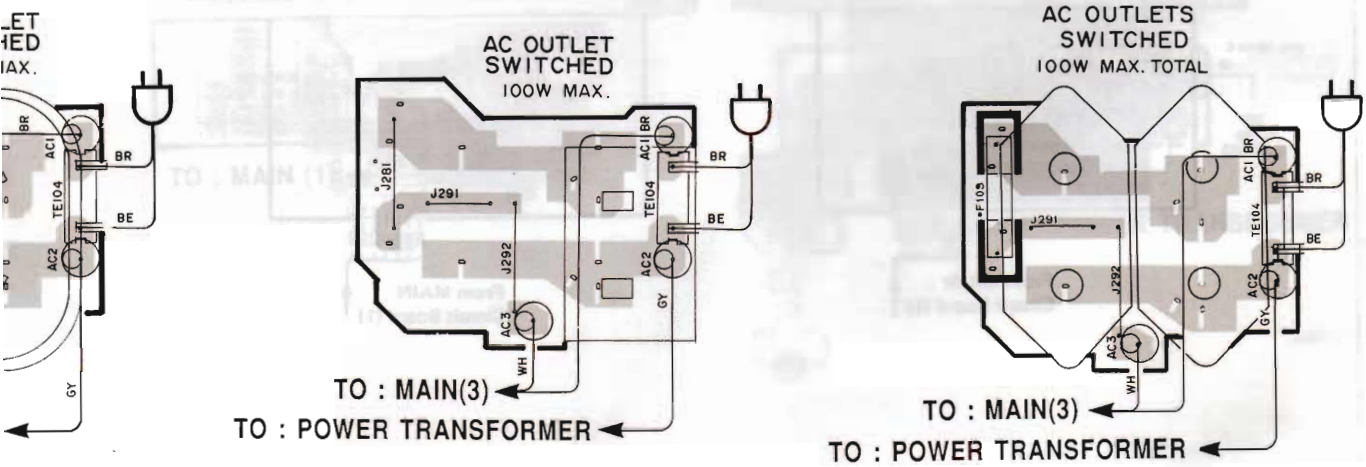


● B model

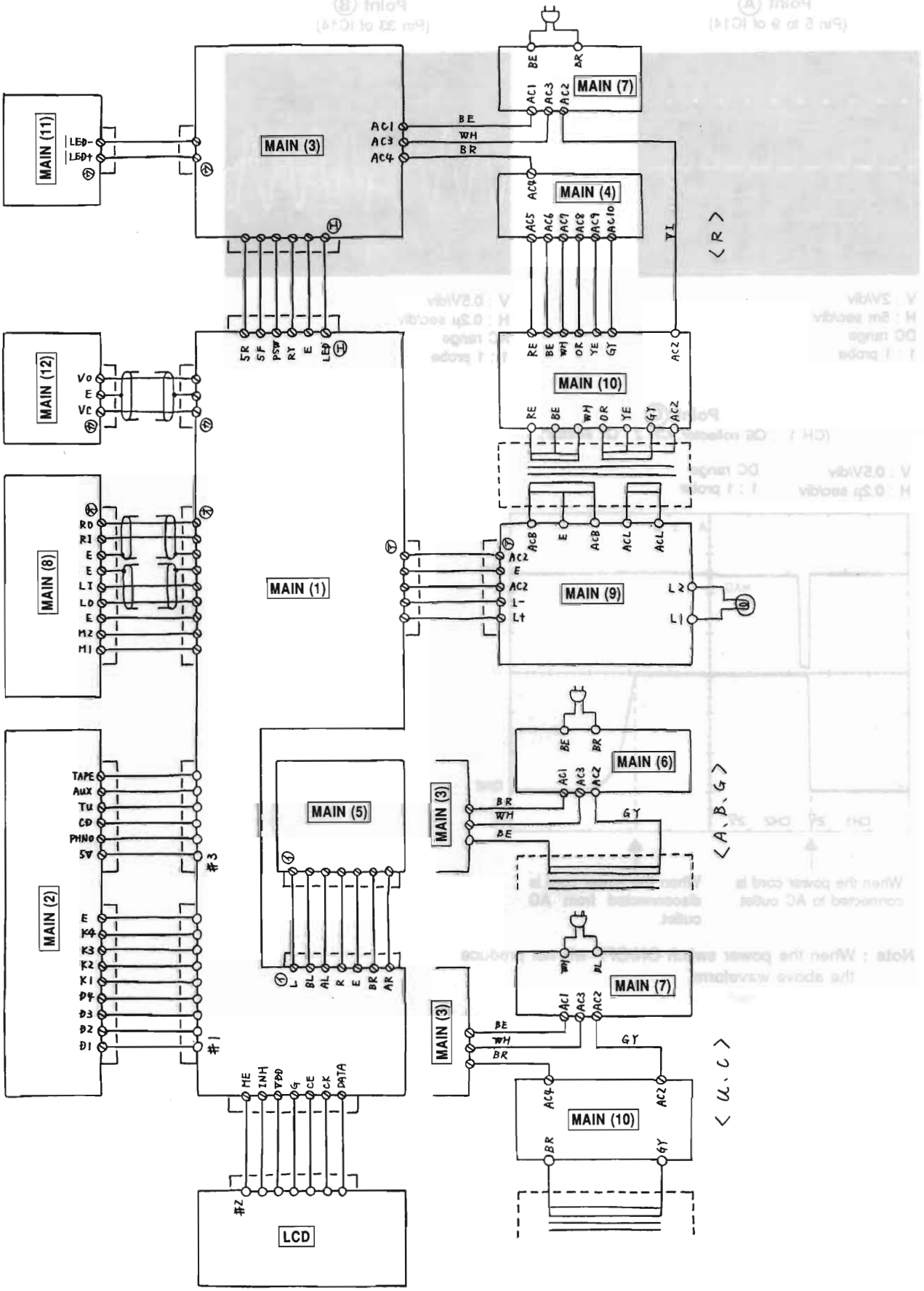
MAIN C. B (6)

● G model

MAIN C. B (6)

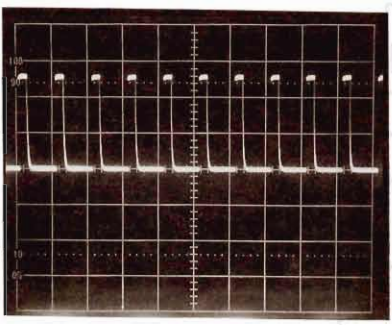


■ INTERCONNECT WIRING DIAGRAM



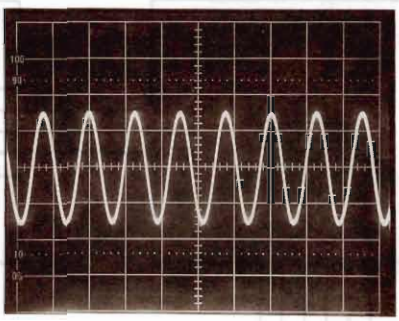
■ WAVEFORM OF TEST POINT

Point Ⓐ
(Pin 5 to 9 of IC14)



V : 2V/div
H : 5m sec/div
DC range
1 : 1 probe

Point Ⓑ
(Pin 33 of IC14)

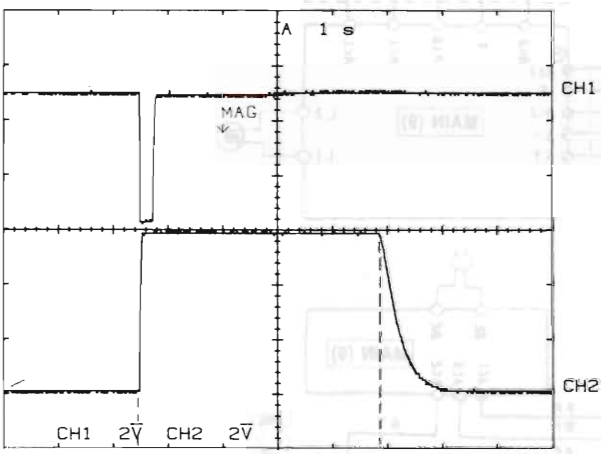


V : 0.5V/div
H : 0.2μ sec/div
AC range
1 : 1 probe

Point Ⓒ
(CH 1 : Q6 collector, CH 2 : Q7 emitter)

V : 0.5V/div
H : 0.2μ sec/div

DC range
1 : 1 probe



When the power cord is connected to AC outlet.

When the power cord is disconnected from AC outlet.

Note : When the power switch ON/OFF will not produce the above waveform.

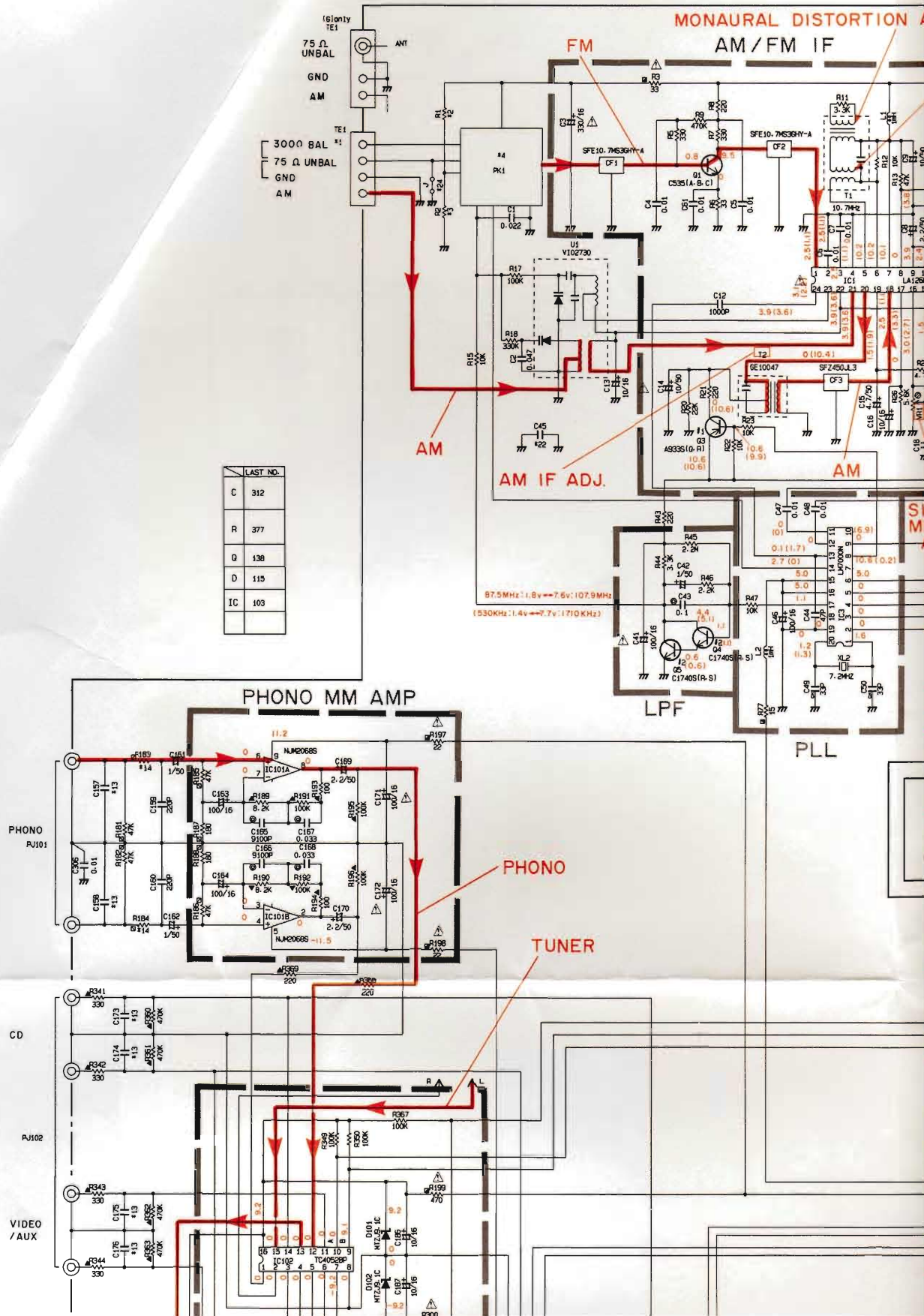
■ SCHEMATIC DIAGRAM

Ⓐ to Ⓒ : WAVEFORM OF TEST POINT (See page 21)

* The voltages are measured at FM (98.1MHz, STEREO) reception mode.
  Only the voltages ( ) are at AM (1080kHz) reception mode.

