

MINI COMPONENT SYSTEM

GX-70

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.

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GX-70

100568

YAMAHA
YAMAHA CORPORATION
P.O. Box 1, Hamamatsu, Japan

3K-198 ☐ Printed in Japan '96.12

■ 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 0.15 μ F.



"CAUTION"

"F501 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 2.0A, 125V FUSE."

"F502 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4.0A, 125V FUSE."

"F504, 505 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 3.15A, 125V FUSE."

CAUTION

F501 : REPLACE WITH SAME TYPE 2.0A, 125V FUSE.

F502 : REPLACE WITH SAME TYPE 4.0A, 125V FUSE.

F504, 505 : REPLACE WITH SAME TYPE 3.15A, 125V FUSE.

ATTENTION

F501 : UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE DE 2.0A, 125V.

F502 : UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE DE 4.0A, 125V.

F504, 505 : UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE DE 3.15A, 125V.

CAUTION : USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to carefully follow the instructions below when servicing .

1. Laser Diode Properties

- Material : GaAlAs
- Wavelength : 780 nm
- Emission Duration : Continuous
- Laser Output : max. 44.6 μ W*

* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

2. When checking the laser diode emission, keep your eyes more than 30 cm away from the objective lens.

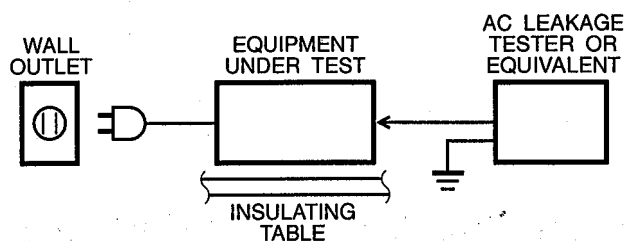
WARNING: CHEMICAL CONTENT NOTICE!

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!

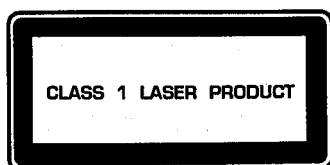
Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

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

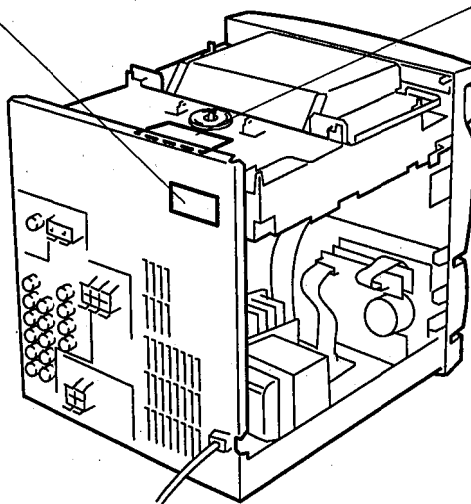
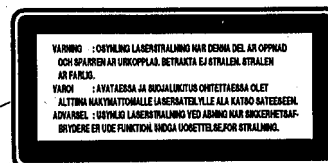


- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.

① B, G, L, T models



② G model



English

① THIS LABEL (SEE POSITION SHOWN IN THE ILLUSTRATION) INFORMS THE USER THAT THE APPARATUS CONTAINS A LASER COMPONENT.

② THIS LABEL (SEE POSITION SHOWN IN THE ILLUSTRATION) WARNS THAT ANY FURTHER PROCEDURE WILL BRING THE USER INTO EXPOSURE WITH THE LASER BEAM.

CAUTION : USE OF CONTROLS, ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN, MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

Swedish

① DENNA MÄRKNING (SE FIGUR) UPPLYSER OM ATT DET I APPARATEN INGÅR EN LASERKOMPONENT AV TYP KLAS 1.

② VARNINGSMÄRKNING (SE FIGUR) FÖR STRÅLNING. INGREPP I APPARATEN BÖR ENDAST FÖRETAGAS AV FACKMAN MED KÄNNEDOM OM LASER. APPARATEN INNEHÅLLER EN LASERKOMPONENT SOM AVGER STRÅLNING ÖVERSTIGANDE GRÄNSEN FÖR LASERKLASS 1.

VARNING : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD: BETRÄKTA EJ STRÅLEN.

Danish

① DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.

② DETTE MÆRKAT OM LASEREN ER ANBRAGT PÅ APPARATET SOM EN OPLYSNING OM AT APPARATET INDEHOLDER ET LASERKOMPONENT.

ADVARSEL : INDGEBB BOR KUN FORETAGES AF EN FAGMAND DA DER ER RISIKO FOR RADIOAKTIV STRÅLING.

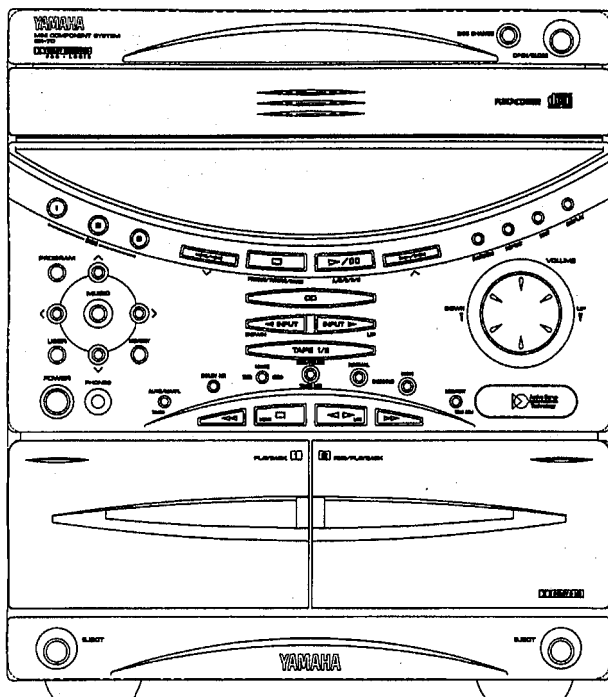
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING.
UNDGÅ UDSAETTELSE FOR STRÅLING.

Finnish

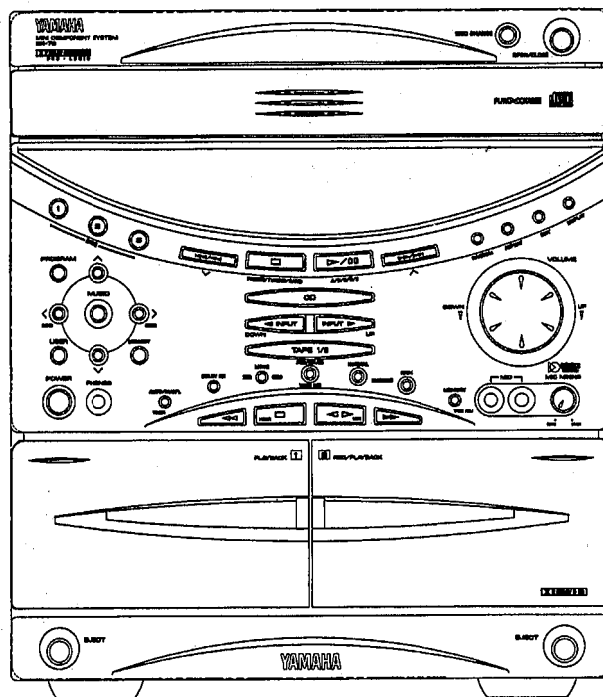
VARO! :
AVATTAESSA OLET ALLTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