● Set the controls to the following po

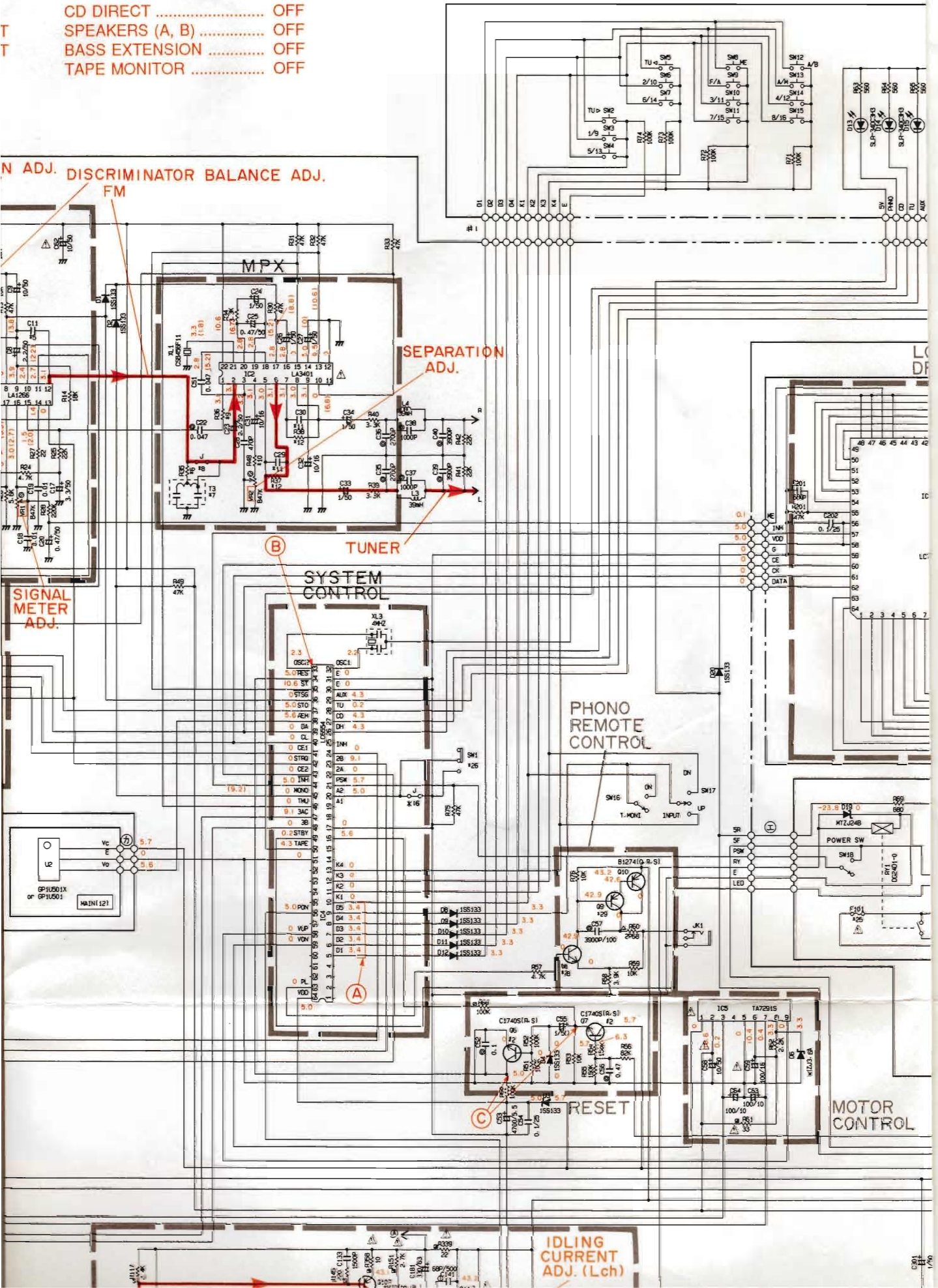
INPUT	TUNER
BASS	DEFEAT
TREBLE	DEFEAT
BALANCE	" 0 "
LOUDNESS	FLAT



E F G

positions

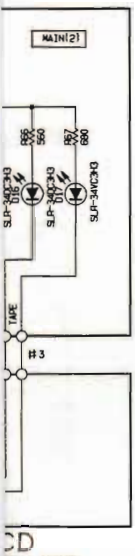
CD DIRECT ..... OFF
SPEAKERS (A, B) ..... OFF
BASS EXTENSION ..... OFF
TAPE MONITOR ..... OFF



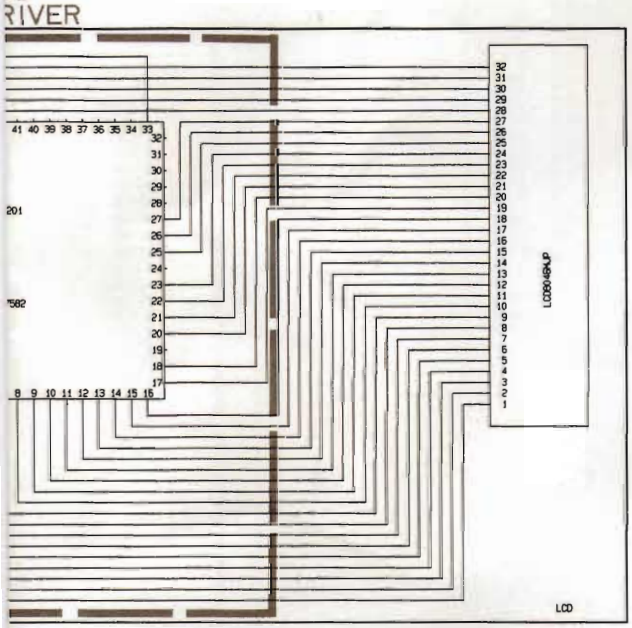
Interchangeable Parts at Manufacture-Stage

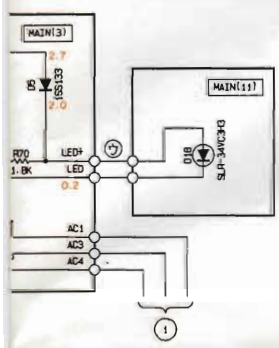
Mark	Reference Parts Number	Parts Name
#1	Q3·126-129	2SA933S(Q·R) 2SA1115(E·F) 2SA1309A(Q·R·S)
#2	Q4-7·130·136	2SC1740S(R·S) 2SC2603(E·F) 2SC3311A(Q·R·S)
#3	Q132	2SC2060 2SD400
#4	Q131	2SA934(P·Q·R) 2SB544(D·E·F·G)

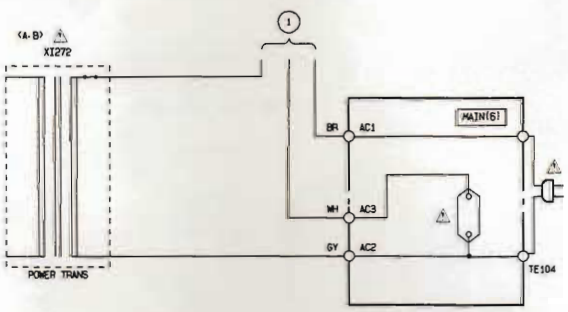
		U·C	R	A·B	G
1	TE1	VA84590			LA00580
2	R1	OPEN			220K
3	R2	OPEN			100K
4	PK1	TFFG1U117A			TFFG3E132A
5	C11	100P			OPEN
6	R35	OPEN			4.7K
7	T3	OPEN			114KHZ
8	J	SHORT			OPEN
9	R36	10K			22K
10	R48	22K			SHORT
11	C29·30	◎1100P		Ⓟ 680P/100	Ⓟ 390P/100
12	R37·38	68K			120K
13	C157·156 173·176	OPEN			220P
14	R183·184	150			1.2K
15	C151-154 309·310	OPEN			2200P
16	J306	SHORT	OPEN		
17					
18	C147-150	OPEN			0.01
19	C155·156 304·308	OPEN			0.022
20	R179·180·356 375-377	OPEN			2.2
21	F103	OPEN		SHORT	T2.5A250V
22	C45	SHORT			0.047
23	J	OPEN		SHORT	
24	J	OPEN			SHORT
25	F101	4A125V	T3·15A250V	T1·25A250V	
26	SW1	OPEN	V654120	OPEN	
27					
28	08·125	C3312(R·S·T)	C2240(GR·BL)	C3312(R·S·T)	
29	09·123	A1310(R·S·T)	A970(GR·BL)	A1310(R·S·T)	
30	C311·312	OPEN			1500P