FRONT PANELS

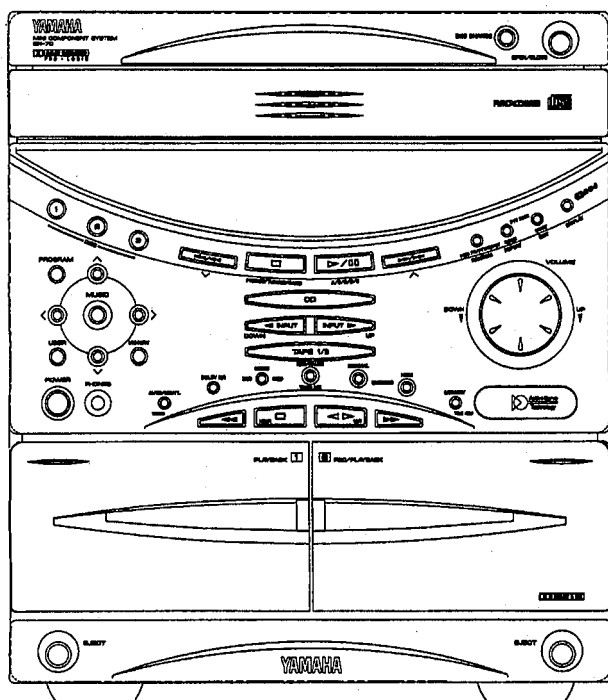
▼ U, C models



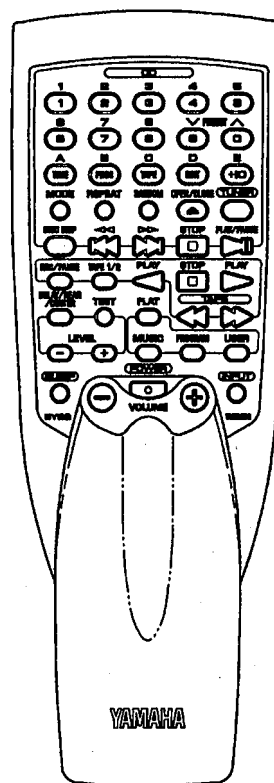
▼ R, A, L, T models



▼ B, G models

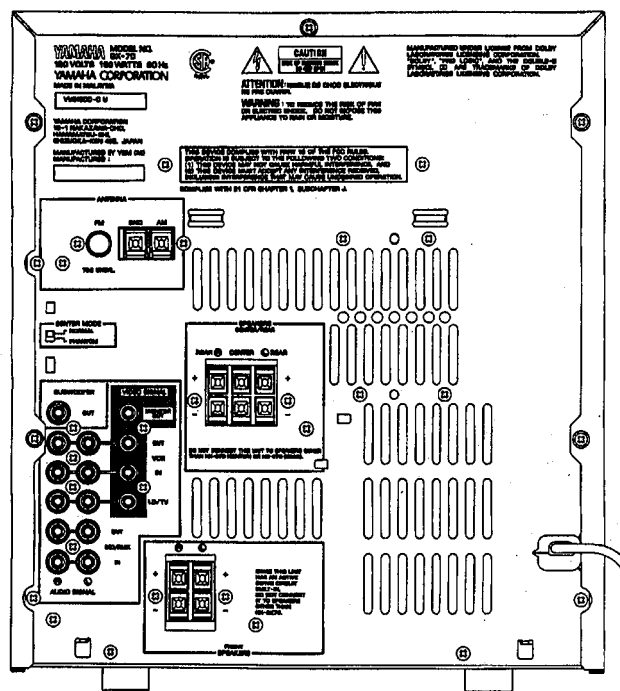


● Remote control transmitter

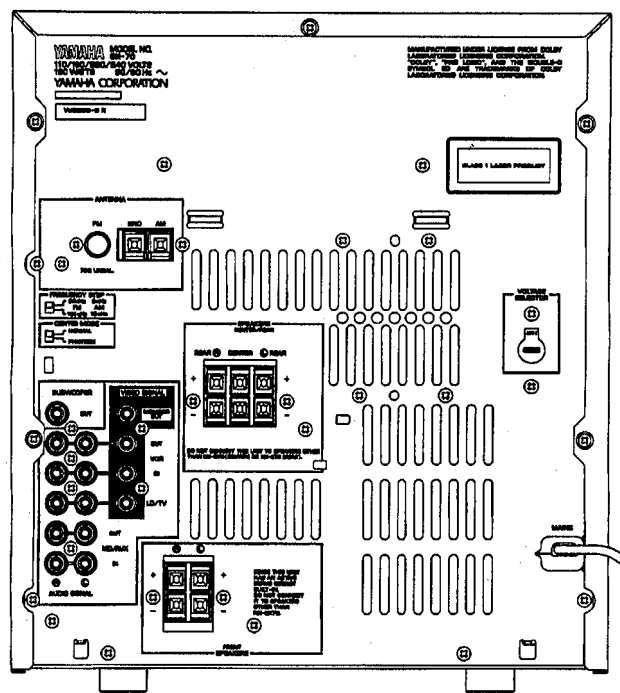


REAR PANELS

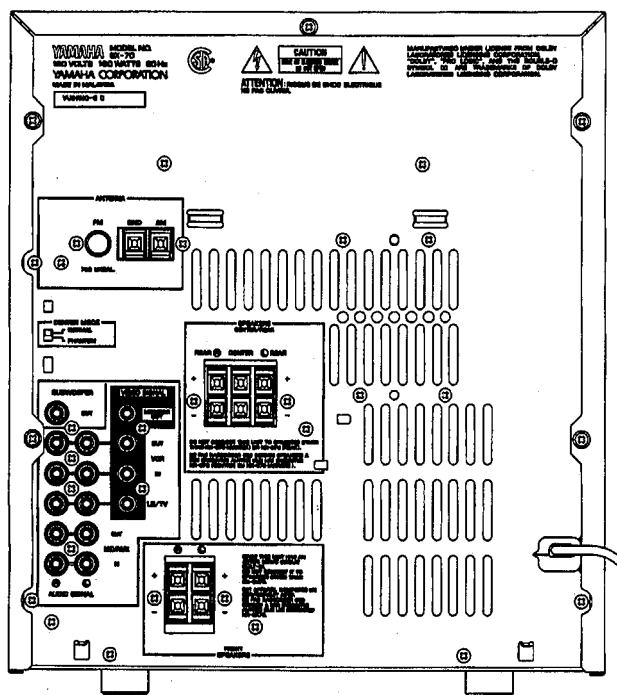
U model



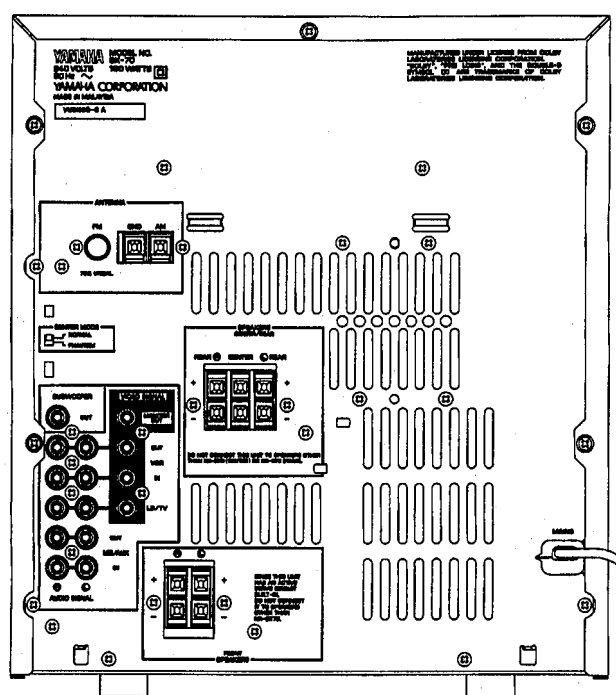
R model



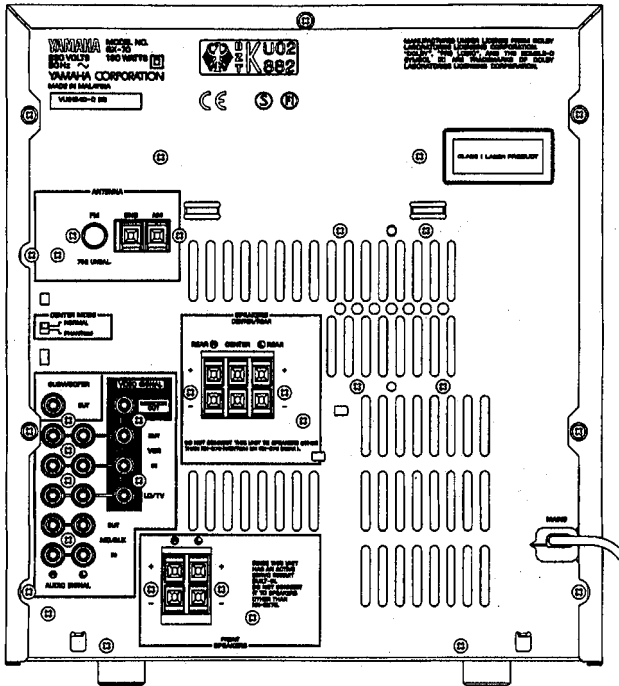
C model



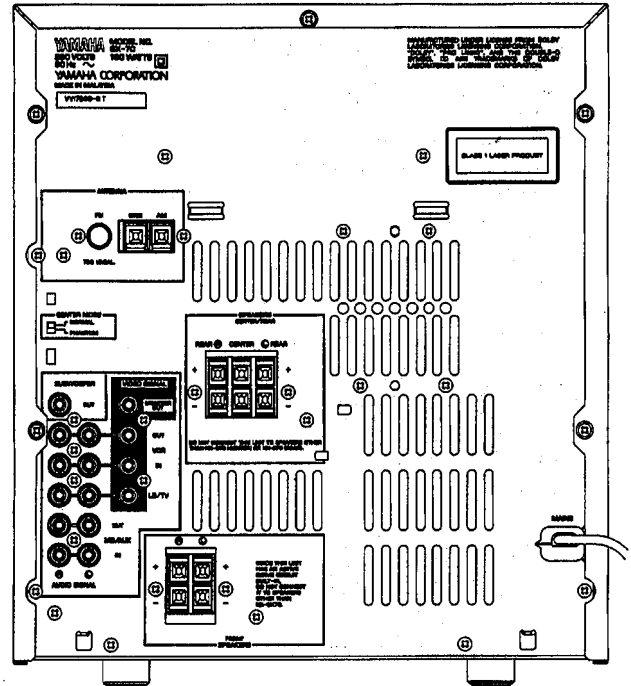
A model



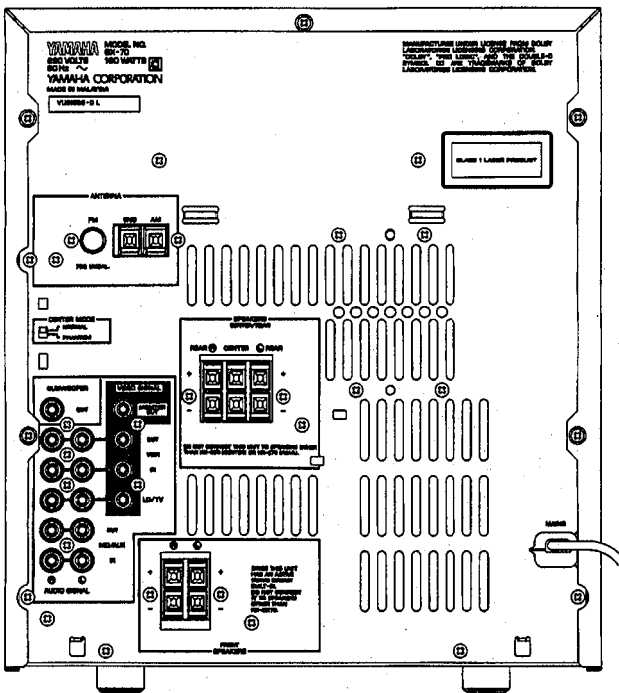
▼ B, G models



▼ T model



▼ L model



* Manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY", "PRO LOGIC", and the double-D symbol $\square\square$ are trademarks of Dolby Laboratories Licensing Corporation.

U U.S.A. model
C Canadian model
A Australian model
B British model

G European model
R General model
L Singapore model
T China model

SPECIFICATIONS

AMPLIFIER SECTION

Graphic Equalizer	
Control Frequency	100Hz, 350Hz, 1kHz, 3.5kHz, 10kHz
Boost/Cut	±10dB
Signal to Noise Ratio (IHF-A-Network, AUX, Shorted)	
U, C, B, G models	85dB
R, A, L, T models	75dB
Headphone Output Impedance	68Ω
Total Harmonic Distortion (1kHz)	
AUX to Speaker Out, 32.5W/6Ω	0.08%
Minimum RMS Output Power per Channel	
Front (1kHz, 1% THD, 6Ω)	65W
Front (1kHz, 10% THD, 6Ω) U, C, R, L, T only	75W
Center (1kHz, 1% THD, 8Ω)	20W
Rear (1kHz, 1% THD, 8Ω)	20W
DIN Standard Output Power per Channel (G only)	
1kHz, 1% THD, 6Ω	65W
IEC Power (G only)	
1kHz, 0.1% THD, 6Ω	50W
Input Sensitivity/Impedance	
AUX	300mV/23kΩ
Mic	0.5mV/4.7kΩ

VIDEO SECTION

Signal Level	1Vp-p/75Ω
Maximum Input Level	1.5Vp-p
Signal to Noise Ratio	50dB
Monitor Out Frequency Response	5Hz to 10MHz -3dB

FM SECTION

Tuning Range	
U, C models	87.5 to 107.9MHz
R model	87.5 to 108.0MHz/87.50 to 108.00MHz
A, B, G, L, T models	87.50 to 108.00MHz
Usable Sensitivity (75Ω)	
30dB S/N Quieting, Mono, 1kHz, 100% mod. R, U, C, L, T models	1.5μV (14.8dBf)
DIN Mono, S/N 26dB (A, B, G only)	1.8μV

AM SECTION

Tuning Range	
U, C models	530 to 1,710kHz
R model	530 to 1,710kHz/531 to 1,611kHz
A, B, G, L, T models	531 to 1,611kHz
Usable Sensitivity	280μV/m

LW SECTION (B, G only)

Tuning Range	153 to 288kHz
Usable Sensitivity	560μV/m

CD CHANGER SECTION

Type	3-Disc Carousel Auto-changer
Signal Readout	Non-contact, 3-beam semi-conductor laser pick-up
D/A Converter	1bit DAC
Filter	8-time oversampling digital filter
Wow & Flutter	Unmeasurable

TAPE DECK SECTION

Type	Auto Reverse 4-Track 2-Channel playback/recording and playback stereo double Cassette Deck
Heads	
PB	Hard permalloy
REC/PB	Hard permalloy
Erase	Double Gap Ferrite
Motors	DC servo motor X 2

Wow & Flutter

W.PEAK	±0.19%
W.RMS	0.09%
Fast Winding Time	about 110 seconds (C-60 tape)
Frequency Response (-20dB)	
Type I/Normal tape	30 to 15,000Hz ± 3dB
Type II/High (CrO ₂) tape	30 to 16,000Hz ± 3dB
S/N Ratio	
NR off	58dB
Dolby B NR on	66dB
Harmonic Distortion	Less than 0.8%
Channel Separation (1kHz)	More than 40dB
Crosstalk (125Hz)	More than 55dB

FRONT SPEAKER SECTION (NX-GX70)

Type	3-Way Active Servo Processing Speaker System (Magnetic-Shielding Type)
Speakers	13cm (5-1/8") woofer 5cm (1-15/16") tweeter 2cm (13/16") super tweeter
Frequency Range	60 to 20,000Hz
Maximum Power Handling Capacity	90W
Impedance	6Ω
Sound Pressure Level	87dB/1m • 2.45V (1W/6Ω)

CENTER SPEAKER SECTION (NX-C70)

Type	Full Range Speaker System (Magnetic-Shielding Type)
Speakers	9cm (3-9/16") full range speaker
Frequency Range	100 to 20,000Hz
Maximum Power Handling Capacity	27W
Impedance	8Ω
Sound Pressure Level	85dB/1m • 2.83V (1W/8Ω)

REAR SPEAKER SECTION (NX-E70)

Type	Full Range Speaker System
Speakers	8cm (3-1/8") full range speaker
Frequency Range	110 to 20,000Hz
Maximum Power Handling Capacity	13.5W
Impedance	4Ω
Sound Pressure Level	85dB/1m • 2V (1W/4Ω)

GENERAL

Power Supply	
U, C models	AC120V, 60Hz
A model	AC240V, 50Hz
B, G, L models	AC230V, 50Hz
T model	AC220V, 50Hz
R model	AC110/120/220/240V, 60/50Hz
Power Consumption	
190W	

Dimensions (W X H X D)

GX-70	280 X 320 X 360mm (11" X 12-5/8" X 14-3/16")
NX-GX70	200 X 320 X 243mm (7-7/8" X 12-5/8" X 9-9/16")
NX-C70	280 X 123 X 140mm (11" X 4-13/16" X 5-1/2")
NX-E70	200 X 115 X 105mm (7-7/8" X 4-1/2" X 4-1/8")

Weight

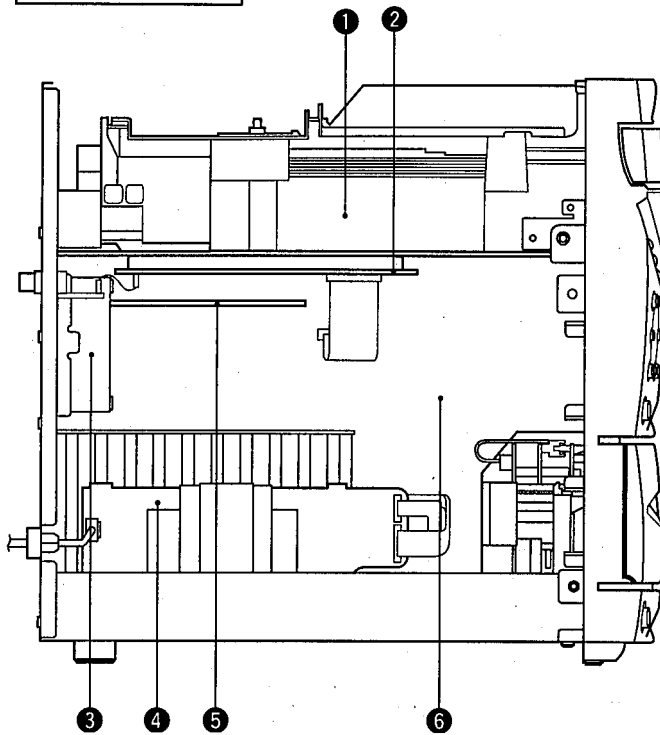
GX-70	10.8kg (23 lbs. 13 oz)
NX-GX70	3.5kg (7 lbs. 11 oz)/each
NX-C70	1.5kg (3 lbs. 5 oz)
NX-E70	0.8kg (1 lbs. 12 oz)/each

Accessories	
	AM loop antenna X 1
	Indoor FM antenna X 1
	Remote Control Transmitter X 1
	Battery (size "AA", R06) X 2
	Speaker Holder (rear) X 2
	Screw (rear) X 4
	Speaker Leg (center) X 1
	Speaker Cord (front/rear) X 4

* Specifications subject to change without notice.

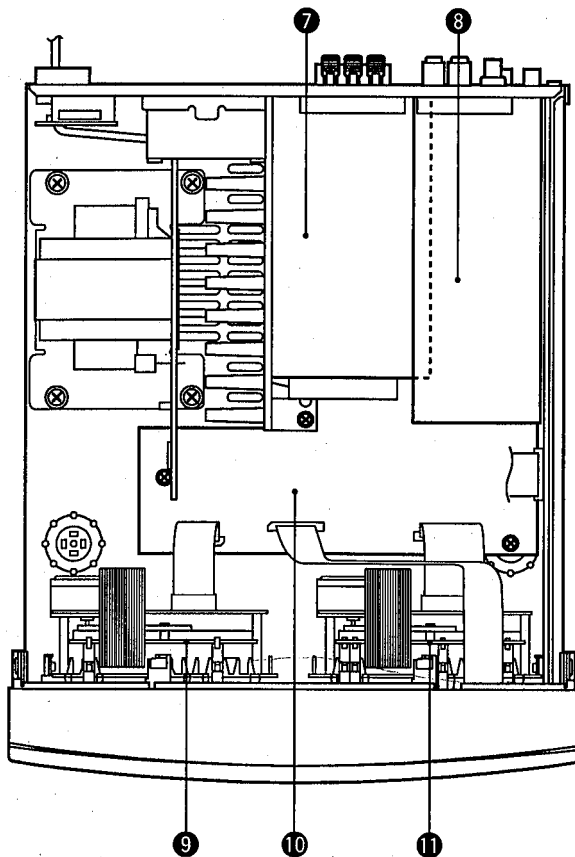
INTERNAL VIEW

Left side



- ① CD MECHANICAL UNIT
- ② P.C.B. CD (1)
- ③ FAN UNIT
- ④ P.C.B. MAIN (2)
- ⑤ P.C.B. TUNER
- ⑥ P.C.B. INPUT (1)

Top side



- ⑦ P.C.B. MAIN (4)
- ⑧ P.C.B. TUNER
- ⑨ CASSETTE DECK MECHANISM (PB)
- ⑩ P.C.B. MAIN (1)
- ⑪ CASSETTE DECK MECHANISM (R/P)

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

1. Removal of Top Cover

Remove 11 screws (①) in Fig. 1.

2. Removal of CD Mechanical Unit

- Push the Friction Arm (the bottom side of the CD Mechanical Unit) with a screwdriver or the like as shown in Fig. 2.
- Pull the Tray forward approx. 5cm (2") and remove the CD Lid as shown in Fig. 1.
- Push the Tray back to the original, closed position.
- Remove 2 screws (②) and then remove the Holder in Fig. 1.
- Disconnect the Flat Connecting Cable (#10) in Fig. 2
- Remove 2 screws (③) and 2 screws (④), and then remove the CD Mechanical Unit as shown in Fig. 3.

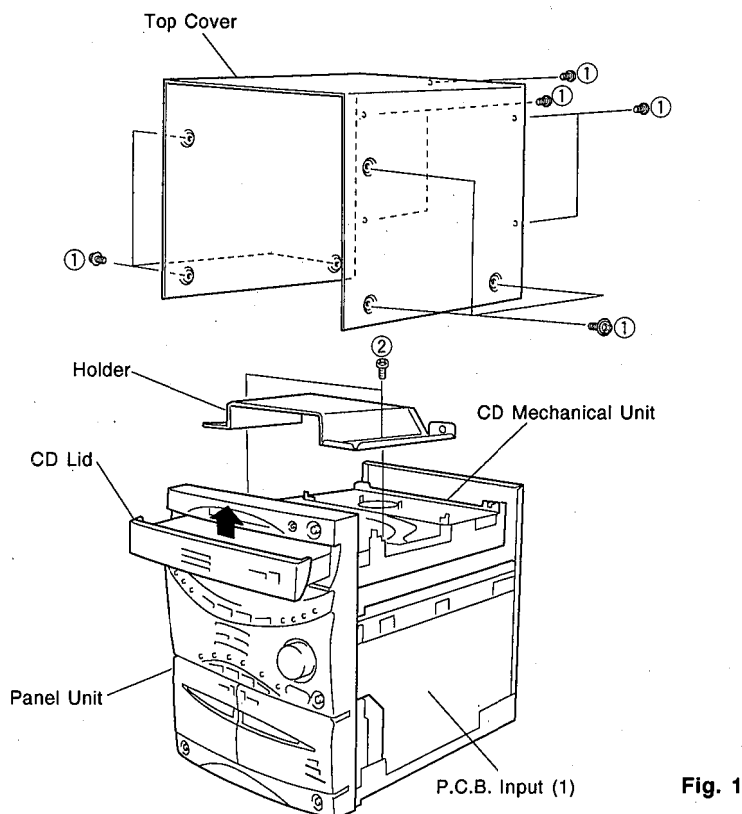


Fig. 1

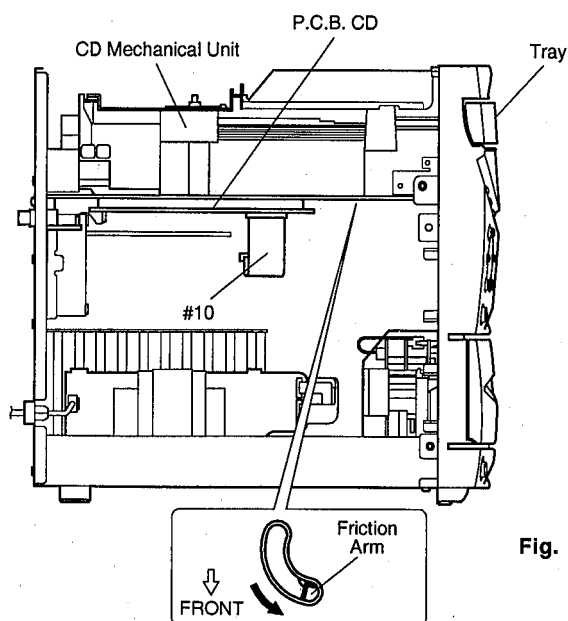


Fig. 2

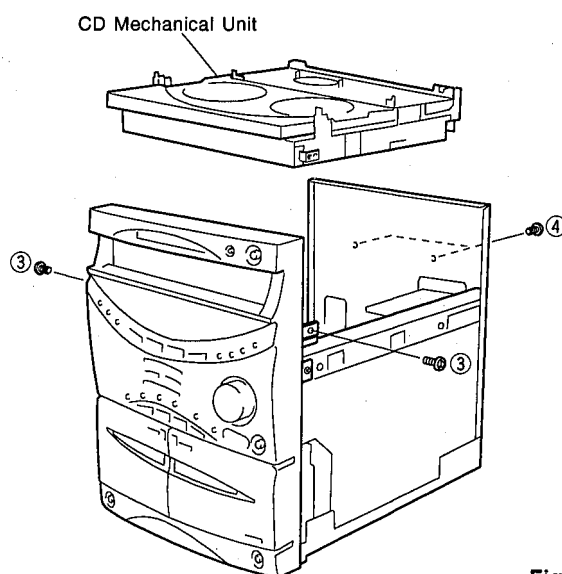


Fig. 3

3. Check of CD P.C.B.

- Remove 4 screws (⑤) and then remove the CD P.C.B. in Fig. 4.
- Put a cloth over the Front Panel and place the CD Mechanical Unit in Fig. 5.
- Connect the Flat Connecting Cable #10 in Fig. 5.

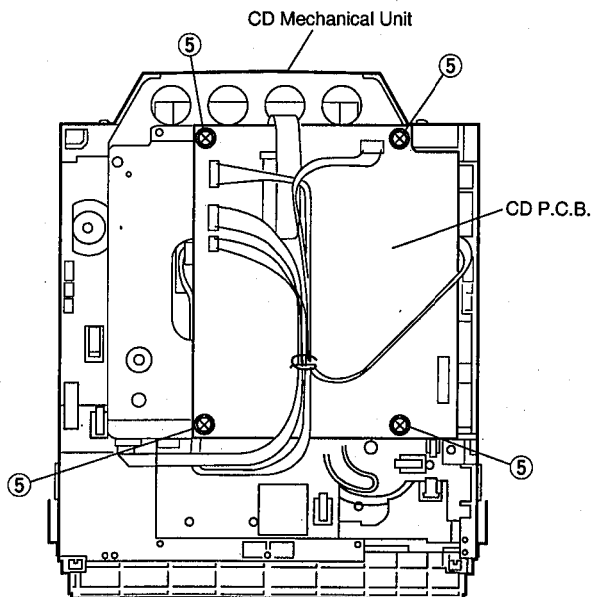


Fig. 4

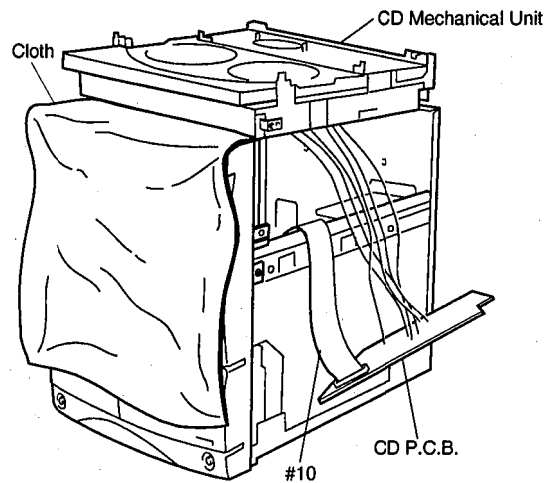


Fig. 5

4. Check of Main P.C.B. (1)

- Remove 4 screws (⑥) from the Rear Panel in Fig. 6.
- Remove 4 screws (⑦) and then remove the Power Transformer in Fig. 7.
- Remove 4 screws (⑧) in Fig. 7.

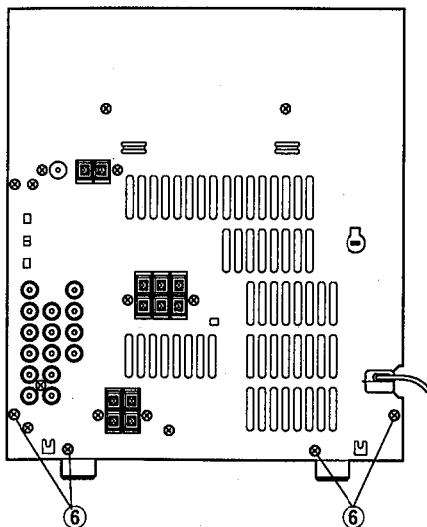


Fig. 6

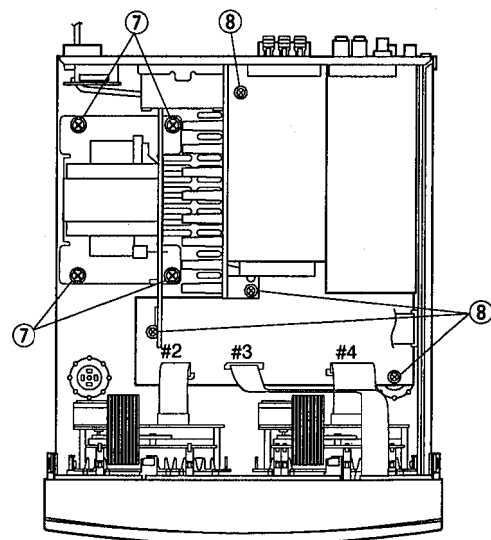


Fig. 7

- d. Remove 4 screws (⑨) from the Front Panel in Fig. 8.
- e. Place the main unit on its left side (viewed from the front) and remove the Bottom Cover in Fig. 9.
- f. Connect the power plug and turn on the Power Switch.

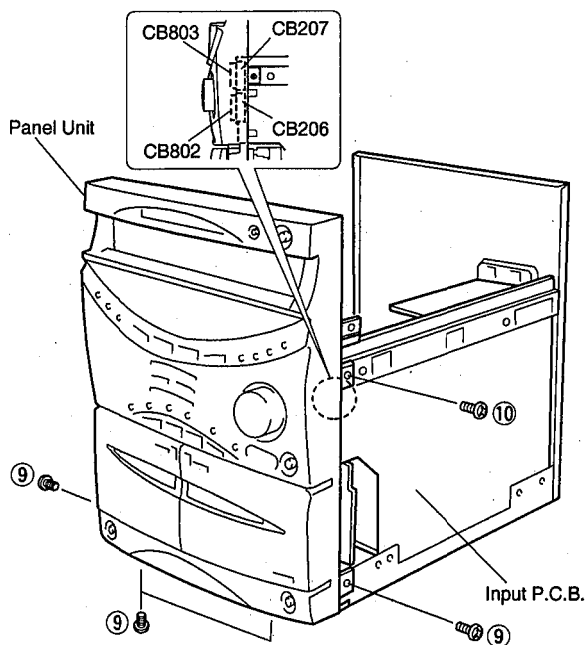


Fig. 8

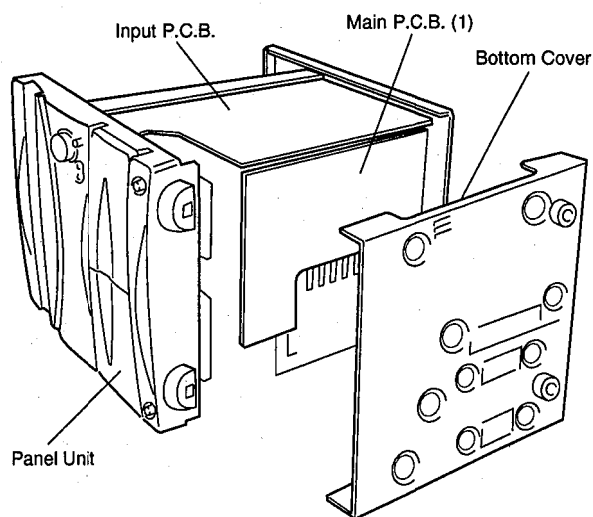


Fig. 9

5. Removal of Panel Unit

- a. Disconnect the flat connecting cables #2, #3 and #4 in Fig. 7.
- b. Remove a screw (⑩) and then remove the Panel Unit in Fig. 8.

Note : As a poor contact is apt to occur between connectors CB802, 803 of the Operation P.C.B. and connectors CB206, 207 of the Input P.C.B., special care is required for them. When installing the Panel Unit, fit connectors CB206, CB207 of the Input P.C.B. into connectors CB802, CB803 of the Operation P.C.B. properly (vertically). Be sure to check for operation after installation.

6. Removal of Tray & Traverse Unit

- Remove 4 screws (⑪) and then remove the Clamp Bracket in Fig. 10.
- Remove 2 screws (⑫) and then remove the Tray Brackets in Fig. 10.
- Push the Friction Arm (the bottom side of the CD Mechanical Unit) with a screwdriver or the like and pull out the Tray forward as in Fig. 10.
- Remove 4 screws (⑬) and take out the Slider in Fig. 11.
- Disconnect the Flat Connecting Cable (16P) and connectors (6P) and then remove the Traverse Unit in Fig. 11.

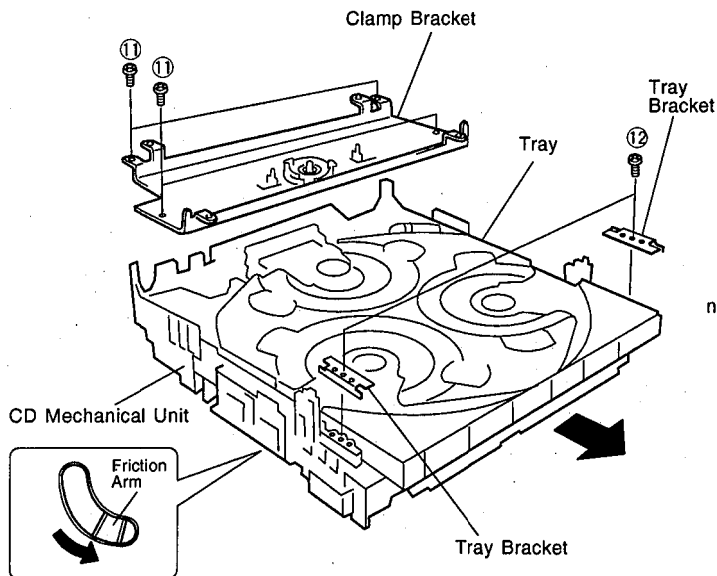


Fig. 10

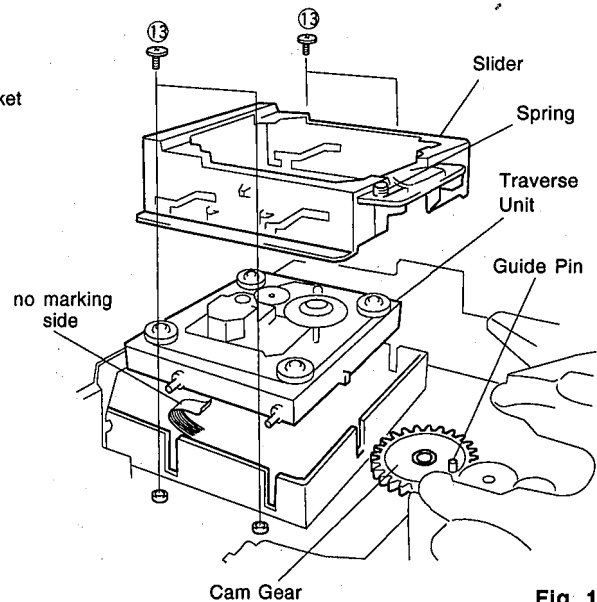


Fig. 11

● Precaution for Installation of Tray

Be sure to fit the shaft of the Friction Gear into the groove in the Tray.

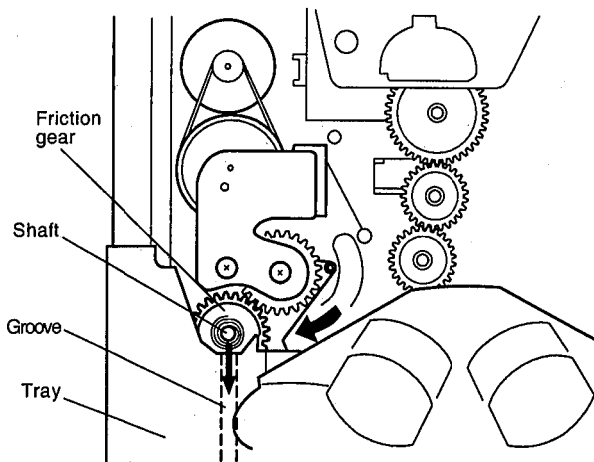


Fig. A

● Installation of Traverse Unit & Slider

- Fit the Traverse Unit into the Chassis.
- Turn the Cam Gear till its Guide Pin comes to the position as shown in Fig. 11.
- Fit the Slider into the Traverse Unit. Set the Spring of the Slider so that it holds down the Guide Pin of the Cam Gear (as shown in Fig. B).
(Press the Spring of the Slider once and release it, and it will hold down the Guide Pin of the Cam Gear.)
- After installation, check that the Clamp moves up and down by turning the Load Gear.

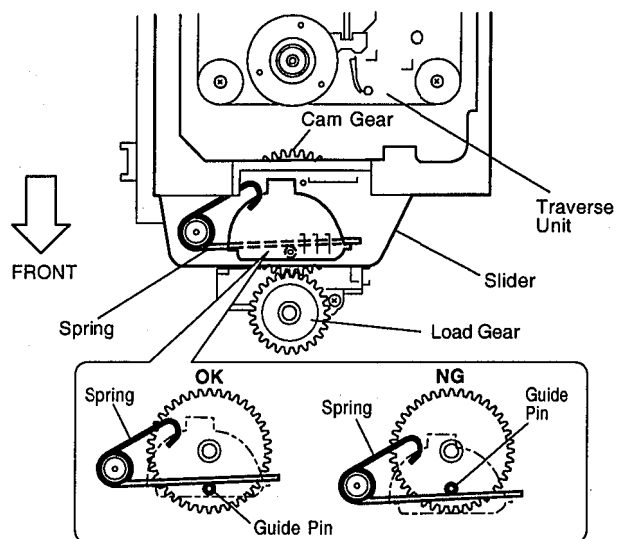


Fig. B

7. Removal of Pick-up Head

- Remove the Gear A in Fig. 12.
- Pull out the Sled Shaft and remove the Pick-up Head in Fig. 12.

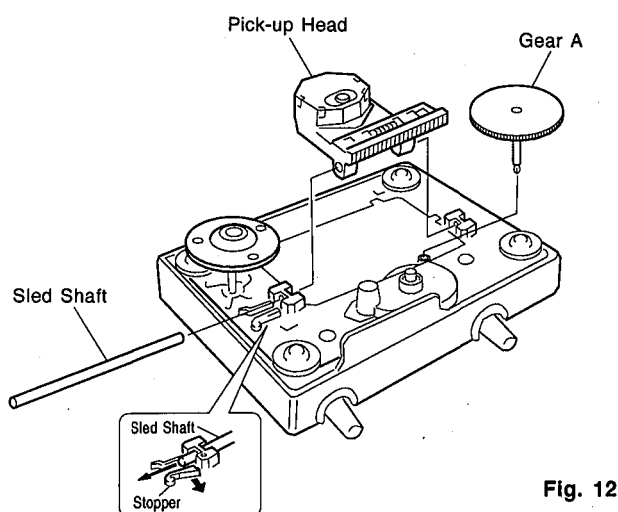


Fig. 12

8. Removal of Cassette Deck Mechanism

Remove 2 screws (14) and 2 screws (15), and then pull out the Cassette Deck Mechanism in Fig. 14.