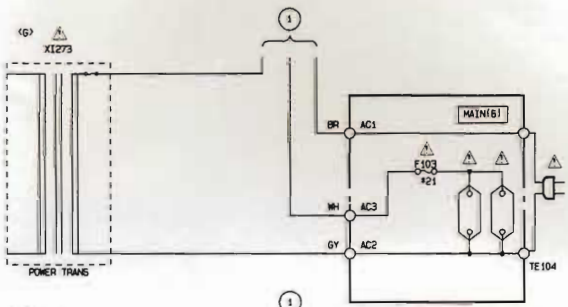


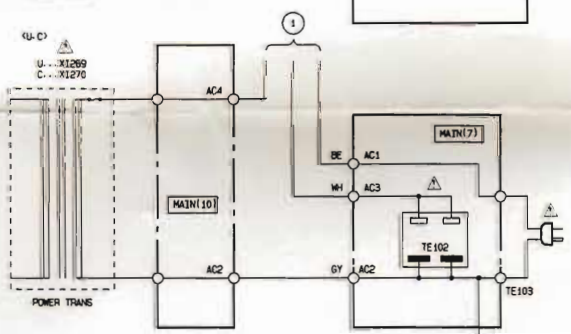
CD
RIVER

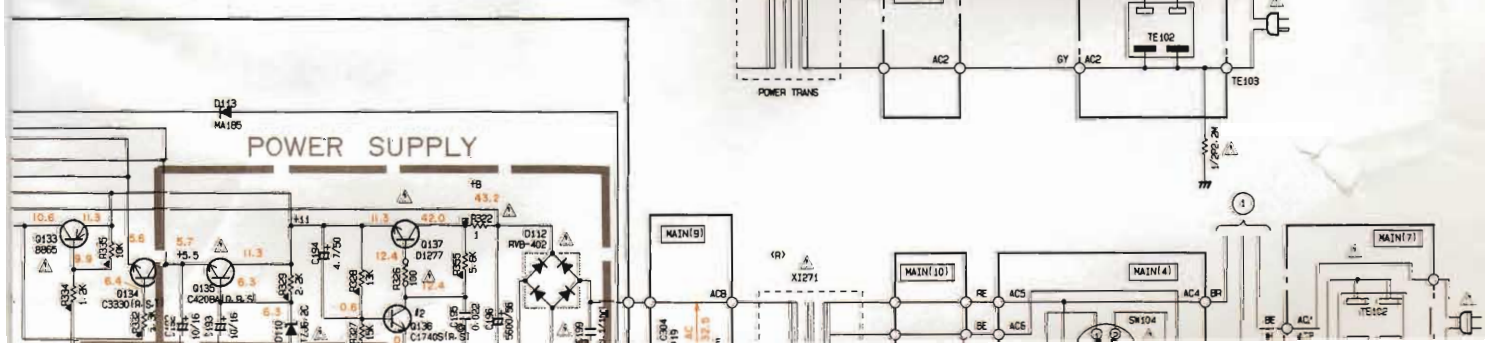




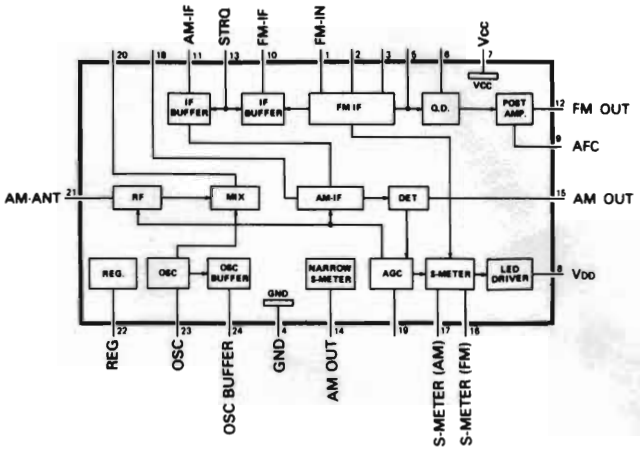




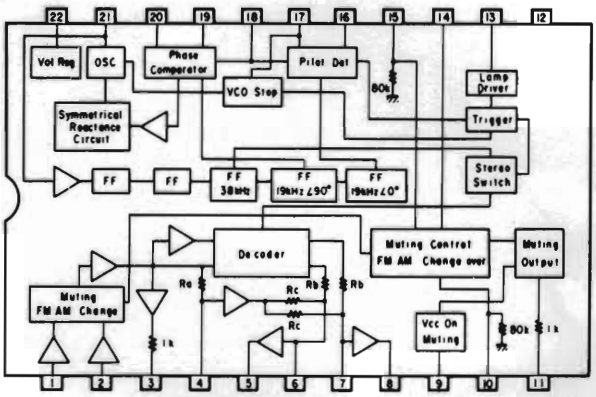




IC1 : LA1266
(AM/FM IF)

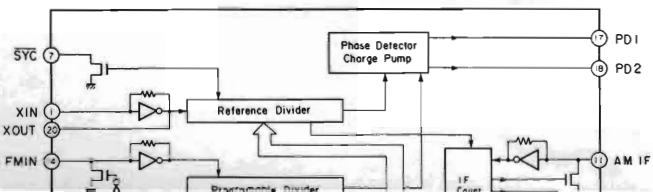


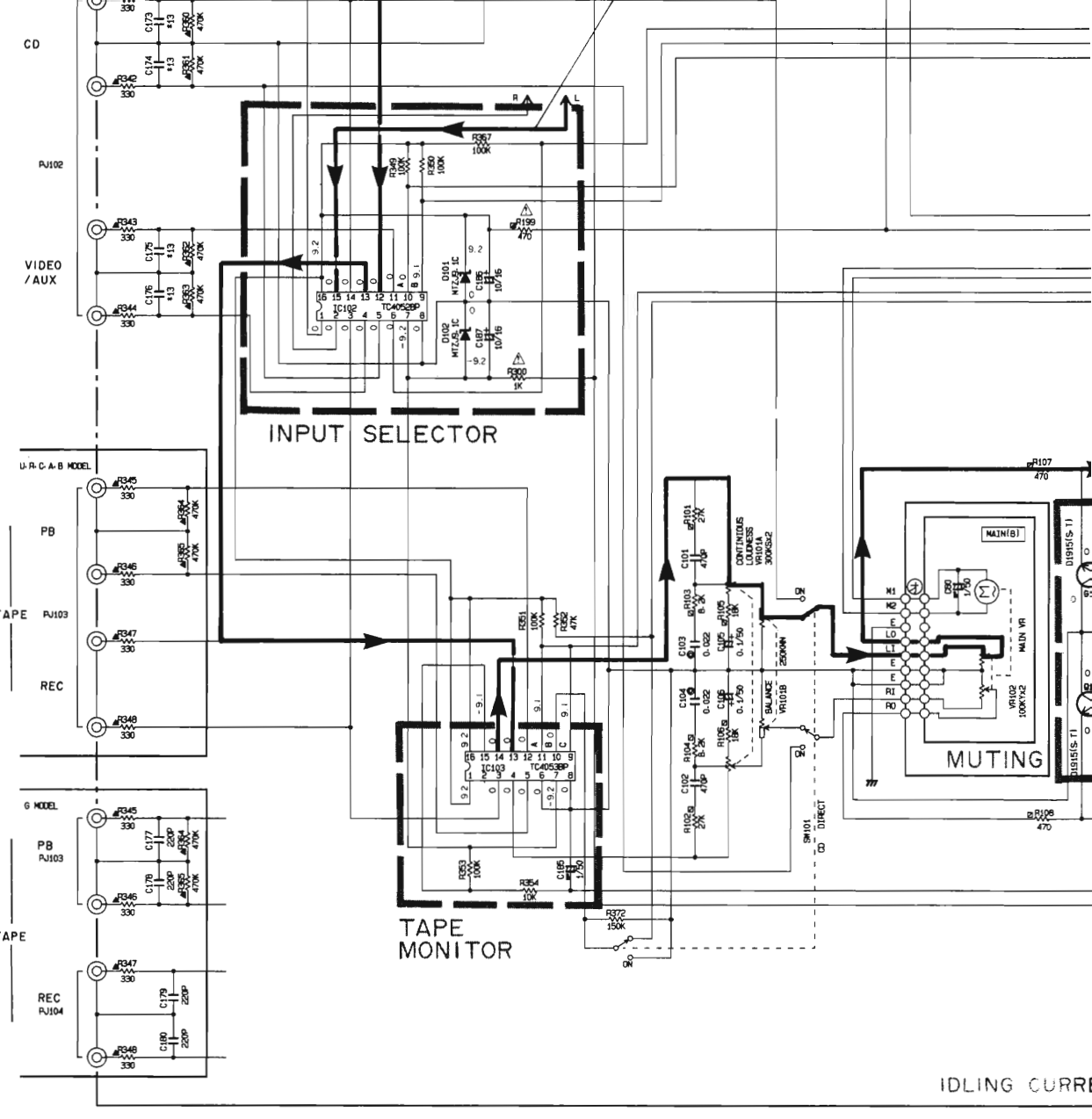
IC2 : LA3401
(MPX)



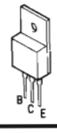
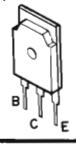
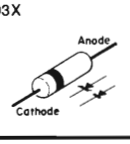
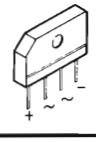
Pin No.	Function
1	Input (AM)
2	Input (FM)
3	Composite Amp Output
4	Separation Adi
5	Post Amp Output
6	Post Amp Input
7	Post Amp Input
8	Post Amp Output
9	Muting ON (Vcc)
10	AM/FM Select
11	Muting Output
12	GND
13	Stereo Indicator
14	Mute Select
15	Muting
16	Pilot Detector Filter
17	Pilot Detector Filter, VCO Stop
18	PLL Input
19	Loop Filter
20	Loop Filter
21	OSC
22	Vcc

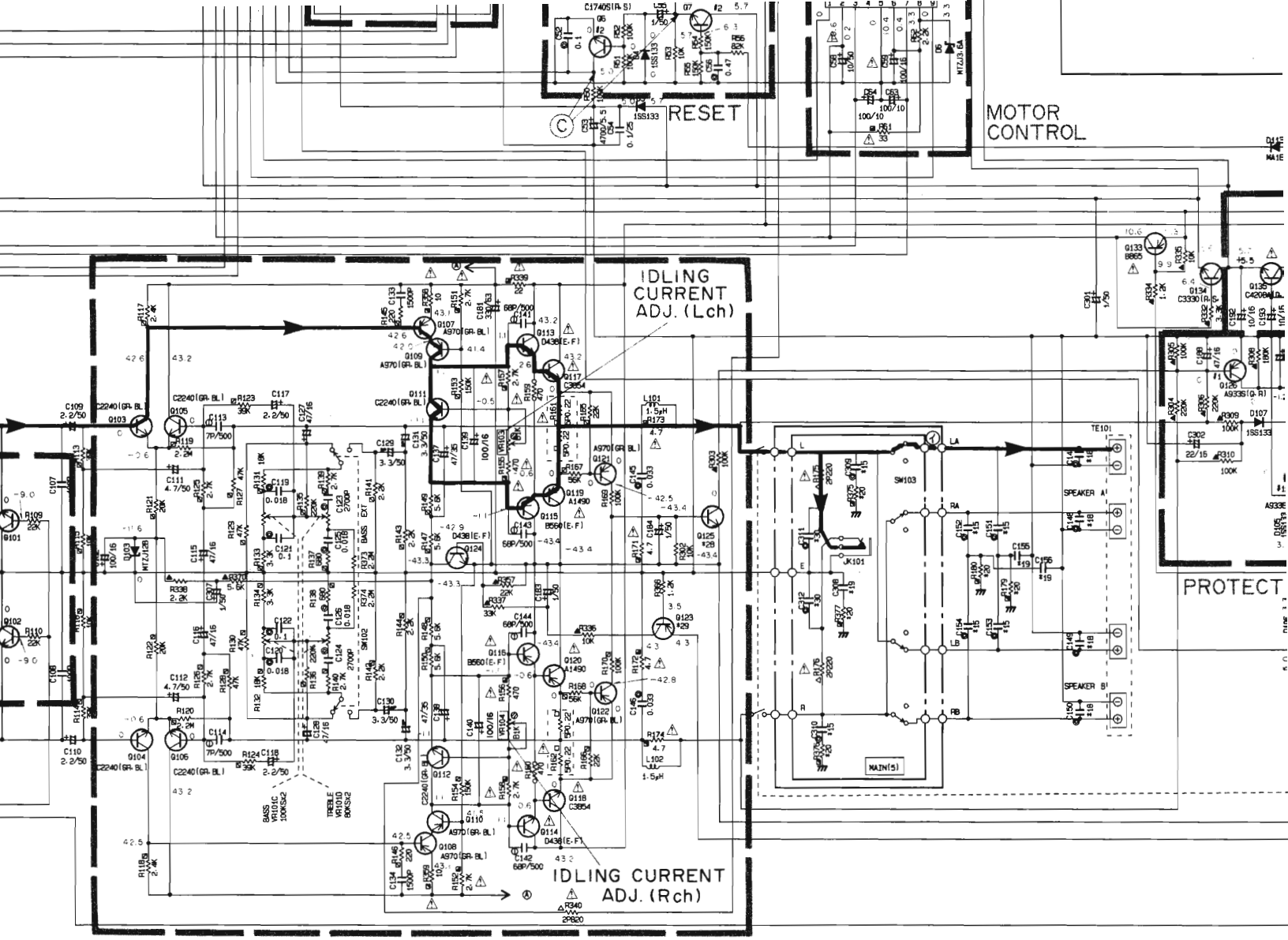
IC3 : LM7000N
(PLL)





PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

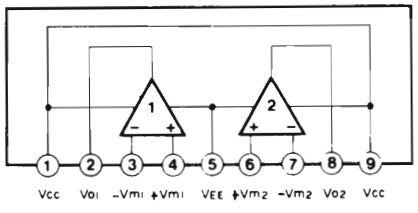
2SA933S(Q,R) 2SA1115(E,F) 2SA1309A(Q,R,S) 2SA934(P,Q,R) 2SB544(D,E,F,G) 2SA970(GR,BL) 2SA1310(R,S,T) 2SB865 2SC1740S(R,S)	2SC2603(E,F) 2SC3311A(Q,R,S) 2SC535(A,B,C) 2SC4208A(Q,R,S) 2SC2060 2SD400 2SC2240(GR,BL) 2SC3312(R,S,T) 2SD438(E,F)	2SC3330(R,S,T) 2SD1915(S,T) 2SB560(E,F) 2SD438(E,F)		2SB1332 2SB1274(Q,R,S) 2SD1277		2SA1490 2SC3854		1SS133 MA185 1SR35-100AT-93X MTZJ3.0A MTZJ3.6A MTZJ6.2C MTZJ9.1C MTZJ12B MTZJ12C MTZJ24B		RBV-402	