9. Removal of Pinch Roller

Detach the hook and then remove the Pinch Roller in Fig. 15.

10. Removal of Head Ass'y

Remove 2 screws (16) and then remove the Head Ass'y in Fig. 15.

- * Perform the adjustment of azimuth after attaching the Head Ass'y.

11. Removal of Main Motor

Remove 2 screws (17) in Fig. 15.

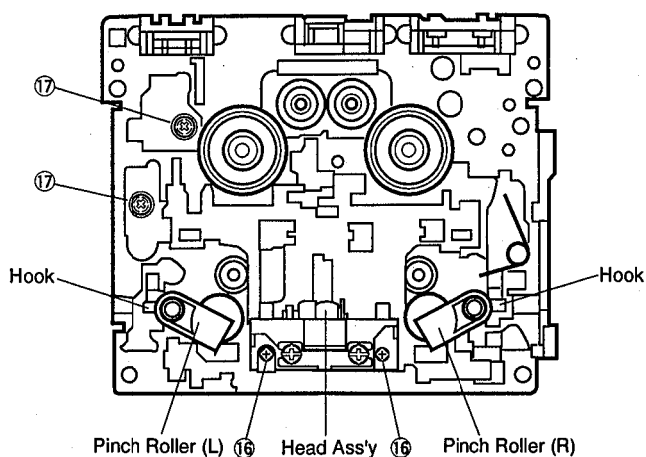


Fig. 15

- Check that the disc table height is as specified below.

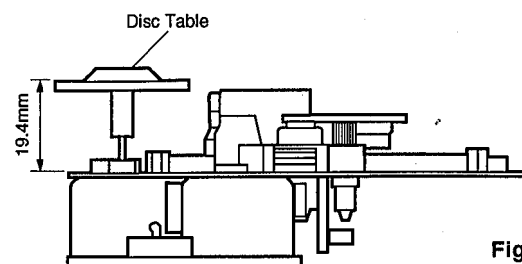


Fig. 13

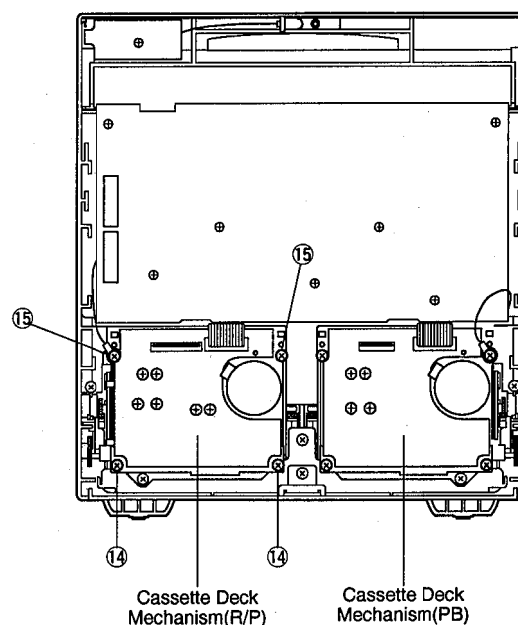


Fig. 14

● Belt installation (Viewed from the back)

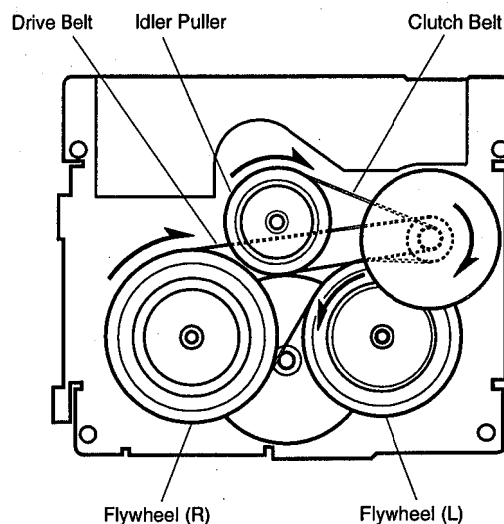


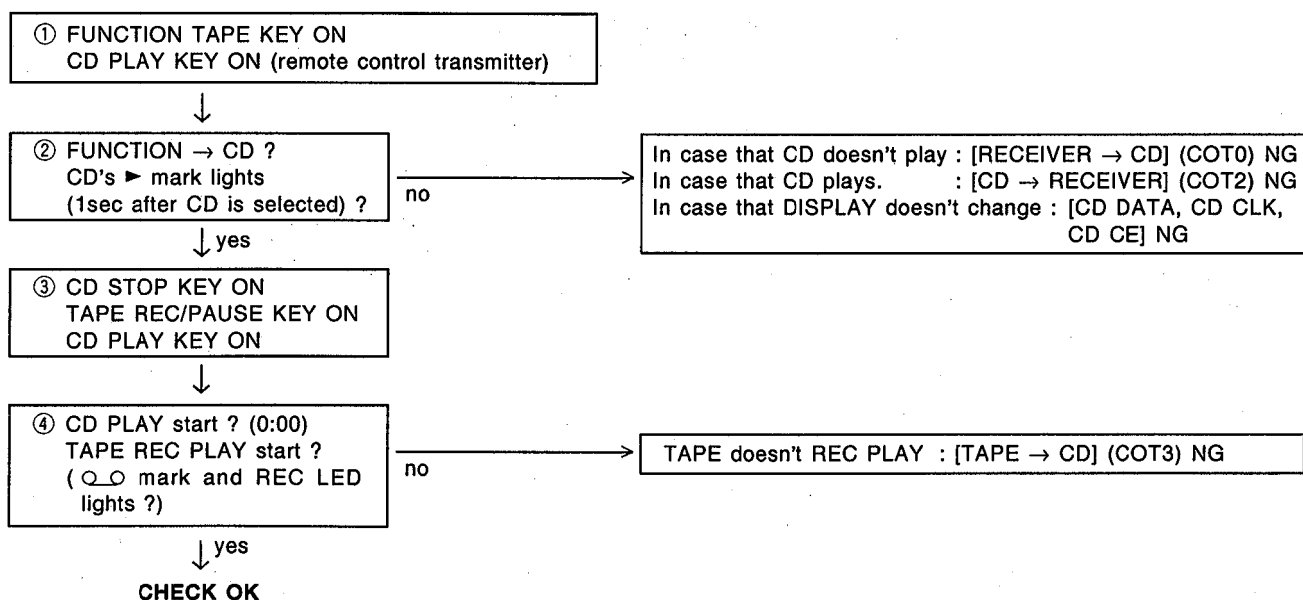
Fig. 16

■ VOLUME RANGE

DISPLAY	dB	DISPLAY	dB	DISPLAY	dB
VOL MIN	-∞	VOL 10	-55	VOL 56	-9
VOL 01	-79	VOL 11	-54	VOL 57	-8
VOL 02	-73	.	1dB step	VOL 58	-7
VOL 03	-68			VOL 59	-6
VOL 04	-64			VOL 60	-5
VOL 05	-61			VOL 61	-4
VOL 06	-59			VOL 62	-3
VOL 07	-58			VOL 63	-2
VOL 08	-57	VOL 54	-11	VOL 64	-1
VOL 09	-56	VOL 55	-10	VOL MAX	0

NOTE) When VOLUME is a minimum, MUTE of AMP becomes on.

■ SYSTEM CONTROL CHECK



■ TEST PROGRAM MODE

TEST PROGRAM MODE is initialized when POWER switch is pushed while pressing and holding both AUTO/MAN'L and INPUT ▷ switches during power-on.

IN TEST PROGRAM MODE, program (function) No. can be selected by TAPE FF ▷▷ (up) and REW ◁◁ (down) switches, and operated by POWER switch.

No. & DISPLAY	FUNCTION	PURPOSE & OPERATION
01 G , E , TEST	Equalizer check mode	Used for checking EQ characteristics. The highlighted item on display changes at every pressing of MUSIC key after turning OFF the power once and then ON again. → OFF → TEST1 → TEST2 → TEST3 → TEST4 (FLAT) (MAX) (MIN) (MAX for 1kHz only)

No. & DISPLAY	FUNCTION	PURPOSE & OPERATION
02 FL + CLEAR	FL display full lighting, RAM CLEAR	Used to turn OFF all FL lights and to clear memories of the tuner and EQ. (Note that memories set by the user will be erased.) When the power switch is pressed, all FL lights turn ON and when pressed again, CLEAR appears on display. Pressing the power switch with CLEAR on display will cause MEMORY and CLEAR to light for 2 seconds and the power to turn OFF. (CPU RAM is in the initialization state.) Also, the preset contents of the tuner are restored to the maker preset ones.
03 FL FULL	FL display full lighting	Used to check lighting of all FL lights. Pressing the power switch will turn ON all FL lights and pressing it again will turn OFF the power. (cancel)
04 APO - ON/OFF 05 RDS - OFF/ON 06 A, PS - ON/OFF 07 A, M, - RDS/ALL 08 CT > C - ON/OFF 09 L > CT - ON/OFF 10 PSR2 - ON/OFF 11 RTBL - ON/OFF 12 SEC - OFF/ON 13 LO / F - ON/OFF 14 PEAK - ON/OFF 15 AMPC - OFF/ON 16 CDCH - ON/OFF 17 REM CODE 18 L, EN - ON/OFF 19 ALL CH > 20 RDS E / F 21 SUR TEST 22 KEYC - OFF/ON 23 E, VR - 24 AM - IF	Not used (Do not use this function as it is not for servicing.)	
25 CANCEL	Test program mode cancel	
26 DEST	Destination display mode	

● MAKER'S PRESET

BAND	MARKETS	PRESET No.							
		1	2	3	4	5	6	7	8
FM (MHz)	U, C, R (100k/10k)	98.1	95.1	87.5	101.5	107.9	88.1	106.1	107.9
	A, B, G, R (50k/9k)	98.10	95.10	87.50	101.50	108.00	88.10	106.10	107.90
AM (kHz)	U, C, R (100k/10k)	630	1080	1400	530	1710	900	1350	1440
	A, B, G, R (50k/9k)	630	1080	1404	531	1611	900	1350	1440
LW (kHz)	B, G	270	171	225	153	288	180	207	252

NOTE 1) PRESET PAGE { B, G (with LW) A : FM B : MW C : LW D : FM E : MW
 { OTHERS (w.o. LW) A : FM B : AM C : FM D : AM E : FM

CAUTION : When executing Test program No. 2 RAM CLEAR, be sure to write down the preset memory contents of the tuner, using a table like the one shown below. Execution of RAM CLEAR will set the memory contents of the tuner back in the factory preset state which means that all the memories preset by the user will be erased.

Preset group	P1	P2	P3	P4	P5	P6	P7	P8
A								
B								
C								
D								
E								

■ CD TEST MODE

Change the function to CD while holding CD's  (play/pause) and  (stop) switches, the TEST MODE is brought about. Each switch operates as the following on each mode. The MODE shall be set up by  to  (disc) switches after the push of  switch.

Function list of panel switches

SW	MODE 1 (M1)	MODE 2 (M2)	MODE 3 (M3)
EDIT	Bring about mode setting		
OPEN/CLOSE	Open/close the tray	DISC change	Rotate the disc motor
DISC CHANGE	Clamp up/down	Mecha. home process	Retard the disc motor
 (STOP)	Controls for the tray, the disc table and clamping stop. STANDBY command for the servo system.		
 (PLAY/PAUSE)	Play		Read and display the servo coefficient
	Feed forward (outer direction)	+10 track kick	port TBLR ← High
	Feed backward (inner direction)	-10 track kick	Tray port control (open/close)
(DISC) 1	Auto adjustment mode 1 *1 Tracking Offset, Focus Offset, Focus Gain	+1 track kick	Displayed servo coefficient address up
(DISC) 2	Auto adjustment mode 2 *1 Tracking Balance, Tracking Gain	-1 track kick	Displayed servo coefficient address down
(DISC) 3	Auto adjustment mode 3 *1 Focus Gain, Tracking Gain, Focus Balance	+30 track kick	Displayed servo coefficient increment
RANDOM	Enter normal operation (without mecha. INIT.)	-30 track kick	Displayed servo coefficient decrement
REPEAT	Focus search	Start TEST REPEAT (Do not use this function as it is not for servicing.)	Port TSLW High/Low alternate

Function by remote control transmitter switches

SW	MODE 1 (1X)	MODE 2 (2X)	MODE 3 (3X)
TIME	Enter normal operation	Focus on, Tracking off, Feed off	Send the displayed servo coefficient *2
TAPE	Line mute on/off		
PROG	port TBLL ← Low, port TBLR ← High		
DISC SKIP	port TSLW High/Low alternate		
"0"	Play (without PLL)		
"1"	Rotate the disc motor		
"2"	Retard the disc motor		

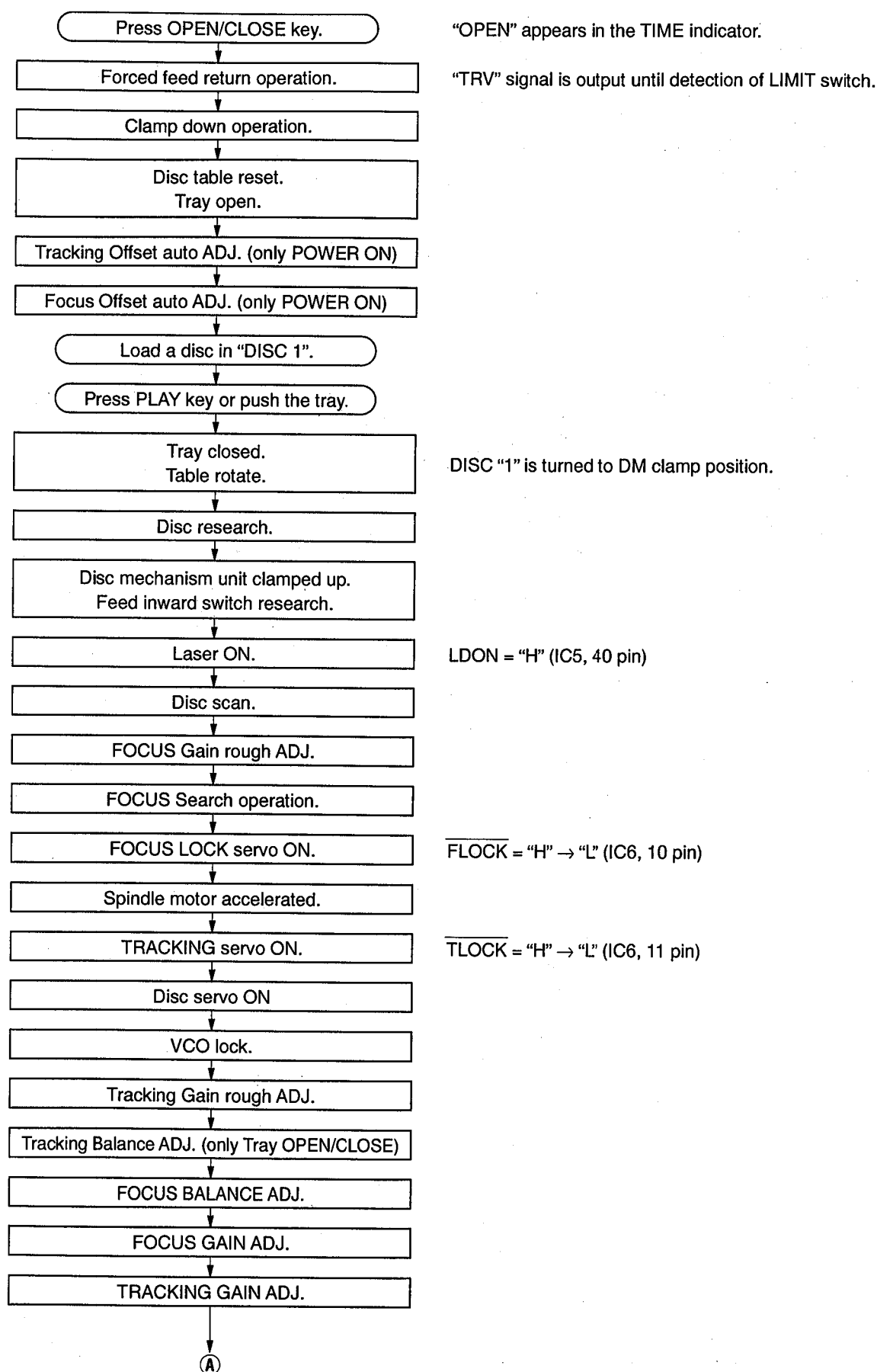
*1 "Adj-" lights in the adjustment and disappears at the end of the adjustment.

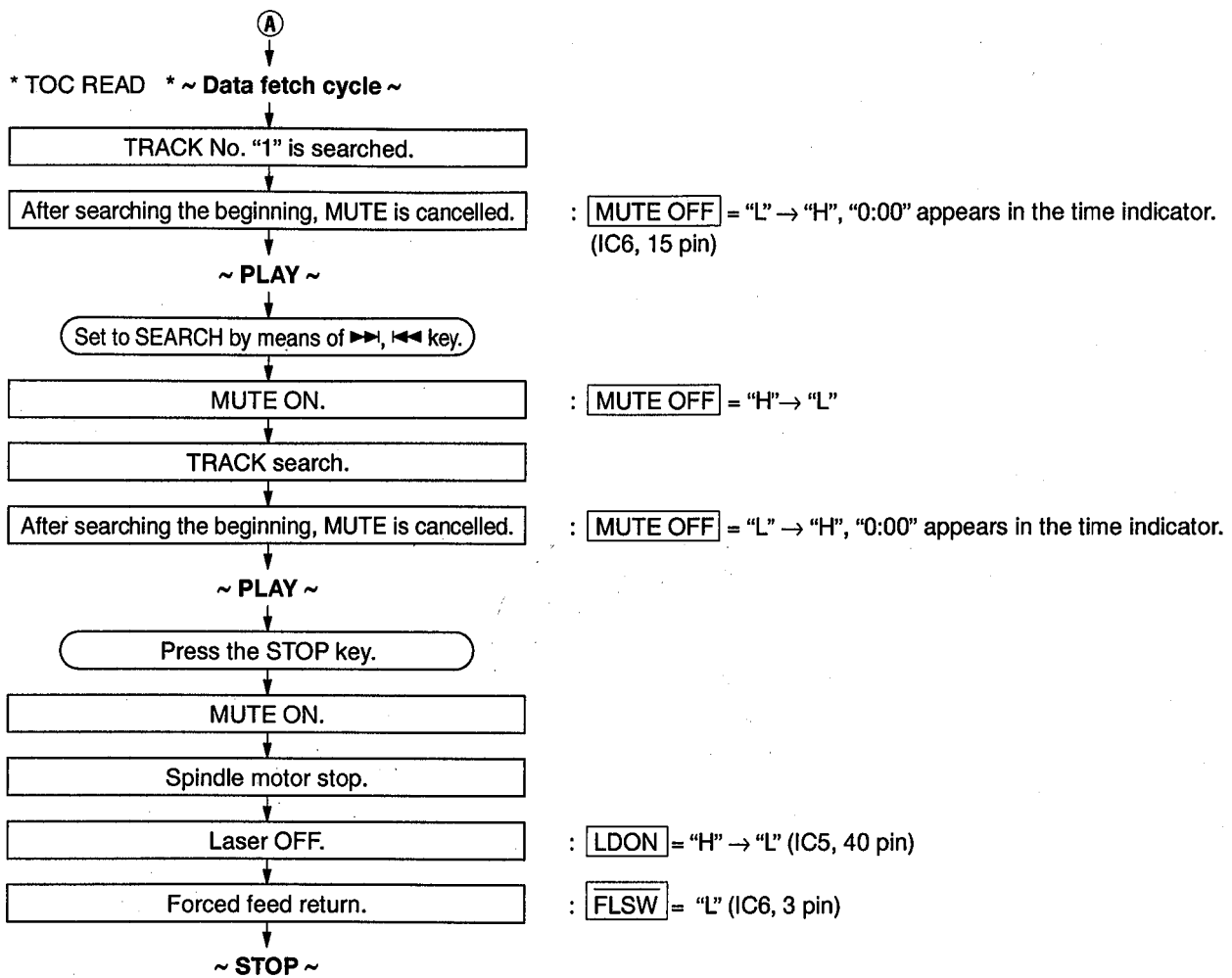
*2 CD does not auto adjustment in TEST REPEAT, if the servo coefficients are renewed by this operation.

[SHIPMENT SPECIFICATION]

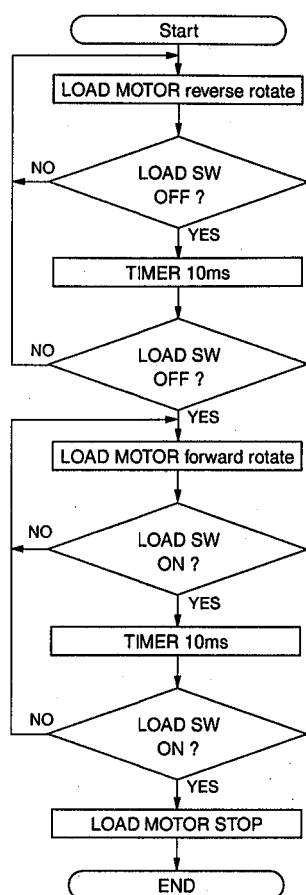
Before packaging in manufacturing, the tray must be closed and the P.U. unit must be clamped up on CD.
(These are automatically achieved by turning off the  switch.)

■ CD STANDARD OPERATION CHART

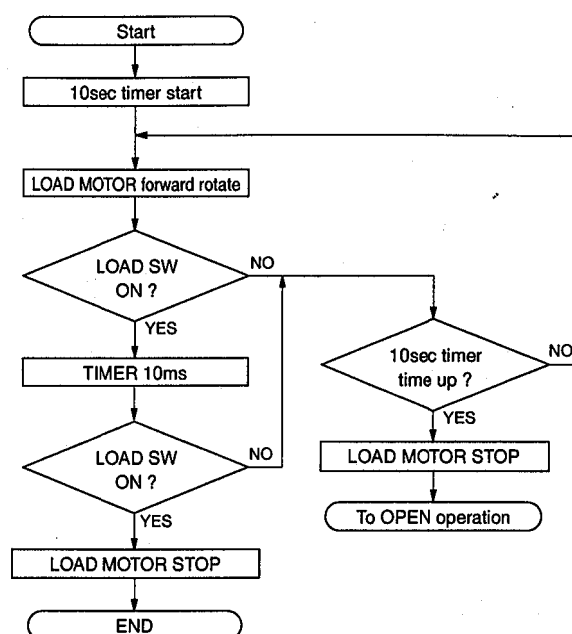




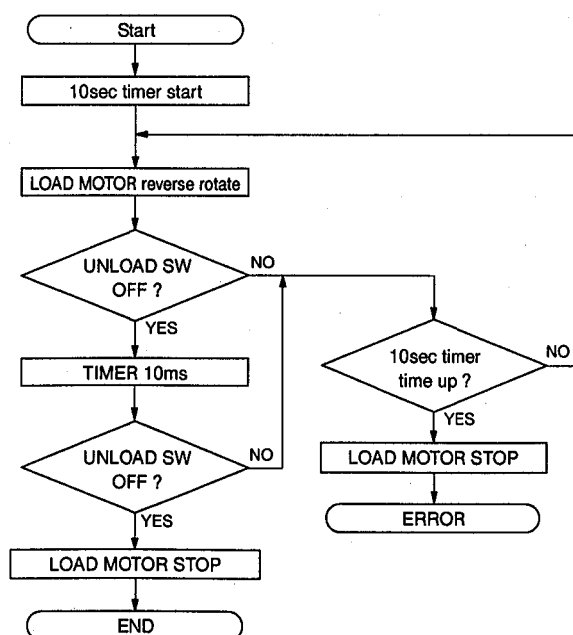
● HOME operation



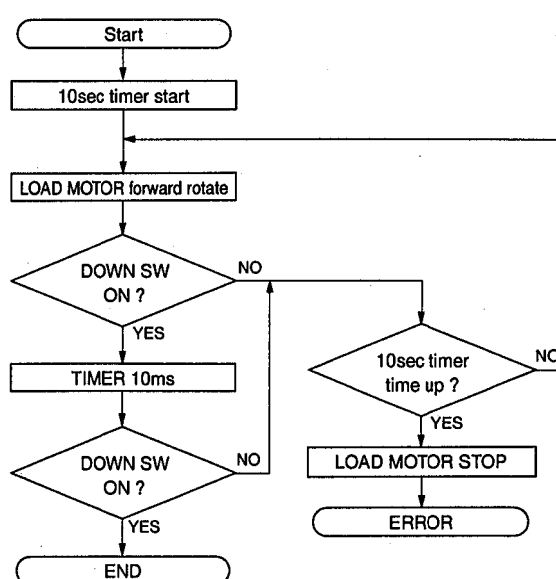
● CLOSE operation



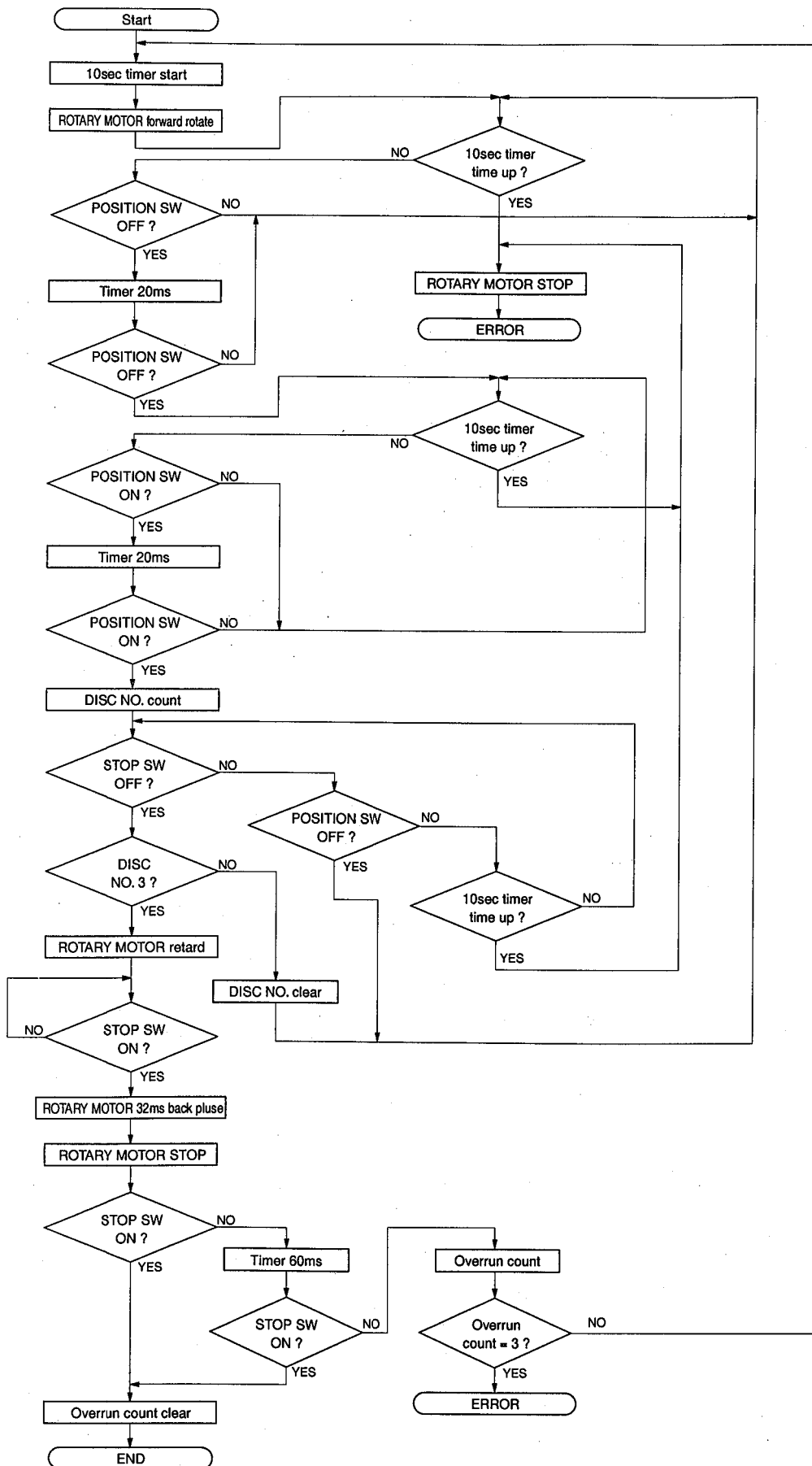
● OPEN operation



● DOWN operation



● ROTARY TRAY initialization operation



■ CD ERROR MESSAGE

Error message can be obtained on the display by pushing  (stop) and  (play/pause) switches simultaneously when CD has stopped (sometimes with the tray open) by an accident.

INDICATION	STATE	CONTENTS OF ERROR
E-10	PLAY	CD fails in the disc data reading after the state shift.
E-20	SCAN	
E-30	PAUSE	
E-70	SEARCH	
E-11	PLAY	CD fails in the disc data reading.
E-21	SCAN	
E-31	PAUSE	
E-73	SEARCH	CD fails in the TOC data reading.
E-04	LOAD, SEARCH	Tracking servo is not effective at the disc motor servo PLL.
E-14	LOAD, SEARCH	Disc motor servo PLL is not effective.
E-35		CD fails in focus search.
E-06	SEARCH, PLAY, PAUSE	CD fails in escaping from the lead-in area.
E-47	SEARCH	The inner limit switch does not operate at the feed inner control.
E-57	STOP	
E-77	LOAD, EJECT, CHANGE	
E-18	PLAY	CD fails in recovery from the focus out.
E-28	SCAN	
E-38	PAUSE	
E-48	SEARCH	
E-68	LOAD, DISC CHANGE	
E-AA		Clamp down switch does not operate at the clamp down control.
E-AB		Clamp up switch does not operate at the clamp up control.
E-AC		Close switch does not operate at the tray close control.
E-AD		Open switch does not operate at the tray open control.
E-AE		CD fails in the table control.
E-AF		CD fails in the mecha. home process.
MN ERR		MN66271 does not give response of SENSE with resetting by the units microcomputer.

When "MECHA ER" message appears on the display;

Possible symptoms are, the clamp does not move up or down, the table does not turn, mecha. sensor switch malfunctions, etc. The normal operation may be restored by tuning off the power once and the on again. If it does not work in this way, disassemble the CD mechanical unit and investigate the cause of the failure.

■ ADJUSTMENTS (DECK SECTION ONLY)

1. Before adjustment

- Since head magnetization, dust accumulations, etc. are likely to introduce error in the various characteristics, it is very important that the heads are properly demagnetized and cleaned.
- Make adjustments of mechanical system, playback system and recording system in that order.
- Except for azimuth adjustment, adjust in the forward direction.