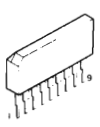
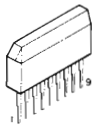
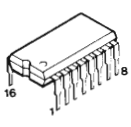
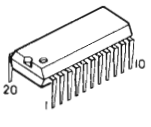
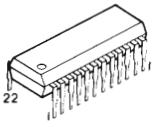
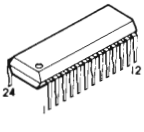
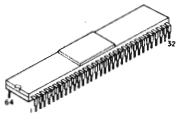
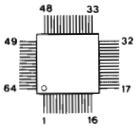


POWER AMP WITH TONE CONTROL

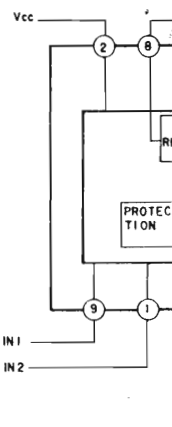
RENT ADJ : 6mV ~ 15mVDC

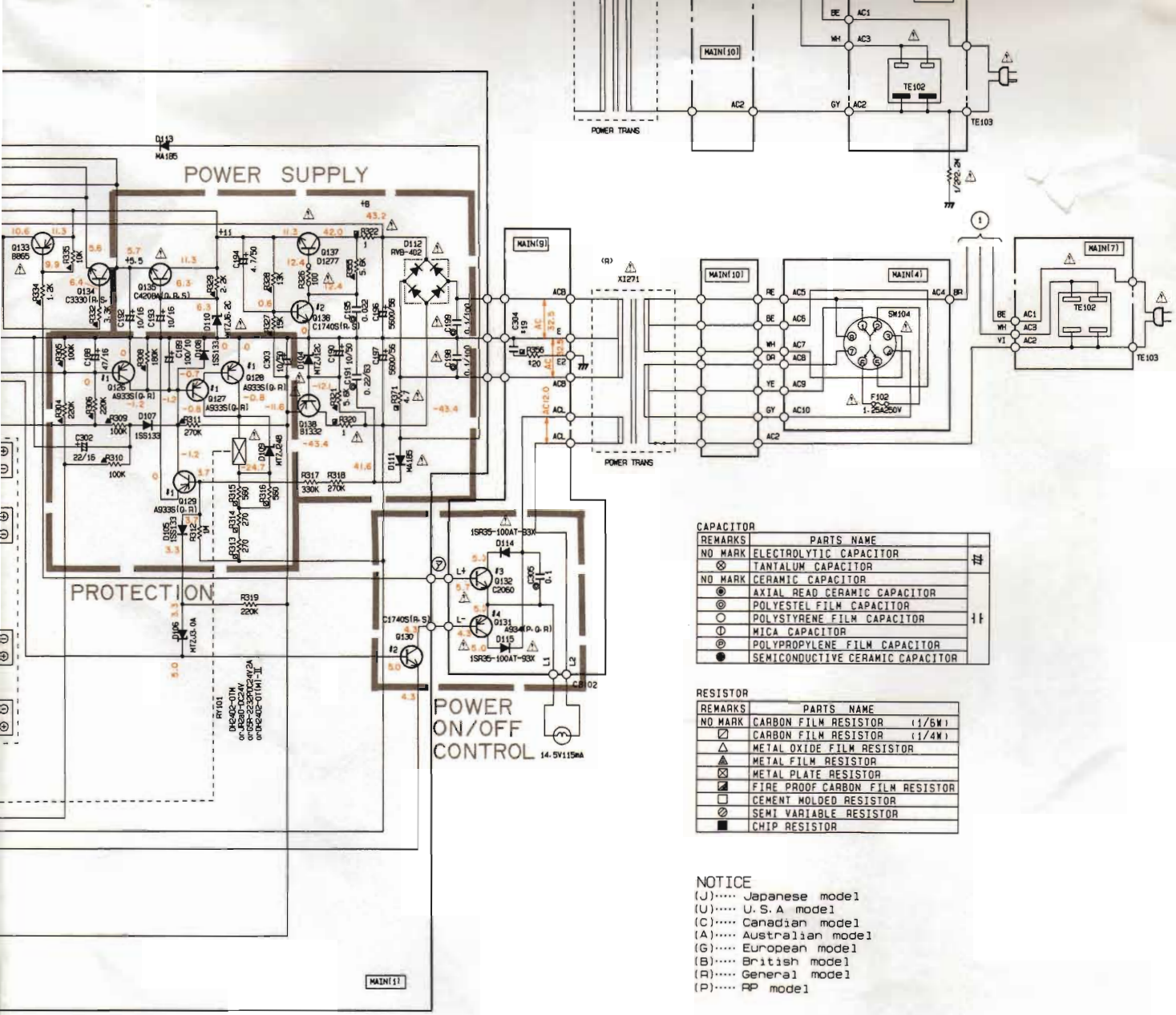
IC101 : NJM2068S
(Dual Low-Noise Ope-Amp)



NJM2068S	TA7291S	TC4053BP TC4052BP	LM7000N	LA3401	LA1266	LC6554	LC7582
							

IC5
(Mo





CAPACITOR

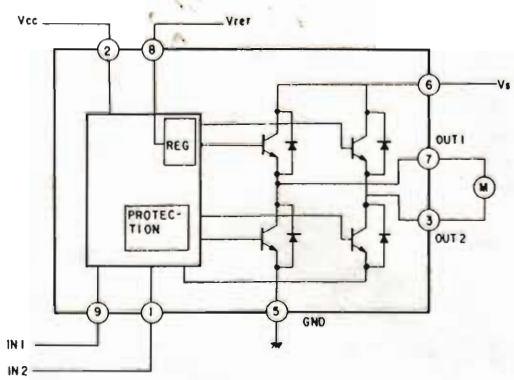
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
⊗	TANTALUM CAPACITOR	#
NO MARK	CERAMIC CAPACITOR	#
◉	AXIAL READ CERAMIC CAPACITOR	#
◎	POLYESTEL FILM CAPACITOR	#
○	POLYSTYRENE FILM CAPACITOR	#
Ⓘ	MICA CAPACITOR	#
Ⓟ	POLYPROPYLENE FILM CAPACITOR	#
●	SEMICONDUCTIVE CERAMIC CAPACITOR	#

RESISTOR

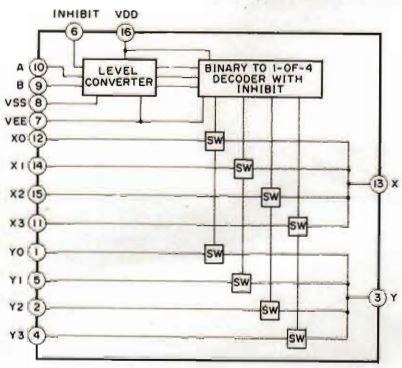
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
⊠	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

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

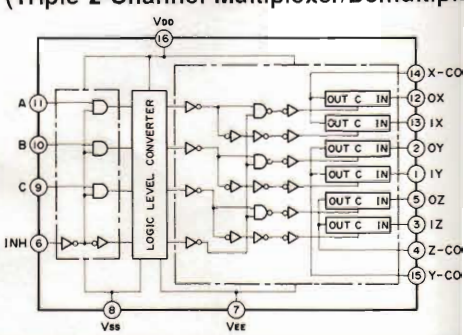
IC5 : TA7291S
(Motor Driver)



IC102 : TC4052BP
(Differential 4-Channel Multiplexer/Demultiplexer)



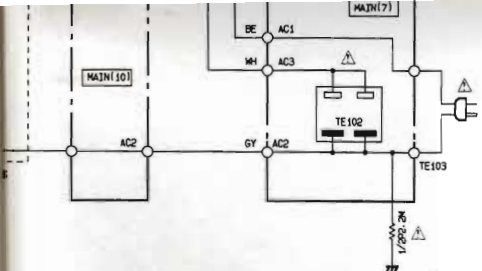
IC103 : TC4053BP
(Triple 2-Channel Multiplexer/Demultiple

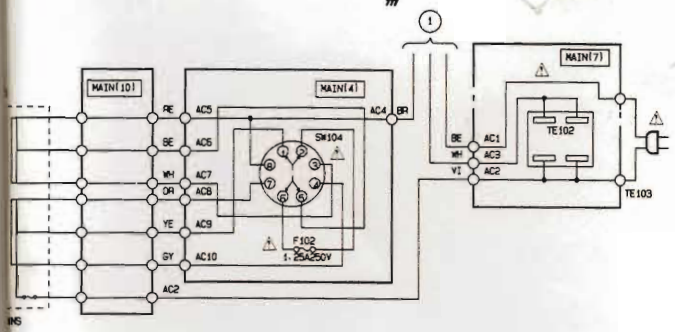


CONTROL INPUTS				"ON" CHANNEL
INHIBIT (Pin 6)	C (Pin 9)	B (Pin 10)	A (Pin 11)	0X (Pin 12), 0Y (Pin 2), 0Z (P 1X (Pin 13), 1Y (Pin 1), 1Z (P
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y, 0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*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

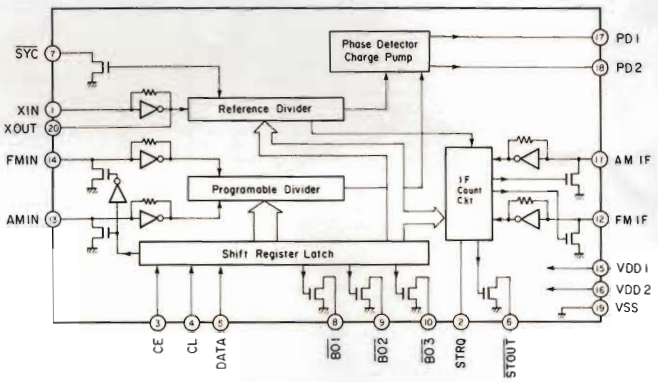
* Don't Care

20	Loop Filter
21	OSC
22	Vcc





IC3 : LM7000N (PLL)



CAPACITOR

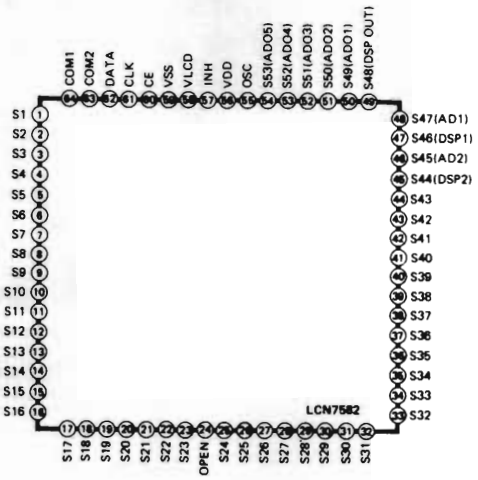
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⫻
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	⫫
◉	AXIAL READ CERAMIC CAPACITOR	
◎	POLYESTEL FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
Ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

RESISTOR

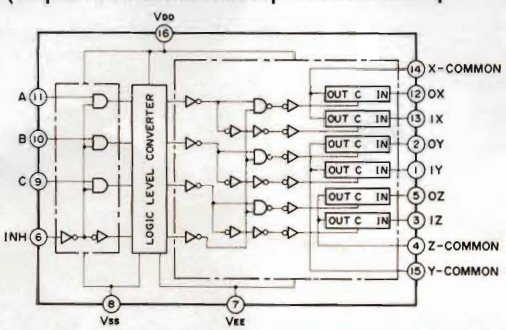
REMARKS	PARTS NAME	
NO MARK	CARBON FILM RESISTOR	(1/6W)
▯	CARBON FILM RESISTOR	(1/4W)
△	METAL OXIDE FILM RESISTOR	
▲	METAL FILM RESISTOR	
⊠	METAL PLATE RESISTOR	
◪	FIRE PROOF CARBON FILM RESISTOR	
□	CEMENT MOLDED RESISTOR	
⊘	SEMI VARIABLE RESISTOR	
■	CHIP RESISTOR	