2. Instruments required

- Audio frequency oscillator
- ACVM or dual channel (ACVM)
- DCVM
- Wow/flutter meter
- Oscilloscope
- Frequency counter
- Torque meter
- TW-2111A (TX911580) Take up/back tension (FWD)
- TW-2121A (TX911570) Take up/back tension (RVS)
- CT-160L (TX911120) FF/REW

3. Test tape required

- MTT-111N (TX911650) Normal speed/High speed
- MTT-114N (TX911680) Azimuth
- MTT-212N (TX911660) Playback level
- MTT-256 (TX911300) Playback frequency response (Normal)
- MTT-356 (TX911310) Playback frequency response (CrO₂)
- Reference tape
 - Type I/Normal (LH) TDK AC224 (TX912190)
 - Type II/High (CrO₂) TDK AC513 (TX911750)
 - Type I/Normal (LH) TDK AC225 (VU167200)
 - Type II/High (CrO₂) TDK AC514 (VU167300)

Note) When AC514 was used for adjustment, be sure to confirm with AC225.

Also, when AC513 was used for adjustment, be sure to confirm with AC224.

4. Initialization of mechanical section

- Initialize the mechanical section if it does not work when operation is attempted

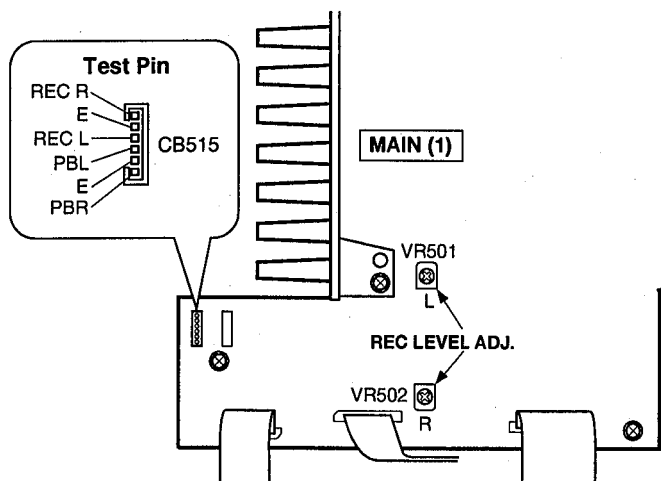
Example :

When the PLAY key is pressed while the cassette holder is not closed completely, the head stops on its way and will not work.

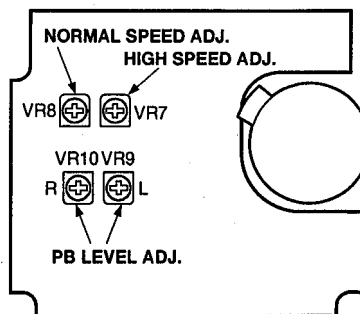
- 1) Disconnect the power cord and then reconnect it.
- 2) The normal condition is restored when initialized.

● Test point

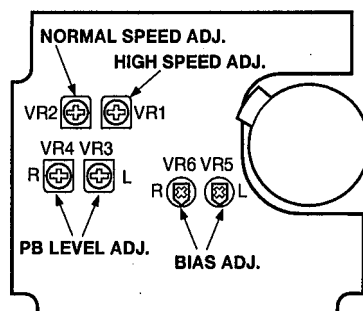
LINE OUT Test pins (CB515) PBL, PBR
 LINE IN Test pins (CB515) RECL, RECR



DECK 1 (Mechanism P. C. B.)



DECK 2 (Mechanism P. C. B.)



“MECHANICAL ADJUSTMENT”

Step	Item to be Adjusted	Tape	Instrument required	Mode	Adjustment part	Rating	Remarks
1	Check each torque	CT-160L (FF, REW)	Torque meter	FF REW		FF, REW torque : within 70~160g/cm.	
		TW-2111A (FWD)		PLAY		Take up torque : 30~75g/cm.	
		TW-2121A (RVS)				Back tension : 1.5~8g/cm.	
2	Check FF, REW take up time	AC-513 (C-60)		FF REW		95 to 125 seconds.	
3	Azimuth	MTT-114N 10kHz, -10dB	ACVM Oscilloscope	PLAY	Azimuth adjustment screw. (Fig. A)	Playback output of L and R is maximum and phase difference should be minimum both directions. (Fig. B)	After the adjustment make sure to apply screw lock paint.
4	Tape Speed [Adjust the high speed initially, and next the normal speed.]	MTT-111N 3kHz, -10dB	Frequency counter	PLAY (HIGH)	DECK 1 VR7	DECK 1 : 6000Hz $\pm$ 30Hz	During playback, press the PLAY key and H.Dubbing key simultaneously (while pressing HIGH DUBBING key, press PLAY key) to enter high-speed mode.
					DECK 2 VR1	DECK 2 : 6000Hz $\pm$ 30Hz	
				PLAY (NORM)	DECK 1 VR8	DECK 1 : 3000Hz $\pm$ 15Hz	
					DECK 2 VR2	DECK 2 : 3000Hz $\pm$ 15Hz	
5	Wow/Flutter	MTT-111N 3kHz, -10dB	Wow/flutter meter	PLAY		Less than 0.18% (WRMS)	Perform adjustment at the center of the test tape length if possible.

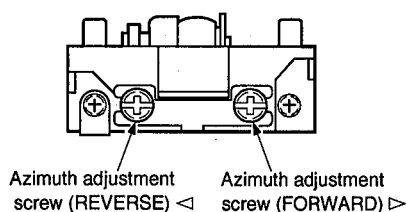


Fig. A

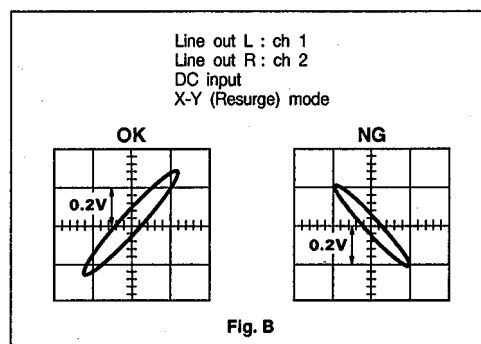


Fig. B

“ELECTRICAL ADJUSTMENT”

- Use 560mV (250nwb/m) for 0dB as the standard level of the unit.
0dB = 250nwb/m (315Hz) = -5dBV (Line out level)

< Playback section >

Step	Item to be Adjusted	Tape	Instrument required	Mode	Points of measurement	Adjustment parts	Rating
1	Playback level (315Hz)	MTT-212N 315Hz, 250nwb/m	ACVM	PLAY	LINE OUT	DECK 1 VR9 (L ch) VR10 (R ch) DECK 2 VR3 (L ch) VR4 (R ch)	-5dBV $\pm$ 0.3dBV
2	Confirmation of playback frequency response	Test tape for frequency check. 3180 μ s + 120 μ s (LH) (MTT-256) 3180 μ s + 70 μ s (CrO ₂) (MTT-356)	ACVM Oscilloscope	PLAY	LINE OUT		Check that the 10kHz playback level is within 0 $\pm$ 3dB of the 1kHz playback level. (Fig. C)

● PLAYBACK FREQUENCY RESPONSE

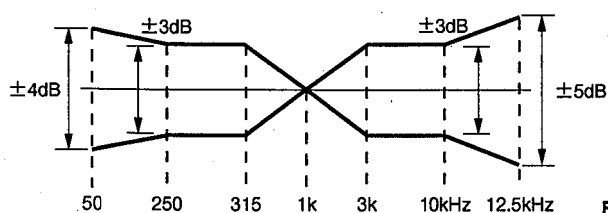


Fig. C

LINE OUT Test pins (CB515) PBL, PBR
 LINE IN Test pins (CB515) RECL, RECR

< Recording section >

Step	Item to be Adjusted	Tape	Instrument required	Mode	Measurement conditions	Points of measurement	Adjustment parts	Rating
1	Recording level (DECK 2)	AC-513 or AC-514 High (CrO ₂)	ACVM Audio frequency oscillator	REC PLAY	Input 315Hz Signal to LINE IN from Audio Frequency Oscillator. Adjust output level of Audio Frequency Oscillator so that the voltage of LINE OUT becomes -25dBV.	LINE OUT	VR501 (L ch) VR502 (R ch)	Adjust for equal record and playback levels. (-25dBV $\pm$ 0.3dBV)
2	Recording bias (Total frequency response) (DECK 2)	AC-513 or AC-514 High (CrO ₂) AC-224 or AC-225 Normal (LH)	ACVM Audio frequency oscillator	REC PLAY	Input 12.5kHz Signal to LINE IN from Audio Frequency Oscillator. Adjust output level of Audio Frequency Oscillator so that the voltage of LINE OUT becomes -25dBV.	LINE OUT	DECK 2 VR5 (L ch) VR6 (R ch)	Adjust for equal record and playback levels. (-25dBV $\pm$ 0.3dBV) Adjust for equal record and playback levels. (Fig. D) Perform record bias adjustment of High (CrO ₂) tape again, if the rating was not satisfied.
3	Confirmation of recorded level	AC-513 or AC-514 High (CrO ₂)	ACVM Audio frequency oscillator	REC PLAY		LINE OUT		Confirm recorded level rating as in step 1. When recorded level rating is improper, go back to step 1 and also carry out adjustments in step 2 again.

● TOTAL FREQUENCY RESPONSE (-20dB)

Dolby NR B, OFF

Type I (Normal)/Type II (High)

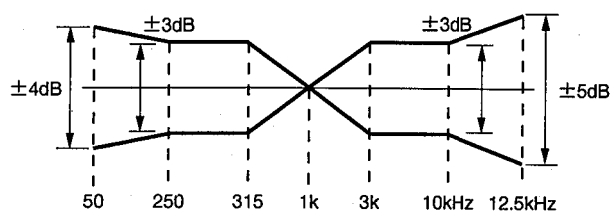


Fig. D

● DUBBING RESPONSE

Normal/High Speed

Type I (Normal)

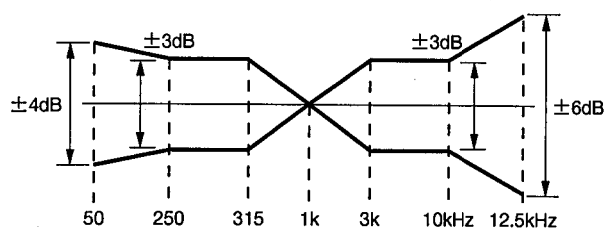


Fig. E

CHECKING THE MUSIC SEARCH FUNCTION

(Use a searching check tape for this check.)

* Preparation of Check Tape

Using a C-60 tape, make a recording so that the value of the line out level is -5dBV (0dB), -29dBV (-24dB) or -49dBV (-44dB).

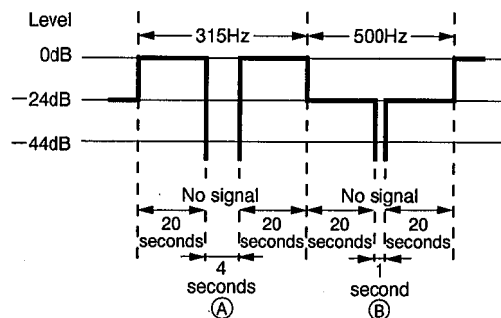
[Confirmation]

Make sure that the tape stops during (A) but not during (B). ((A) and (B) are intervals between musics.)

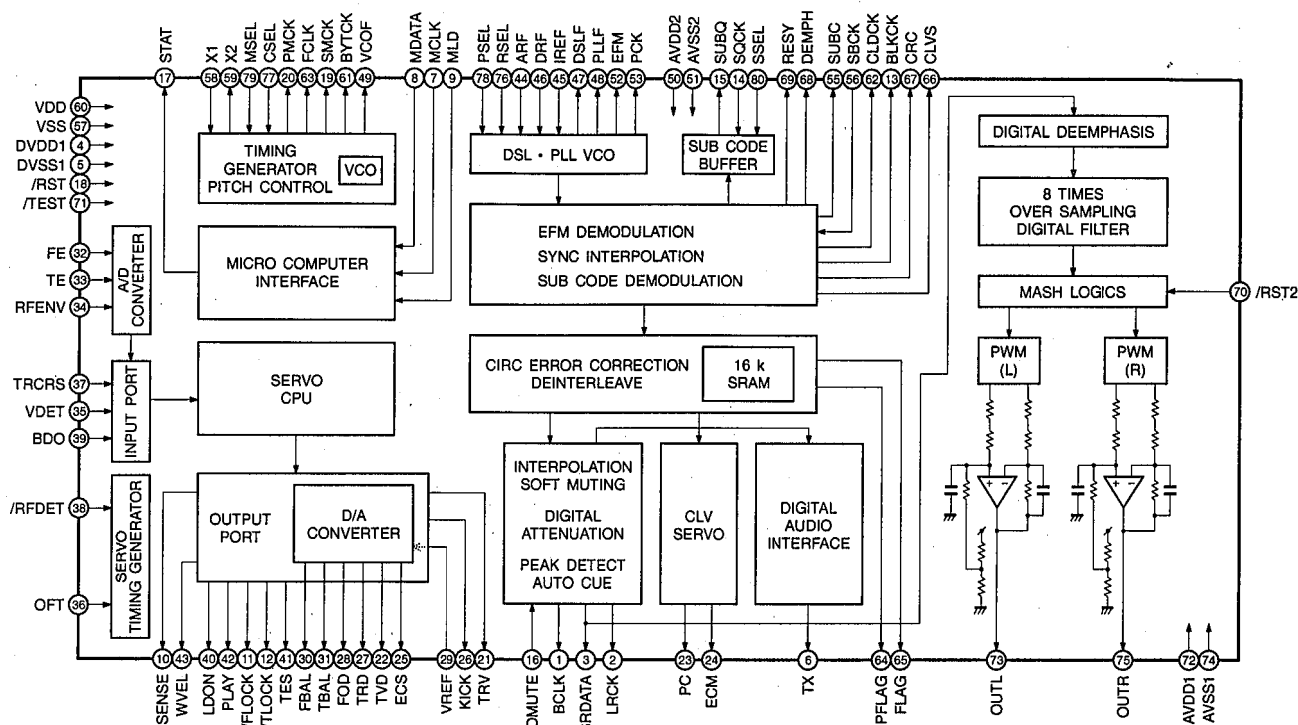
* Perform check at the center of the searching check tape length possible.

Music search function check tape · Searching check tape

Signal as shown below are recorded as they are repeated.



IC DATA

IC5 : MN66271RA
Signal Processor & Controller


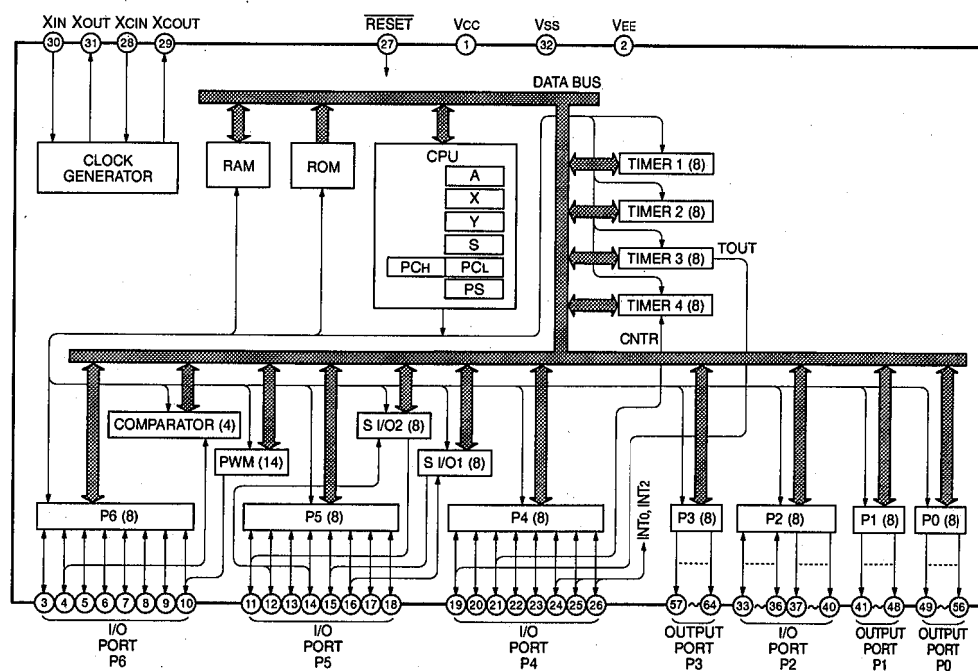
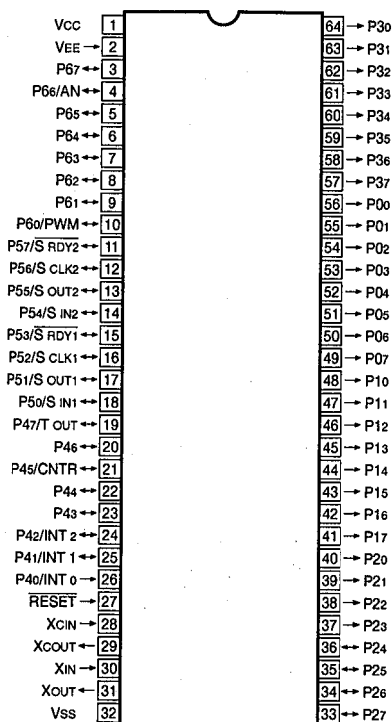
Pin No.	Name	I/O	Function
1	BCLK	O	Bit clock output for SR DATA (NC)
2	LRCK	O	L/R identification signal output (NC)
3	SRDATA	O	Serial data output (NC)
4	DVDD1	I	Power supply for digital circuit (+5)
5	DVSS1	I	GND for digital circuit
6	TX	O	Digital, audio, interface output signal (NC)
7	MCLK	I	Microprocessor command clock signal input (data latched at leading edge)
8	MDATA	I	Microprocessor command data input
9	MLD	I	Microprocessor command load signal input L : LOAD
10	SENSE	O	Sense signal output
11	FLOCK	O	Focus servo drawing signal (L : when drawn)
12	TLOCK	O	Tracking servo drawing signal (L : when drawn)
13	BLKCK	O	Sub code block clock signal
14	SQCK	I	Clock input for sub-code Q register
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input H : MUTE
17	STAT	O	Status signal
18	RST	I	Reset input L : RESET
19	SMCK	O	8.4672MHz clock signal output when MSEL = H 4.2336MHz clock signal output when MSEL = L (NC)
20	PMCK	O	88.2KHz clock signal output (NC)
21	TRV	O	Traverse (Feed) forced feed output
22	TVD	O	Traverse (Feed) drive output
23	PC	O	Spindle motor ON signal L : ON (NC)
24	ECM	O	Spindle motor drive signal (forced mode output) 3-State
25	ECS	O	Spindle motor drive signal (servo error signal output)

IC5 : MN66271RA

Signal Processor & Controller

Pin No.	Name	I/O	Function
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	Reference voltage for DA output block
30	FBAL	O	Focus balance adjustment output
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input (analog input)
35	VDET	I	Oscillation detect signal input (H : DETECT)
36	OFT	I	Off track signal input (H : OFF TRACK)
37	TRCRS	I	Track cross signal input
38	RFDET	I	RF detect signal input (L : DETECT)
39	BDO	I	Drop out signal input (H : DROP OUT)
40	LDON	O	Laser ON signal output (H : ON)
41	TES	O	Tracking error shunt signal output (H : SHUNT)
42	PLAY	O	Play signal output (H : PLAY) (NC)
43	WVEL	O	Double speed status signal output (NC)
44	ARF	I	RF signal input
45	IREF	I	Reference current input terminal
46	DRF	I	Bias terminal for DSL (NC)
47	DSLIF	I/O	Loop filter terminal for DSL
48	PLLIF	I/O	Loop filter terminal for PLL
49	VCOF	I/O	Loop filter terminal for VCO (NC)
50	AVDD2	I	Power supply for analog circuit (for DSL, PLL, OA output blocks) (+5)
51	AVSS2	I	GND for analog circuit (for DSL, PLL, DA output blocks) (GND)
52	EFM	O	EFM signal output (NC)
53	PCK	O	PLL extract clock output (f PCK = 4.321MHz) (NC)
54	PDO	O	EFM signal to PCK signal phase comparison signal output (NC)
55	SUBC	O	Sub-code serial output data output (NC)
56	SBCK	I	Clock input for sub-code serial output (GND)
57	VSS	I	GND for oscillation circuit
58	X1	I	Crystal oscillation circuit input terminal (f = 16.9344MHz)
59	X2	O	Crystal oscillation circuit output terminal (f = 16.9344MHz)
60	VDD	I	Power supply for oscillation circuit (+5)
61	BYTCK	O	Byte clock output (NC)
62	CLDCK	O	Sub-code frame clock signal output (f CLDCK = 7.35kHz) (NC)
63	FCLK	O	Crystal frame clock output (f FCLK = 7.35kHz) (NC)
64	IPFLAG	O	Interpolation flag output H : INTERPOLATION (NC)
65	FLAG	O	Flag output (NC)
66	CLVS	O	Spindle servo phase synchronous status signal output H : CLV L : ROUGH SERVO (NC)
67	CRC	O	Sub-code CRC check result output H : OK, L : NG (NC)
68	DEMPH	O	Deemphasis detect signal output H : ON (NC)
69	RESY	O	Re-synchronous signal output of frame synchronization H : SYNCHRONOUS L : ASYNCHRONOUS (NC)
70	RST2	I	Reset terminal for stop after MASH circuit (L : RESET) (+5)
71	TEST	I	Test terminal (Normal : H) (+5)
72	AVDD1	I	Power supply for analog circuit (for audio output section (used for both L and R channels))
73	OUTL	O	L channel output
74	AVSS1	I	GND for analog circuit (for audio output section (used for both L and R channels))
75	OUTR	O	R channel output
76	RSEL	I	RF signal polarity specifying terminal RSEL = H when Bright level is at "H" RSEL = L when Bright level is at "L" (+5)
77	CSEL	I	Crystal oscillation frequency specifying terminal (Normal : L) (GND)
78	PSEL	I	Test terminal (Normal : L) (GND)
79	MSEL	I	SMCK terminal Output frequency switch terminal H : SMCK = 8.4672MHz, L : SMCK = 4.2336MHz (GND)
80	SSEL	I	SUBQ terminal Output mode switch terminal H : Q code buffer use mode (+5)

IC6 : M38024M6-260SP
8 bit μ -COM

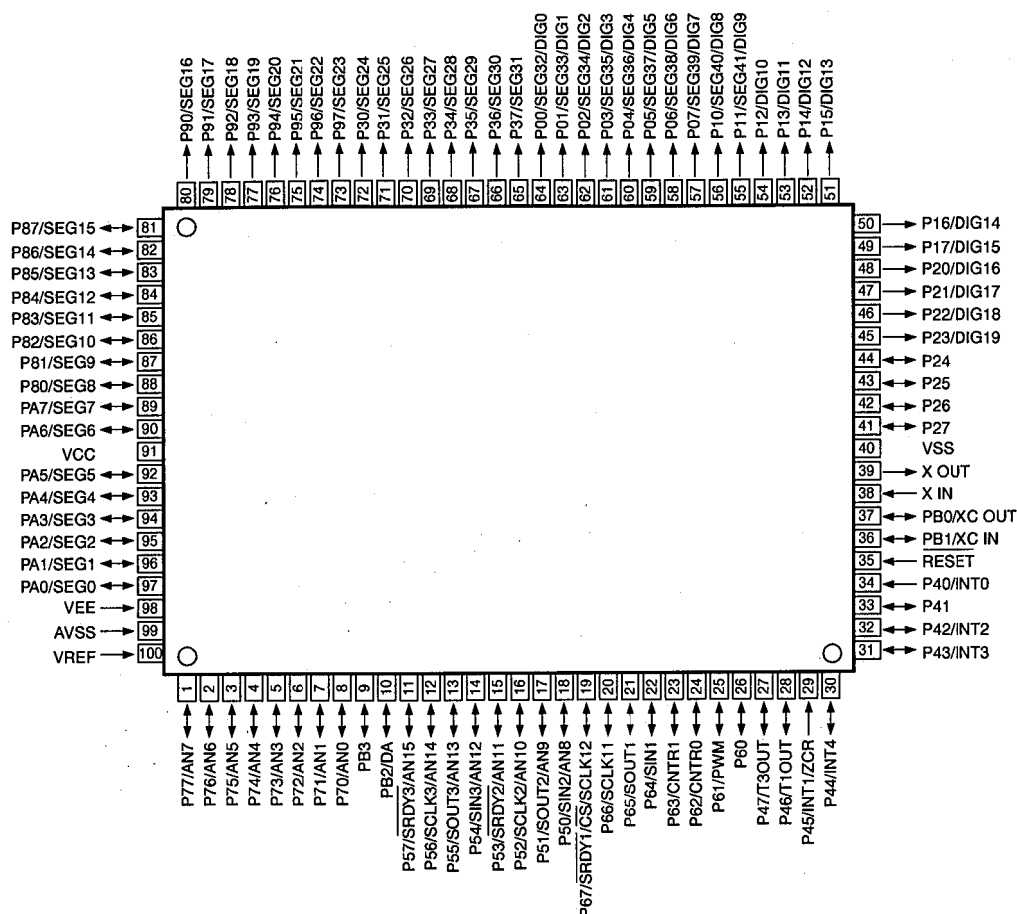


Pin No.	Port	Name	I/O	Function
1	Vcc	Vcc		+5V
2	Vref	Vref		AD, DA reference voltage (+5V)
3	AVss	AVss		GND
4	P67	/FLSW	I	Feed origin SW
5	P66	ADR	I	Tray table address detect SW
6	P65	OPSW	I	Tray open SW
7	P64	/CLSW	I	Tray close SW
8	P63	/STOP	I	Tray table STOP position detect SW
9	P62	/UPSW	I	Clamper UP SW

IC6 : M38024M6-260SP

8 bit μ -COM

Pin No.	Port	Name	I/O	Function
10	P6 ₁	/DWSW	I	Clamper down SW
11	P6 ₀	(NC)		
12	P5 ₇	/FLOCK	I	Focus servo lock
13	P5 ₆	/TLOCK	I	Tracking servo lock
14	P5 ₅	STAT	I	Servo status signal
15	P5 ₄	/MUTE	O	Line mute
16	P5 ₃	(NC)		
17	P5 ₂	/SCK	O	Serial clock to servo LSI
18	P5 ₁	SO	O	Serial out to servo LSI
19	P5 ₀	SI	I	Serial in from servo LSI
20	P4 ₇	DSTRT	O	Display data start signal
21	P4 ₆	/LSCK	O	Display data serial clock
22	P4 ₅	LSO	O	Display data serial out
23	P4 ₄	(NC)		
24	P4 ₃	/MNRST	O	Servo LSI reset signal
25	P4 ₂	BLKCK	I	Q-code read OK signal
26	CNV _{ss}	(NC)		
27	RESET	RESET	I	
28	P4 ₁	DAT3	I	System data from DECK
29	P4 ₀	DAT0	I	System data from RECEIVER
30	X _{IN}	X _{IN}		4MHz IN (CLOCK)
31	X _{OUT}	X _{OUT}		4MHz OUT (CLOCK)
32	V _{ss}	GND		
33	P2 ₇	K3	I	KEY SCAN INPUT3
34	P2 ₆	K2	I	KEY SCAN INPUT2
35	P2 ₅	K1	I	KEY SCAN INPUT1
36	P2 ₄	K0	O	KEY SCAN INPUT0
37	P2 ₃	KD3	O	KEY SCAN DIGIT3
38	P2 ₂	KD2	O	KEY SCAN DIGIT2
39	P2 ₁	KD1	O	KEY SCAN DIGIT1
40	P2 ₀	KD0	O	KEY SCAN DIGIT0
41	P1 ₇	(NC)		Not used
42	P1 ₆	(NC)		
43	P1 ₅	(NC)		
44	P1 ₄	(NC)		
45	P1 ₃	(NC)		
46	P1 ₂	(NC)		
47	P1 ₁	(NC)		
48	P1 ₀	(NC)		
49	P0 ₇	TROP	O	Tray open control signal
50	P0 ₆	TRCL	O	Tray close control signal
51	P0 ₅	TBL+	O	Tray table revolution
52	P0 ₄	TBL-	O	Tray table brake
53	P0 ₃	(NC)		
54	P0 ₂	(NC)		
55	P0 ₁	(NC)		
56	P0 ₀	(NC)		
57	P3 ₇	/PON	O	Servo LSI power control
58	P3 ₆	DAT2	O	System date out
59	P3 ₅	DMUTE	O	Digital mute
60	P3 ₄	/MLD	O	Microprocessor command store request
61	P3 ₃	/CMDSEL	O	SCK MCLK select
62	P3 ₂	/QSEL	O	SCK SQCK select
63	P3 ₁	(NC)		
64	P3 ₀	TSPD	O	Tray table revolution speed control DA port

IC813 : M38197MA-159FP
8 bit μ -COM


Pin No.	Port	Name	Function
1	AN7	MSEL	CENTER MODE (A-D)
2	AN6	SPEIN	SPECTRUM ANALYZER (BA3835F) IN (A-D)
3	AN5	DSEL	MARKET SELECT IN (A-D)
4	AN4	KEY4	KEY 4 IN (A-D)
5	AN3	KEY3	KEY 3 IN (A-D)
6	AN2	KEY2	KEY 2 IN (A-D)
7	AN1	KEY1	KEY 1 IN (A-D)
8	AN0	KEY0	KEY 0 IN (A-D)
9	PB3	HPIN	H.P DET IN [0 : HP 1 : SP]
10	DA	D/A	ECHO LEVEL CONTROL OUT (D-A)
11	AN15		ELECTRIC CONTROLLED VOLUME SELECT IN
12	AN14	TAPESW2	TAPE MECHA. SW 2 IN
13	AN13	TAPESW1	TAPE MECHA. SW 1 IN
14	AN12	TAPESW0	TAPE MECHA. SW 0 IN
15	P53	/PRT	PRT DETECT IN [0 : PRT DETECT]
16	SCLK2	TU/VRCLK	LC72130/LC75395E/LA2786/LV1015/LC7536 CLK OUT (SERIAL I/O2)
17	SOUT2	TU/VRDATA	LC72130/LC75395E/LA2786/LV1015/LC7536 DATA OUT (SERIAL I/O2)
18	SIN2	TUDATA	LC72130 DATA/STEREO/IF END IN (SERIAL I/O2)
19	P67	STIN	STATION IN (TUNER) [0 : STATION AVAILABLE]
20	SCLK12	CD/RDSCLK	CD DISPLAY/RDS DATA CLK IN (SERIAL I/O1)
21	P65	KCSTR	NOT USED
22	SIN1	CD/RDSDATA	CD DISPLAY/RDS DATA IN (SERIAL I/O1)
23	P63	COT2	CD DATA IN (SYSTEM COMMUNICATION COT2)
24	P62	COT0	CD DATA OUT (6 bit) (SYSTEM COMMUNICATION COT0)
25	P61	TUCE	LC72130/LC75395E/LC7536 CE OUT [1 : DATA TRANSFER]
26	P60	DOLCE	LA2786/LV1015 CE OUT [0 : DATA TRANSFER]
27	P47	ENCAIN	ROTARY ENCODER A IN