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

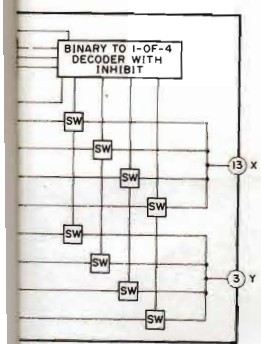
IC201 : LC7582 (LCD Driver)



IC103 : TC4053BP (Triple 2-Channel Multiplexer/Demultiplexer)

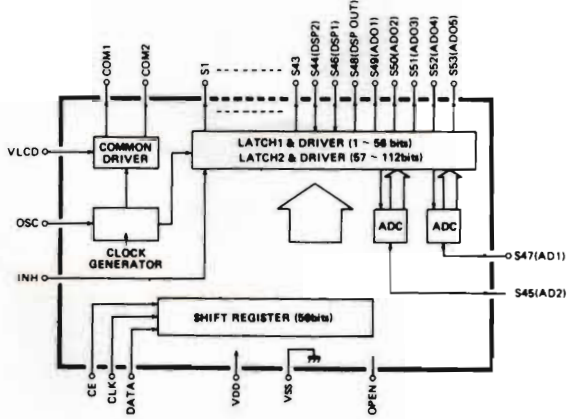


nel Multiplexer/Demultiplexer)



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



** All voltage are measured with a 10MΩ/DC electric volt meter.*

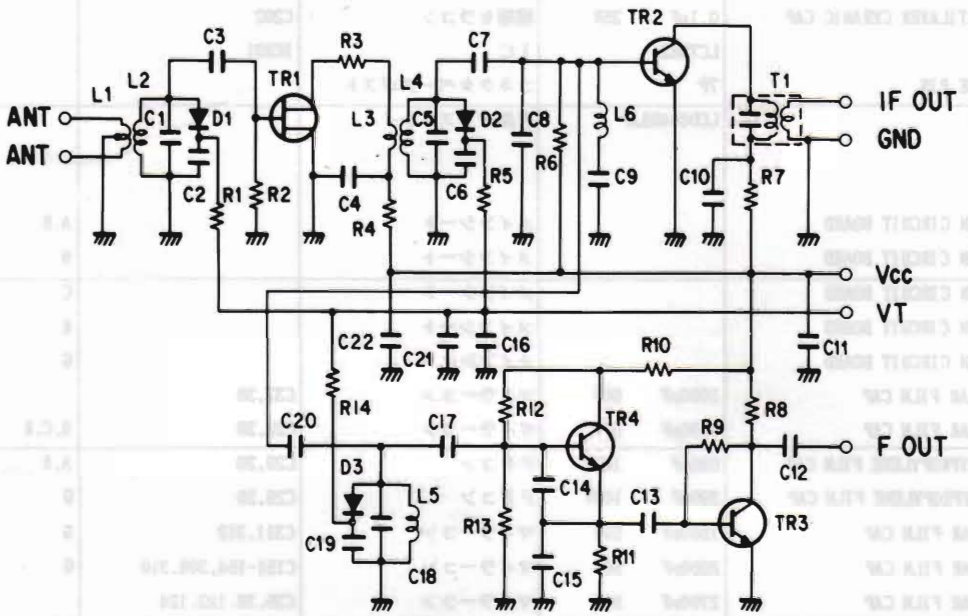
** Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.*

** Schematic diagram is subject to change without notice.*

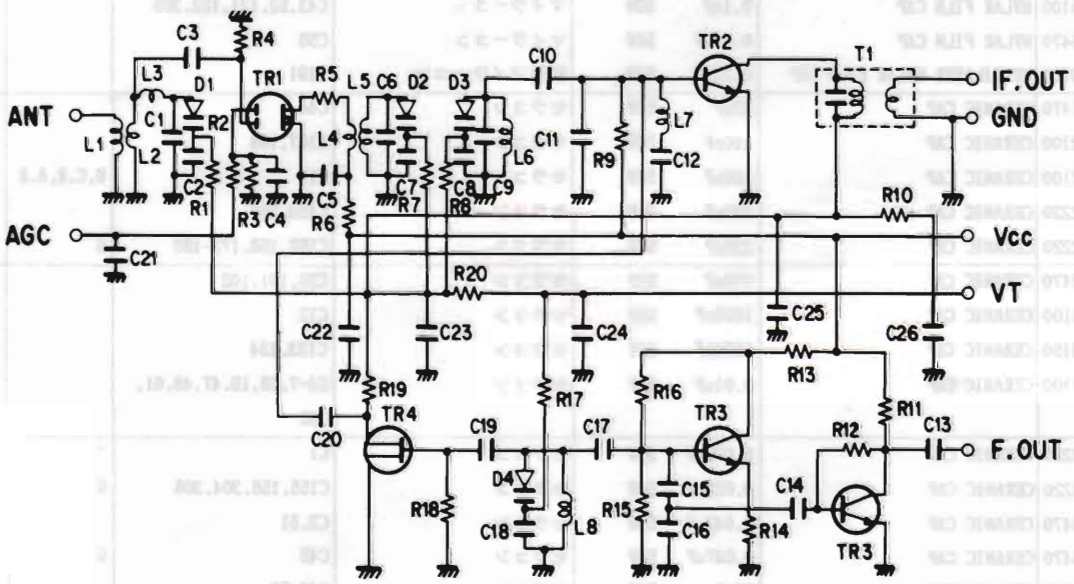
■ FRONT END PACK

● FM FRONT END PACK (PK101)

U, C, R, A, B Models : TFFG1U117A



G Model only : TFFG3E132A



RX-450

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 P. 33.

Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
	VG479100	LCD DISPLAY CIRCUIT BOARD		LCDシート			
	FG212680	CERAMIC CAP	680pF 50V	セラコン	C201		
	FZ005880	MULTILAYER CERAMIC CAP	0.1uF 25V	積層セラコン	C202		
	XB417001	IC	LC7582	IC	IC201		
	VB858600	BASE PIN	7P	コネクタベースポスト			
	VF948400	LCD	LCD8046BJP	液晶ディスプレイ			
*	VJ918600	MAIN CIRCUIT BOARD		メインシート		A,B	
*	VJ918300	MAIN CIRCUIT BOARD		メインシート		U	
*	VJ918400	MAIN CIRCUIT BOARD		メインシート		C	
*	VJ918500	MAIN CIRCUIT BOARD		メインシート		R	
*	VJ918700	MAIN CIRCUIT BOARD		メインシート		G	
	FA153100	MYLAR FILM CAP	1000pF 50V	マイラーコン	C37,38		
	FA153110	MYLAR FILM CAP	1100pF 50V	マイラーコン	C29,30	U,C,R	
	UT452680	POLYPROPYLENE FILM CAP	680pF 100V	PPコン	C29,30	A,B	
	UT452390	POLYPROPYLENE FILM CAP	390pF 100V	PPコン	C29,30	G	
	FA153150	MYLAR FILM CAP	1500pF 50V	マイラーコン	C311,312	G	
	FA153220	MYLAR FILM CAP	2200pF 50V	マイラーコン	C151-154,309,310	G	
	FA153270	MYLAR FILM CAP	2700pF 50V	マイラーコン	C35,36,123,124		
	FA153390	MYLAR FILM CAP	3900pF 50V	マイラーコン	C39,40		
	FA153910	MYLAR FILM CAP	9100pF 50V	マイラーコン	C165,166		
	FA154100	MYLAR FILM CAP	0.01uF 50V	マイラーコン	C147-150	G	
	FA154180	MYLAR FILM CAP	0.018uF 50V	マイラーコン	C119,120,125,126		
	FA154220	MYLAR FILM CAP	0.022uF 50V	マイラーコン	C103,104,195		
	FA154330	MYLAR FILM CAP	0.033uF 50V	マイラーコン	C145,146,167,168		
	FA154470	MYLAR FILM CAP	0.047uF 50V	マイラーコン	C22		
	FA155100	MYLAR FILM CAP	0.1uF 50V	マイラーコン	C43,52,121,122,305		
	FA155470	MYLAR FILM CAP	0.47uF 50V	マイラーコン	C56		
*	VK500700	MULTILAYER MYLAR FILM CAP	0.22uF 63V	積層マイラーコン	C191		
	FG211470	CERAMIC CAP	47pF 50V	セラコン	C44		
	FG212100	CERAMIC CAP	100pF 50V	セラコン	C107,108		
	FG212100	CERAMIC CAP	100pF 50V	セラコン	C11	U,C,R,A,B	
	FG212220	CERAMIC CAP	220pF 50V	セラコン	C159,160		
	FG212220	CERAMIC CAP	220pF 50V	セラコン	C157,158,173-180	G	
	FG212470	CERAMIC CAP	470pF 50V	セラコン	C28,101,102		
	FG213100	CERAMIC CAP	1000pF 50V	セラコン	C12		
	FG213150	CERAMIC CAP	1500pF 50V	セラコン	C133,134		
	FG244100	CERAMIC CAP	0.01uF 50V	セラコン	C4-7,18,19,47,48,61,306		
	FG244220	CERAMIC CAP	0.022uF 50V	セラコン	C1		
	FG244220	CERAMIC CAP	0.022uF 50V	セラコン	C155,156,304,308	G	
	FG244470	CERAMIC CAP	0.047uF 50V	セラコン	C2,51		
	FG244470	CERAMIC CAP	0.047uF 50V	セラコン	C45	G	
	VA761200	CERAMIC CAP	33pF 50V	セラコン	C49,50		
	FZ005880	MULTILAYER CERAMIC CAP	0.1uF 25V	積層セラコン	C54		
	UJ828100	ELECTROLYTIC CAP	100uF 10V	ケミコン	C63,64,189		
	UJ837100	ELECTROLYTIC CAP	10uF 16V	ケミコン	C13,16,31,32,186,187,192,193		
	UJ837220	ELECTROLYTIC CAP	22uF 16V	ケミコン	C302		

※New Parts (新規部品)

ランク : Japan only

Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク	
	UJ837470	ELECTROLYTIC CAP	47uF 16V	ケミコン	C115,116,127,128,188			
	UJ838100	ELECTROLYTIC CAP	100uF 16V	ケミコン	C41,46,59,163,164,171, 172,182,139,140			⚠
	UJ838330	ELECTROLYTIC CAP	330uF 16V	ケミコン	C3			⚠
*	UJ857470	ELECTROLYTIC CAP	47uF 35V	ケミコン	C137,138			
	UJ865100	ELECTROLYTIC CAP	0.1uF 50V	ケミコン	C105,106			
	UJ865470	ELECTROLYTIC CAP	0.47uF 50V	ケミコン	C20,25			
	UJ866100	ELECTROLYTIC CAP	1uF 50V	ケミコン	C24,26,27,33,34,42,55, 161,162,183,184,301, 307			
	UJ866220	ELECTROLYTIC CAP	2.2uF 50V	ケミコン	C8,109,110,117,118,169 ,170			
	UJ866330	ELECTROLYTIC CAP	3.3uF 50V	ケミコン	C17			
	UJ866470	ELECTROLYTIC CAP	4.7uF 50V	ケミコン	C15,111,112,194			
	UJ867100	ELECTROLYTIC CAP	10uF 50V	ケミコン	C9,14,58,62,190,303			⚠
*	VK182500	ELECTROLYTIC CAP	330uF 63V	ケミコン	C181			
*	VK043200	ELECTROLYTIC CAP	5600uF 56V	ケミコン	C196,197			
	FM116100	ELECTROLYTIC CAP	1uF 50V	ＢＰケミコン	C60,185			
	FM176220	ELECTROLYTIC CAP	2.2uF 50V	ＢＰケミコン	C23			
	FM176330	ELECTROLYTIC CAP	3.3uF 50V	ＢＰケミコン	C129-132			
	VB170100	ELECTROLYTIC CAP	4.7mF 5.5V	バックアップケミコン	C53			
	Vi861500	METALIZED POLYESTER FILM CAP	3900pF 100V	メタライズドポリコン	C57			
	Vi862200	METALIZED POLYESTER FILM CAP	0.1uF 100V	メタライズドポリコン	C198,199			
	FU350700	MICA CAP	7pF 500V	マイカコン	C113,114			
	FU451680	MICA CAP	68pF 500V	マイカコン	C141-144			
	VC793700	COIL		空芯コイル	L101,102			
	VC362000	COIL	1mH	コイル	L1,2			
	GE901850	COIL	39mH	固定インダクター	L3,4			
	GE100470	AM COIL	450K P-7GB	ＩＦＴ	T2			
	VC218600	COIL	10.7MHz RZ-002	検波コイル	T1			
	GE200530	FILTER	KM-10DB	ＬＣフィルター	T3	G		
	HV453100	FLAME PROOF CARBON RESISTOR	1Ω 1/4W	不燃化カーボン抵抗	R322,320			⚠
	HV453220	FLAME PROOF CARBON RESISTOR	2.2Ω 1/4W	不燃化カーボン抵抗	R179,180,356,357-377	G		
	HV453470	FLAME PROOF CARBON RESISTOR	4.7Ω 1/4W	不燃化カーボン抵抗	R171-174,371			⚠
	HV454100	FLAME PROOF CARBON RESISTOR	10Ω 1/4W	不燃化カーボン抵抗	R358,359			⚠
	HV454150	FLAME PROOF CARBON RESISTOR	15Ω 1/4W	不燃化カーボン抵抗	R77			
	HV454220	FLAME PROOF CARBON RESISTOR	22Ω 1/4W	不燃化カーボン抵抗	R339,197,198			⚠
	HV454330	FLAME PROOF CARBON RESISTOR	33Ω 1/4W	不燃化カーボン抵抗	R3,61			⚠
	HV455470	FLAME PROOF CARBON RESISTOR	470Ω 1/4W	不燃化カーボン抵抗	R155,156,199			⚠
	HV456270	FLAME PROOF CARBON RESISTOR	2.7KΩ 1/4W	不燃化カーボン抵抗	R151,152,157,158			⚠
	HU595100	METAL FILE RESISTOR	100Ω 1/4W	金属被膜抵抗	R193,194			
	HU575220	METAL FILM RESISTOR	220Ω 1/4W	金属被膜抵抗	R368,369			
	HU575330	METAL FILM RESISTOR	330Ω 1/4W	金属被膜抵抗	R341-348			
	HU576120	METAL FILM RESISTOR	1.2KΩ 1/4W	金属被膜抵抗	R334			
	HU576220	METAL FILM RESISTOR	2.2KΩ 1/4W	金属被膜抵抗	R329,338			
	HU576330	METAL FILM RESISTOR	3.3KΩ 1/4W	金属被膜抵抗	R332			
	HU576560	METAL FILM RESISTOR	5.6KΩ 1/4W	金属被膜抵抗	R321,355,370			
	HU576820	METAL FILM RESISTOR	8.2KΩ 1/4W	金属被膜抵抗	R189,190			
	HU597100	METAL FILM RESISTOR	10KΩ 1/4W	金属被膜抵抗	R335,336			
	HU597130	METAL FILM RESISTOR	13KΩ 1/4W	金属被膜抵抗	R328			

※New Parts（新規部品）

ランク：Japan only

Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク	
	HU577150	METAL FILM RESISTOR	15KΩ 1/4W	金属被膜抵抗	R327			
	HU577220	METAL FILM RESISTOR	22KΩ 1/4W	金属被膜抵抗	R357			
	HU577330	METAL FILM RESISTOR	33KΩ 1/4W	金属被膜抵抗	R337			
	HU598100	METAL FILM RESISTOR	100KΩ 1/4W	金属被膜抵抗	R191,192,195,196,303, 305,309,310			
	HU578180	METAL FILM RESISTOR	180KΩ 1/4W	金属被膜抵抗	R308			
	HU598220	METAL FILM RESISTOR	220KΩ 1/4W	金属被膜抵抗	R304,306			
	HU578270	METAL FILM RESISTOR	270KΩ 1/4W	金属被膜抵抗	R311			
	HU578470	METAL FILM RESISTOR	470KΩ 1/4W	金属被膜抵抗	R360-365			
	HL324680	METAL OXIDE RESISTOR	68Ω 2W	酸化金属被膜抵抗	R60			
	HL325220	METAL OXIDE RESISTOR	220Ω 2W	酸化金属被膜抵抗	R175,176			⚠
	HL425820	METAL OXIDE RESISTOR	820Ω 2W	酸化金属被膜抵抗	R340			⚠
※	VJ787600	METAL PLATE RESISTOR	MPC725 0.22+0.22	金属板抵抗	R161,162			⚠
※	VK187800	FUSABLE RESISTOR	100Ω 1/4W	ヒューズ抵抗	R326			⚠
※	VK188600	FUSABLE RESISTOR	470Ω 1/4W	ヒューズ抵抗	R159,160			⚠
	iG158100	IC	LA3401	IC	IC2			⚠
※	XA956A00	IC	NJM2068S	IC	IC101			
※	XB760A00	IC	LA1266	IC	IC1			⚠
	XF557A00	IC	TA7291S	IC	IC5			⚠
	iG055100	IC	TC4053BP	IC	IC103			
※	XA053A00	IC	TC4052BP	IC	IC102			
※	Xi267B00	IC	LC6554	IC	IC4			
※	XB818A00	IC	LM7000N	IC	IC3			
	VF926500	LIGHT DETECTING MODULE	GP1U501X	リモコン受光ユニット	U2			
	Vi027300	AM COIL PACK		AM コイルパック	U1			
	VA961800	VOLTAGE SELECTOR	ESE-37247-F	電圧切替器	SW104	R		⚠
	VF541200	SLIDE SWITCH	SSSF11	スライドSW	SW1	R		
※	VJ774800	ROTARY SWITCH	SRBU	ロータリーSW	SW17			
	KA906380	PUSH SWITCH	EVQ-QRB04M	プッシュSW	SW2-15			
	VG604400	PUSH SWITCH	PSE0P-A4KX	プッシュSW	SW101			
	VJ850400	PUSH SWITCH	PSE0YP-CF2LX	プッシュSW	SW102			
※	VJ888600	PUSH SWITCH	PSE 2-2	プッシュSW	SW16			
	VJ850200	PUSH SWITCH	PSE021A2KP 2	プッシュSW	SW103			
	VE681500	PUSH SWITCH	SPUN12	プッシュSW	SW18			
	KB002980	FUSE	2.5A 250V	ヒューズ	F103	G		⚠
	VC278600	RELAY	G5R-2232P	リレー	RY101			
※	VJ888700	RELAY	DG24D1-0	リレー	RY1			
	LA002410	LAPPING TERMINAL	2P L-102B	ラッピング端子	TE103	U,C,R		
	LA002410	LAPPING TERMINAL	2P L-102B	ラッピング端子	TE104	A,B,G		
	LB301720	PHONES JACK	M1669-A	ホーンジャック	JK101			
※	VJ726800	MINI JACK	SWﾂｷ JC-6	モノラル ミニジャック	JK1			
	VB845900	SPEAKER TERMINAL	PT-C08P04	スピーカ端子	TE101			
	VA845900	ANTENNA TERMINAL	YKD21-0028A	アンテナ端子	TE1	U,C,R,A,B		
	LA005800	ANTENNA TERMINAL	YKD31-0215	アンテナ端子	TE1	G		
	LB401460	AC OUTLET	2P M7031-C	電源コネクタ	TE102	U,C,R		⚠
	LB202290	PIN JACK	T5856-A	ピンジャック	PJ101			
	LB202290	PIN JACK	T5856-A	ピンジャック	PJ104	G		
	LB401030	PIN JACK	T5857-A	ピンジャック	PJ102			
	LB401030	PIN JACK	T5857-A	ピンジャック	PJ103	U,C,R,A,B		
	LB202270	PIN JACK	T5854-A	ピンジャック	PJ103	G		

※New Parts (新規部品)

ランク : Japan only

Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク	
	VD004900	BASE PIN	PH 6P TE	ベースピン	CB101			
	VD005200	BASE PIN	PH 9P TE	ベースピン	CB103			
	VD005400	BASE PIN	PH 2P SE	ベースピン	CB102			
	VC219300	FRONT END PACK	TFFG1U117A	パック	PK1	U,C,R,A,B		
	VE155800	FRONT-END PACK		フロントエンドパック	PK1	G		
	QU003800	QUARTS CRYSTAL	7.2Mz HC-49/U	水晶振動子	XL2			
	GG000750	CERAMIC RESONATOR	18.95Mz CSB456F11	セラミック振動子	XL1			
	VD827600	CERAMIC RESONATOR	4MHz	セラミック振動子	XL3			
	VC219000	CERAMIC FILTER	450Kz SFZ450JL3	セラミックフィルター	CF3			
	GG000560	CERAMIC FILTER	10.7Mz SFE10.7MS3G	セラミックフィルター	CF1,2			
	VJ693000	PRE-SET POTENTIOMETER	B1KΩ	半固定ＶＲ	VR103,104			
*	VJ694000	PRE-SET POTENTIOMETER	B47KΩ	半固定ＶＲ	VR1,2			
	VG194100	POTENTIOMETER	RK16Z	ＶＲ ４連	VR101			
*	VJ774900	POTENTIOMETER WITH MOTOR	Y100KΩ	モーターツキＶＲ	VR102			
	iA093370	TRANSISTOR	2SA933S Q,R	トランジスタ	Q3,126-129			
	iA093410	TRANSISTOR	2SA934 P,Q,R	トランジスタ	Q131			⚠
	iA097030	TRANSISTOR	2SA970 GR,BL	トランジスタ	Q107-110,121,122			
	iA097030	TRANSISTOR	2SA970 GR,BL	トランジスタ	Q9,123	R		
	iA131000	TRANSISTOR	2SA1310 R,S,T	トランジスタ	Q9,123	U,C,A,B,G		
*	VK334300	TRANSISTOR	2SB1332	トランジスタ	Q138			⚠
	VC614000	TRANSISTOR	2SB1274 Q,R,S	トランジスタ	Q10			
*	VJ888800	TRANSISTOR	2SB865	トランジスタ	Q133			⚠
	iC174070	TRANSISTOR	2SC1740S R,S	トランジスタ	Q4-7,130,136			
	iC053540	TRANSISTOR	2SC535 A,B,C	トランジスタ	Q1			
*	VK407600	TRANSISTOR	2SC4208A Q,R,S	トランジスタ	Q135			⚠
*	iC206010	TRANSISTOR	2SC2060 P,Q,R	トランジスタ	Q132			⚠
	iC224000	TRANSISTOR	2SC2240 GR,BL	トランジスタ	Q103-106			
	iC224030	TRANSISTOR	2SC2240 GR,BL	トランジスタ	Q111,112			
	iC224030	TRANSISTOR	2SC2240 GR,BL	トランジスタ	Q8,125	R		
	iC331200	TRANSISTOR	2SC3312 R,S,T	トランジスタ	Q8,125	U,C,A,B,G		
*	iD043820	TRANSISTOR	2SD438	トランジスタ	Q124			
	VC218900	TRANSISTOR	2SC3330 R,S,T	トランジスタ	Q134			
*	VJ913300	TRANSISTOR	2SD1277 R,Q,P	トランジスタ	Q137			⚠
*	VK432900	TRANSISTOR	2SD1915(F)	トランジスタ	Q101,102			
*	iB056010	TRANSISTOR	2SB560 E,F	トランジスタ	Q115,116			⚠
	iD043810	TRANSISTOR	2SD438 E,F	トランジスタ	Q113,114			⚠
	iF004600	DIODE	1SS133 T-77	ダイオード	D1-5,8-12,20,105,107,108			
	VC398400	DIODE	MA185	ダイオード	D111,113			⚠
	iF008480	DIODE	1SR35-100AT	ダイオード	D114,115			⚠
*	VG435800	ZENER DIODE	MTZJ3A 3V	ツェナーダイオード	D106			
	VG436200	ZENER DIODE	MTZJ3.6A 3.6V	ツェナーダイオード	D6			
	VG438100	ZENER DIODE	MTZJ6.2C 6.2V	ツェナーダイオード	D110			⚠
	VG439300	ZENER DIODE	MTZJ9.1C 9.1V	ツェナーダイオード	D101,102			
	VG440200	ZENER DIODE	MTZJ12B 12V	ツェナーダイオード	D103			
	VG440300	ZENER DIODE	MTZJ12C 12V	ツェナーダイオード	D104			⚠
	VG442500	ZENER DIODE	MTZJ24B 24V	ツェナーダイオード	D19,109			⚠
	VC971500	DIODE BRIDGE	RBV-402 4A 200V	ダイオードブリッジ	D112			⚠
	Vi013600	LED	SLR-34VC3H3	ＬＥＤ	D17,18			
	VF402500	LED	SLR-34DC3H3	ＬＥＤ	D13-16			

*New Parts（新規部品）

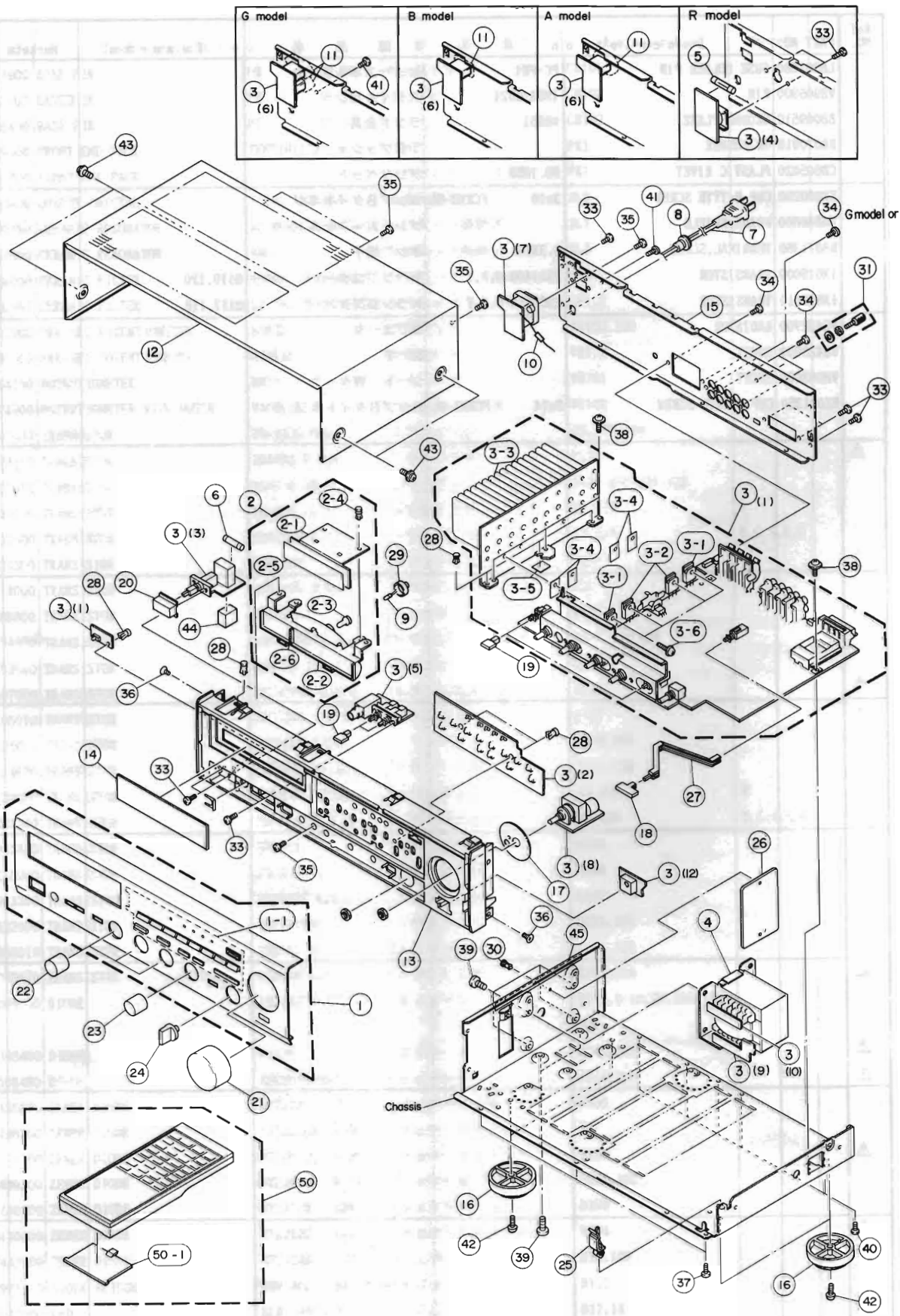
ランク：Japan only

Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ﾗﾝｸ	
	LB201880	FUSE HOLDER PIN	PC-FH1	ヒューズホルダピン				
	VB966900	PIN	IMSA-6024	スタイルピン		C		
	BB069510	GROUND PLATE	#6951	ランド金具				
	BB070910	TR PUSHER		TRプッシャー				
	CB605620	PLASTIC RIVET	NO.1057	プラリベット				
	EX600250	CUP B-TYTE SCREW	3x10 FCRM3-BL	カップBタイトネジ				
	VG646600	FRAME,SHIELD		フレーム・シールド				
	BB071360	TERMINAL,SCREW	8.3X13	ネジ゛端子		G		
	iX615600	TRANSISTOR	2SA1490 O,P,Y	トランジスタ	Q119,120			⚠
	iX615610	TRANSISTOR	2SC3854 O,P,Y	トランジスタ	Q117,118			⚠
	VG432700	RADIATOR		ラジエータ				
	VG428900	SHEET		シート				
	VH083500	SHEET		シート Wタック				
	EZ001350	CUP B-TYTE SCREW	3x14 FCRM3-BL	カップBタイトネジ				

※New Parts (新規部品)

ランク : Japan only

■ EXPLODED VIEW



■ MECHANICAL PARTS Note) Ø : Diameter

	Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
※	01	VJ918100	PANEL UNIT		パネルユニット	BL		
※	01	VJ918200	PANEL UNIT		パネルユニット	T		
	02	VG478900	LCD UNIT		ＬＣＤユニット			
	02-1	VG479100	LCD DISPLAY CIRCUIT BOARD		ＬＣＤシート			
	02-2	VG433100	REFRECTOR,LCD	LCD	リフレフター			
	02-3	VF444500	LAMP CAP	AG-4015	ランプキャップ			
	02-4	CB605620	PLASTIC RIVET	NO.1057	プラリベット			
	02-5	VG433200	SHEET,LCD	LCD	シート			
	02-6	VH083600	DUMPER		ダンパー シャコウ			
※	03	VJ918300	MAIN CIRCUIT BOARD		メインシート		U	
※	03	VJ918400	MAIN CIRCUIT BOARD		メインシート		C	
※	03	VJ918500	MAIN CIRCUIT BOARD		メインシート		R	
※	03	VJ918600	MAIN CIRCUIT BOARD		メインシート		A,B	
※	03	VJ918700	MAIN CIRCUIT BOARD		メインシート		G	
	03-1	iX615600	TRANSISTOR	2SA1490	トランジスタ	Q119,120		⚠
	03-2	iX615610	TRANSISTOR	2SC3854	トランジスタ	Q117,118		⚠
	03-3	VG432700	RADIATOR		ラジエター			
	03-4	VG428900	SHEET		シート			
	03-5	VH083500	SHEET		シート			
	03-6	EZ001350	CUP TIGHT SCREW	3x14 FCRM3-BL	カップタイトネジ			
※	04	Xi269A00	POWER TRANSFORMER		電源トランス		U	⚠
※	04	Xi270A00	POWER TRANSFORMER		電源トランス		C	⚠
※	04	Xi271A00	POWER TRANSFORMER		電源トランス		R	⚠
※	04	Xi272A00	POWER TRANSFORMER		電源トランス		A,B	⚠
※	04	Xi273A00	POWER TRANSFORMER		電源トランス		G	⚠
	05	KB000680	FUSE	1.25A 250V	ヒューズ		R	⚠
	06	KB003180	FUSE	4A 250V	ヒューズ		U,C	⚠
	06	KB000680	FUSE	1.25A 250V	ヒューズ		A,B,G	⚠
	06	KB000760	FUSE	3.15A 250V	ヒューズ		R	⚠
	07	MG002220	POWER CORD	10A 125V	電源コード		U	⚠
	07	VE371000	POWER CORD	6A 250V	電源コード		R	⚠
	07	MG002310	POWER CORD	7.5A 250V	電源コード		A	⚠
	07	MG002330	POWER CORD	6A 300V	電源コード		B	⚠
	07	MG002320	POWER CORD	2.5A 250V	電源コード		G	⚠
	08	CB620200	CORD STOPPER	CM-22C	コードストッパー		U,C	
	08	CB620190	CORD STOPPER	CM-22B	コードストッパー		R,A,B,G	
※	09	VJ835300	LAMP	14.5V 115mA	ランプ			
	10	HG309220	CARBON RESISTOR	2.2MΩ 1/2W	カーボン抵抗		U,C	⚠
※	11	VJ775000	AC OUTLET	2P	ＡＣアウトレット		B	⚠
※	11	VJ775100	AC OUTLET	2P	ＡＣアウトレット		G	⚠
	11	VC626100	AC OUTLET		電源コネクタ		A	⚠
	12	AA625520	TOP COVER		トップカバー	BL		
	12	VH249400	TOP COVER		トップカバー	T		
	13	VJ423200	SUB CHASSIS		サブシャーシ	BL		
	13	VJ423300	SUB CHASSIS		サブシャーシ	T		
	14	VK248300	PLATE LCD	LCD	プレート			
※	15	VJ829200	REAR PANEL		リヤパネル		U	
※	15	VJ829300	REAR PANEL		リヤパネル		C	
※	15	VJ829400	REAR PANEL		リヤパネル		R	
※	15	VJ829500	REAR PANEL		リヤパネル		A,B	

※New Parts (新規部品)

ランク : Japan only

Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
※ 15	VJ829600	REAR PANEL		リヤパネル		G	
16	CB660950	LEG		レッグ	BL		
16	Vi175700	LEG		レッグ	T		
17	VH087800	SHIELD PLATE		シールドプレート			
18	VH877000	BUTTON	6/19	ボタン	BL		
18	VH877100	BUTTON	6/19	ボタン	T		
19	VH816000	BUTTON	3/14	ボタン	BL		
19	VH816100	BUTTON	3/14	ボタン	T		
20	VH841900	BUTTON	10/25	ボタン	BL		
20	VH842000	BUTTON	10/25	ボタン	T		
※ 21	VK054300	KNOB		ノブ	BL		
※ 21	VK054400	KNOB		ノブ	T		
22	Vi211300	KNOB		ノブ	BL		
22	Vi211200	KNOB		ノブ	T		
23	VJ424200	KNOB	D14	ノブ	BL		
23	VJ424300	KNOB	D14	ノブ	T		
24	VI251000	KNOB	D14	ノブ	BL		
24	VI251100	KNOB	D14	ノブ	T		
25	VA772900	P.C.B SUPPORT		基板サポート			
26	VJ646800	FRAME,RADIATOR		フレーム・ホウネツ			
27	VJ423900	ROD		ロッド			
28	CB605620	PLASTIC RIVET	NO.1057	プラリベット			
29	VG650400	RING		リング			
30	CB603240	PLASTIC RIVET	NO.590	プラリベット			
31	AA627310	GROUND TERMINAL		GNDターミナル			
33	ED330066	BIND HEAD SCREW	3x6 FCM3-BL	バインド小ネジ			
34	EZ000460	BONDING TAPPING SCREW	3x8 FCM3-BL	ボンディングネジ			
35	Ei330086	BIND TAPPING SCREW	3x8 FCM3-BL	バインドタッピングネジ			
36	EO330066	FLAT HEAD TAPPING SCREW	3x6 ZMC2-BL	皿タッピングネジ			
37	EX601360	BIND TAPPING SCREW	3x10 MFC3-BL	バインドタッピングネジ			
38	EX600240	BW HEAD TAPPING SCREW	3x8 FCM3-BL	BWヘッドタッピングネジ			
39	Ei340086	BIND TAPPING SCREW	4x8 FCRM3-BL	バインドタッピングネジ			
40	Ei030066	BIND TAPPING SCREW	3x6 ZMC2-BL	バインドタッピングネジ			
41	Ei130120	BIND TAPPING SCREW	3x12 FNM3-3G	バインドタッピングネジ		U,C,G	
42	EK336010	BW HEAD TAPPING SCREW	3x8 FCM3-BL	BWヘッドタッピングネジ			
43	EK365040	BW HEAD SCREW	4x8 FCM3-BL	BWヘッド小ネジ	BL		
43	EX601150	BW HEAD S-TYTE SCREW	4x8 FNM3-BL	BWヘッド小ネジ	T		
44	VH088000	SPACER		スペーサー			
45	CB652050	DAMPER		ダンパー			
46	CB069250	BIND TIE	BK-1	束線止め			
		ACCESSORIS		付属品			
※ 50	VJ931500	REMOTE CONTROL TRANSMITTER		トランスミッター			
※ 50-1	CX615920	LID		電池蓋			
		DRY CELL	UM-4(NG)	マンガン電池			
	VE366200	LOOP ANTENNA		ループアンテナ			
	VG850600	ANTENNA,FM	1.42M	FMアンテナコード		U,C,R,A,B	
	VG850700	ANTENNA,FM	1.43M	FMアンテナコード		G	

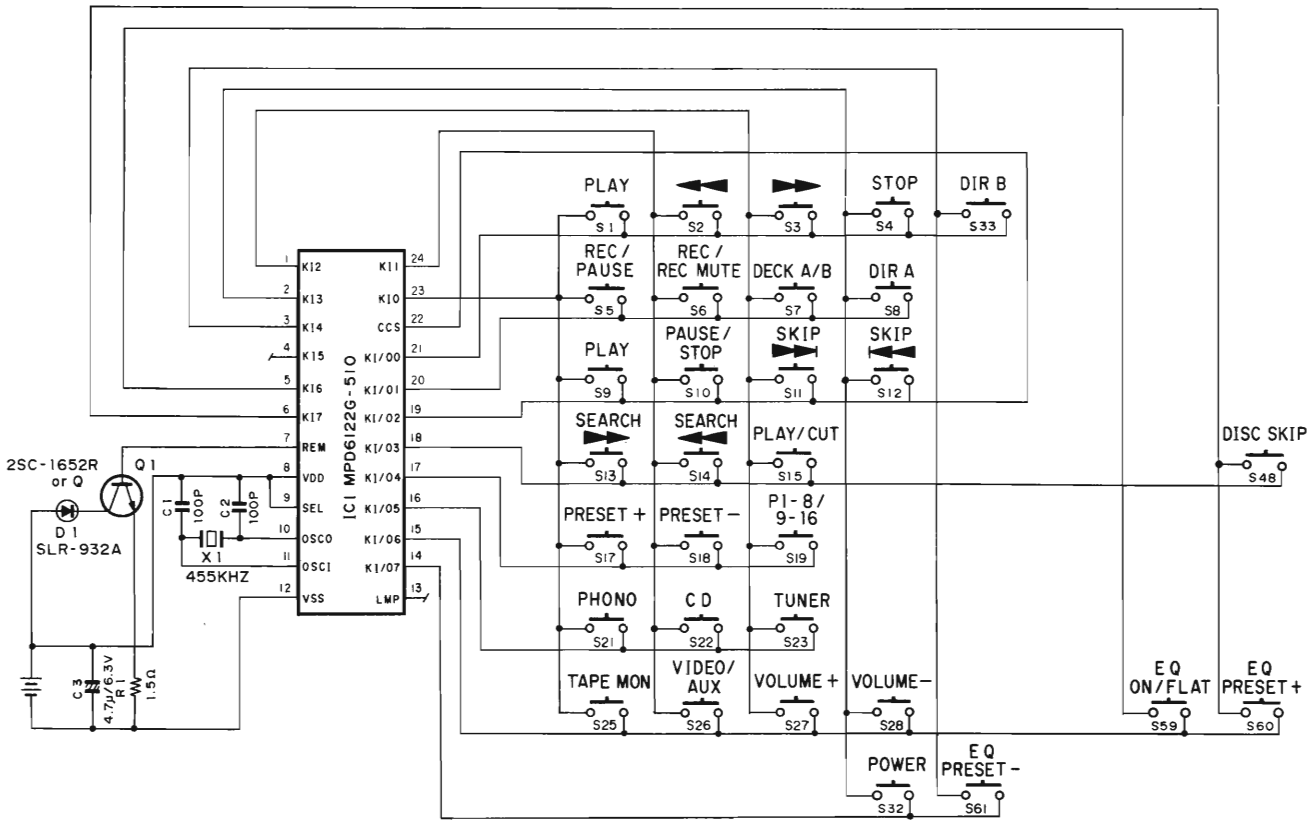
※New Parts (新規部品)

ランク : Japan only

RX-450

REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM



CUSTOM CODE

C0	C1	C2	C3	C4	C5	C6	C7
0	1	0	1	1	1	1	0

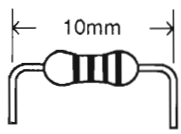
KEY No.	DATA CODE								FUNCTION
	D0	D1	D2	D3	D4	D5	D6	D7	
1	0	0	0	0	0	0	0	0	TAPE PLAY
2	1	0	0	0	0	0	0	0	TAPE ◀◀
3	0	1	0	0	0	0	0	0	TAPE ▶▶
4	1	1	0	0	0	0	0	0	TAPE STOP
5	0	0	1	0	0	0	0	0	TAPE REC/PAUSE
6	1	0	1	0	0	0	0	0	TAPE REC MUTE
7	0	1	1	0	0	0	0	0	TAPE DECK A/B
8	1	1	1	0	0	0	0	0	TAPE DIR A
9	0	0	0	1	0	0	0	0	CD PLAY
10	1	0	0	1	0	0	0	0	CD PAUSE/STOP
11	0	1	0	1	0	0	0	0	CD ▶▶I
12	1	1	0	1	0	0	0	0	CD I◀◀
13	0	0	1	1	0	0	0	0	CD ◀◀
14	1	0	1	1	0	0	0	0	CD ◀◀
15	0	1	1	1	0	0	0	0	PHONO PLAY/CUT
17	0	0	0	0	1	0	0	0	TUNER PRESET +
18	1	0	0	0	1	0	0	0	TUNER PRESET –
19	0	1	0	0	1	0	0	0	TUNER P1—8 /P9—16
21	0	0	1	0	1	0	0	0	PHONO
22	1	0	1	0	1	0	0	0	CD
23	0	1	1	0	1	0	0	0	TUNER
25	0	0	0	1	1	0	0	0	TAPE MON
26	1	0	0	1	1	0	0	0	VIDEO/AUX
27	0	1	0	1	1	0	0	0	VOLUME +
28	1	1	0	1	1	0	0	0	VOLUME –
32	1	1	1	1	1	0	0	0	POWER
33	0	0	0	0	0	0	1	0	TAPE DIR B
48	1	1	1	1	0	0	1	0	CD DISC SKIP
59	0	1	0	1	1	0	1	0	EQ ON/FLAT
60	1	1	0	1	1	0	1	0	EQ PRESET +
61	0	0	1	1	1	0	1	0	EQ PRESET –

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	12 KΩ	HJ35 7120	HF85 7120
1.8 Ω	HJ35 3180	*	15 KΩ	HJ35 7150	HF85 7150
2.2 Ω	HJ35 3220	HF85 3220	18 KΩ	HJ35 7180	HF85 7180
3.3 Ω	HJ35 3330	HF85 3330	22 KΩ	HJ35 7220	HF85 7220
4.7 Ω	HJ35 3470	HF85 3470	27 KΩ	HJ35 7270	HF85 7270
5.6 Ω	HJ35 3560	HF85 3560	33 KΩ	HJ35 7330	HF85 7330
10 Ω	HJ35 4100	HF85 4100	39 KΩ	HJ35 7390	HF85 7390
15 Ω	HJ35 4150	HF85 4150	47 KΩ	HJ35 7470	HF85 7470
22 Ω	HJ35 4220	HF85 4220	56 KΩ	HJ35 7560	HF85 7560
27 Ω	HJ35 4270	HF85 4270	68 KΩ	HJ35 7680	HF85 7680
33 Ω	HJ35 4330	HF85 4330	82 KΩ	HJ35 7820	HF85 7820
39 Ω	HJ35 4390	HF85 4390	91 KΩ	HJ35 7910	HF85 7910
47 Ω	HJ35 4470	HF85 4470	100 KΩ	HJ35 8100	HF85 8100
56 Ω	HJ35 4560	HF85 4560	120 KΩ	HJ35 8120	HF85 8120
68 Ω	HJ35 4680	HF85 4680	150 KΩ	HJ35 8150	HF85 8150
82 Ω	HJ35 4820	HF85 4820	180 KΩ	HJ35 8180	HF85 8180
100 Ω	HJ35 5100	HF85 5100	220 KΩ	HJ35 8220	HF85 8220
110 Ω	HJ35 5110	HF85 5110	270 KΩ	HJ35 8270	HF85 8270
120 Ω	HJ35 5120	HF85 5120	330 KΩ	HJ35 8330	HF85 8330
150 Ω	HJ35 5150	HF85 5150	390 KΩ	HJ35 8390	HF85 8390
160 Ω	HJ35 5160	*	470 KΩ	HJ35 8470	HF85 8470
180 Ω	HJ35 5180	HF85 5180	560 KΩ	HJ35 8560	HF85 8560
220 Ω	HJ35 5220	HF85 5220	680 KΩ	HJ35 8680	HF85 8680
270 Ω	HJ35 5270	HF85 5270	820 KΩ	HJ35 8820	HF85 8820
330 Ω	HJ35 5330	HF85 5330	1.0 MΩ	HJ35 9100	HF85 9100
390 Ω	HJ35 5390	HF85 5390	1.2 MΩ	HJ35 9120	*
470 Ω	HJ35 5470	HF85 5470	1.5 MΩ	HJ35 9150	HF85 9150
510 Ω	*	HF85 5510	1.8 MΩ	HJ35 9180	HF85 9180
560 Ω	HJ35 5560	HF85 5560	2.2 MΩ	HJ35 9220	HF85 9220
680 Ω	HJ35 5680	HF85 5680	3.3 MΩ	HJ35 9330	HF85 9330
820 Ω	HJ35 5820	HF85 5820	3.9 MΩ	HJ35 9390	*
910 Ω	HJ35 5910	HF85 5910	4.7 MΩ	HJ35 9470	HF85 9470
1.0 KΩ	HJ35 6100	HF85 6100			
1.2 KΩ	HJ35 6120	HF85 6120			
1.5 KΩ	HJ35 6150	HF85 6150			
1.8 KΩ	HJ35 6180	HF85 6180			
2.0 KΩ	HJ35 6200	HF85 6200			
2.2 KΩ	HJ35 6220	HF85 6220			
2.4 KΩ	HJ35 6240	HF85 6240			
2.7 KΩ	HJ35 6270	HF85 6270			
3.0 KΩ	HJ35 6300	HF85 6300			
3.3 KΩ	HJ35 6330	HF85 6330			
3.6 KΩ	HJ35 6360	HF85 6360			
3.9 KΩ	HJ35 6390	HF85 6390			
4.7 KΩ	HJ35 6470	HF85 6470			
5.1 KΩ	HJ35 6510	HF85 6510			
5.6 KΩ	HJ35 6560	HF85 6560			
6.8 KΩ	HJ35 6680	HF85 6680			
8.2 KΩ	HJ35 6820	HF85 6820			
9.1 KΩ	HJ35 6910	HF85 6910			
10 KΩ	HJ35 7100	HF85 7100			

1/4W Type

HJ35 ○○○○



1/6W Type

HF85 ○○○○