See page 30

IC813 : M38197MA-159FP

8 bit μ -COM

Pin No.	Port	Name	Function
28	P46	ENCBIN	ROTARY ENCODER B IN
29	INT1	ACIN	POWER DOWN AC PULSE IN
30	INT4	RDSRES	RDS RESET OUT [0 : RESET]
31	INT3	CDCE	CD DISPLAY CE IN [1 : START]
32	INT2	REMIN	REMOCON IN
33	P41	CONT3	CD DATA OUT (4 bit) (SYSTEM COMMUNICATION COT 3)
34	INT0	RDSAST	RDS DATA START IN [0 : START]
35	/RESET	RESET	RESET
36	XCIN	XCIN	32.768 kHz IN (SUB CLOCK)
37	XCOUT	XCOUT	32.768 kHz OUT (SUB CLOCK)
38	XIN	XIN	8 MHz IN (MAIN CLOCK)
39	XOUT	XOUT	8 MHz OUT (MAIN CLOCK)
40	VSS	GND	GND
41	P27	CLKOUT	BU2090 CLK 1/2/3 OUT
42	P26	DATAOUT	BU2090 DATA 1/2/3 OUT
43	P25	4052A	TC4052 CONTROL A OUT
44	P24	4052B	TC4052 CONTROL B OUT
45	P23	SPESEL	SPECTRUM ANALYZER (BA3835F) SEL OUT (VEE PULL-DOWN)
46	P22	SPEC	SPECTRUM ANALYZER (BA3835F) C OUT (VEE PULL-DOWN)
47	P21	SPEB	SPECTRUM ANALYZER (BA3835F) B OUT (VEE PULL-DOWN)
48	P20	SPEA	SPECTRUM ANALYZER (BA3835F) A OUT (VEE PULL-DOWN)
49	P17	DIG15	DIG 15
50	P16	DIG14	DIG 14
51	P15	DIG13	DIG 13
52	P14	DIG12	DIG 12
53	P13	DIG11	DIG 11
54	P12	DIG10	DIG 10
55	P11	DIG9	DIG 9
56	P10	DIG8	DIG 8
57	P07	DIG7	DIG 7
58	P06	DIG6	DIG 6
59	P05	DIG5	DIG 5
60	P04	DIG4	DIG 4
61	P03	DIG3	DIG 3
62	P02	DIG2	DIG 2
63	P01	DIG1	DIG 1
64	P00	DIG0	DIG 0
65	P37	SEG31	SEG 31
66	P36	SEG30	SEG 30
67	P35	SEG29	SEG 29
68	P34	SEG28	SEG 28
69	P33	SEG27	SEG 27
70	P32	SEG26	SEG 26
71	P31	SEG25	SEG 25
72	P30	SEG24	SEG 24
73	P97	SEG23	SEG 23
74	P96	SEG22	SEG 22
75	P95	SEG21	SEG 21
76	P94	SEG20	SEG 20
77	P93	SEG19	SEG 19
78	P92	SEG18	SEG 18
79	P91	SEG17	SEG 17
80	P90	SEG16	SEG 16
81	P87	SEG15	SEG 15 (EXTERNAL PULL-DOWN)
82	P86	SEG14	SEG 14 (EXTERNAL PULL-DOWN)
83	P85	SEG13	SEG 13 (EXTERNAL PULL-DOWN)
84	P84	SEG12	SEG 12 (EXTERNAL PULL-DOWN)

IC813 : M38197MA-159FP
8 bit μ -COM

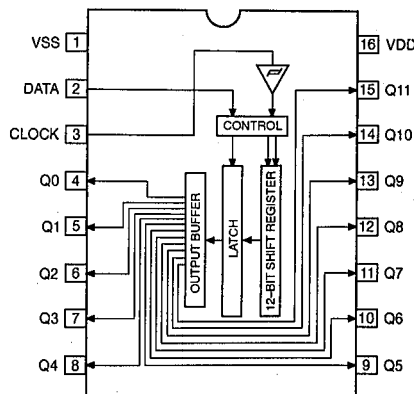
Pin No.	Port	Name	Function
85	P83	SEG11	SEG 11 (EXTERNAL PULL-DOWN)
86	P82	SEG10	SEG 10 (EXTERNAL PULL-DOWN)
87	P81	SEG9	SEG 9 (EXTERNAL PULL-DOWN)
88	P80	SEG8	SEG 8 (EXTERNAL PULL-DOWN)
89	PA7	T.RMOUT	TAPE BAIS ON/OFF [1 : ON]
90	PA6	T.MOTORB	TAPE MOTOR (DECK 2) OUT [1 : ON]
91	VCC	+5V	+5V
92	PA5	SOLENOIDB	TAPE SOLENOID (DECK 2) OUT [1 : ON]
93	PA4	T.MOTORA	TAPE MOTOR (DECK 1) OUT [1 : ON]
94	PA3	SOLENOIDA	TAPE SOLENOID (DECK 1) OUT [1 : ON]
95	PA2	T.PULSEB	TAPE REEL PULSE (DECK 2) IN
96	PA1	T.PULSEA	TAPE REEL PULSE (DECK 1) IN
97	PA0	T.M.SENSOR	TAPE MUSIC SENSOR IN
98	VEE	VEE	P0, P1, P3, P9 PULL-DOWN RESISTOR POWER IN
99	AVSS	AVSS	GND (VSS)
100	VREF	VREF	A-D, D-A REFERENCE VOLTAGE IN

● **A-D INPUT PORT (Pin 3) PULL-UP RESISTOR 10k Ω**

R (Ω)	0	+2k	+3.9k	+6.2k	+10k	+15k
DSEL (3pin)	R model (50k / 9k)	R model (100k / 10k)	A, L, T models	B, G models	U, C models	J model

● **A-D INPUT PORT (Pin 8 to 4) PULL-UP RESISTOR 10k Ω**

R (Ω)	0	+2k	+1.8k	+2.4k	+3.9k	+5.6k	+10k	+24k
KEY 0 (8pin)	POWER	GE-USER	GE-LEFT ECHO -	GE-LOCATION	GE-DOWN	GE-MEMORY	NO KEY	NO KEY
KEY 1 (7pin)	TAPE-STOP HOUR	TAPE-PLAY MIN	TAPE-FF	TAPE-REW	TAPE 1/2	INPUT<	CD	INPUT>
KEY 2 (6pin)	CD-PLAY A/B/C/D/E	CD-SKIP FF TUNING UP	RANDAM RDS-FRQ/	REPEAT RDS-MODE	EDIT RDS-START	DISPLAY	OPEN/CLOSE	DISC CHANGE
KEY 3 (5pin)	TU-MEMORY TIME ADJ	H. DUB	N. DUB	REC/PAUSE TIMER REC	TA-MODE	DOLBY NR	TU-AUTO TIMER	NO KEY
KEY 4 (4pin)	CD-STOP PRESET/TUNING	CD-SKIP REW TUNING DOWN	DISC 3	DISC 2	DISC 1	GE-UP	GE-MUSIC	GE-RIGHT ECHO +

IC222, 241, 506 : BU2090
Serial In/Parallel Out Driver

Extension Port 1
IC222 : BU2090

Pin No.	Port	Function
1	VSS	GND
2	DATA	DATA IN
3	CLOCK	CLOCK IN
4	Q0	NOT USED
5	Q1	NOT USED
6	Q2	VIDEO SELECT (LD/VIDEO/ CD) OUT [0 : LD 1 : VIDEO CD]
7	Q3	SW MUTE OUT [0 : MUTE ON]
8	Q4	IC (CENTER, REAR) MUTE OUT [0 : MUTE ON]
9	Q5	VIDEO SELECTE (LD/VCR) OUT [0 : LD 1 : VCR]
10	Q6	VCR REC INHIBIT OUT [0 : INHIBIT]
11	Q7	MD REC INHIBIT OUT [0 : INHIBIT]
12	Q8	INPUT SELECT (TC4052BP) CONTROL A OUT AB : [00 : AUX 01 : VCR]
13	Q9	INPUT SELECT (TC4052BP) CONTROL B OUT [10 : LD 11 : -]
14	Q10	DOLBY TEST MODE (TC4053BP) CONTROL A, B OUT AC : [00 : - 01 : PRO LOGIC]
15	Q11	DOLBY TEST MODE (TC4053BP) CONTROL C OUT [10 : All ch out 11 : Pass]
16	VDD	+5V

Extension Port 2
IC241 : BU2090

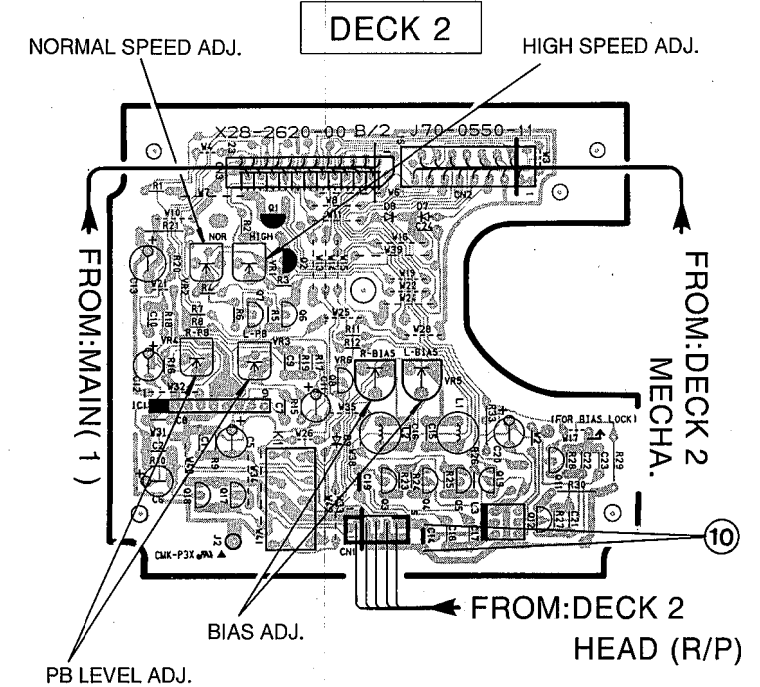
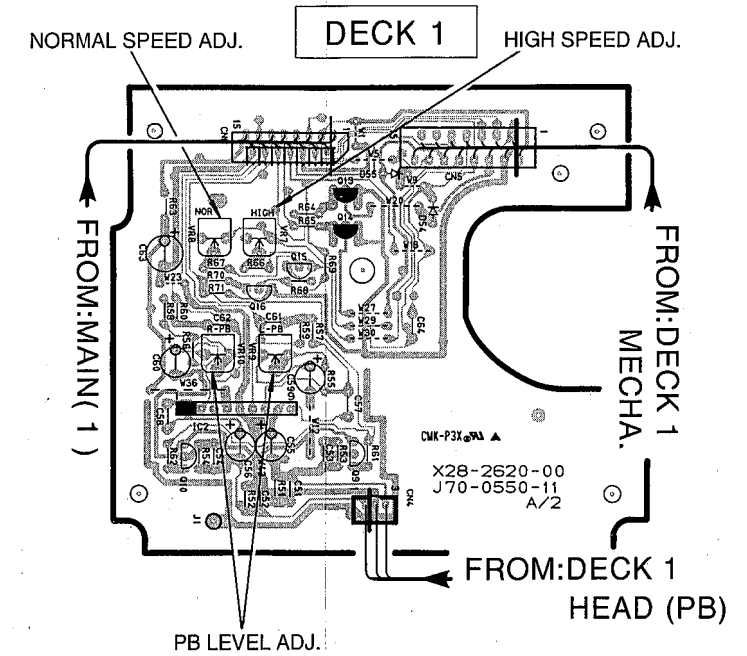
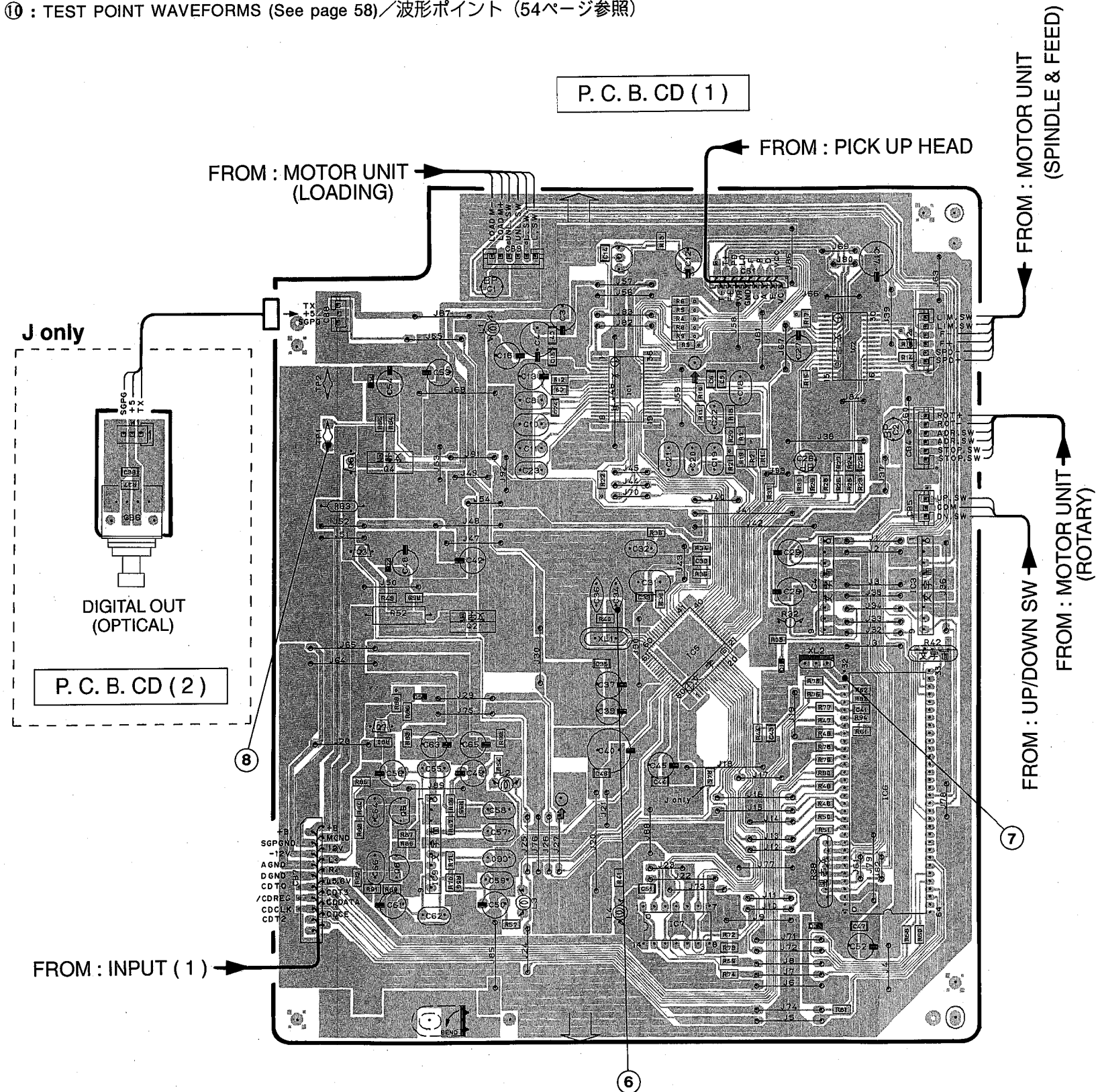
Pin No.	Port	Function
1	VSS	GND
2	DATA	DATA IN
3	CLOCK	CLOCK IN
4	Q0	CD/RDS DATA SELECT OUT [0 : CD 1 : RDS]
5	Q1	AMP MUTE OUT [0 : MUTE ON]
6	Q2	IC (POWER) MUTE OUT [0 : MUTE ON]
7	Q3	POWER RELAY OUT [0 : ON 1 : OFF]
8	Q4	POWER ON OUT [0 : ON 1 : OFF]
9	Q5	TUNER MUTE OUT [1 : MUTE ON]
10	Q6	KARAOKE (BA7726AS 3PIN) 1 OUT 10 : [00 : Norm 01 : Norm]
11	Q7	KARAOKE (BA7726AS 3PIN) 0 OUT [10 : Mid 11 : High]
12	Q8	KARAOKE (BA7726AS 3PIN) OUT [0 : NORMAL 1 : VOCAL CUT]
13	Q9	CD MICROPROCESSOR RESET OUT [0 : RESET]
14	Q10	NOT USED
15	Q11	NOT USED
16	VDD	+5V

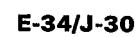
Extension Port 3
IC506 : BU2090

Pin No.	Port	Function
1	VSS	GND
2	DATA	DATA IN
3	CLOCK	CLOCK IN
4	Q0	TAPE BEAT CANCEL ON/OFF [0 : ON 1 : OFF]
5	Q1	TAPE SPEED NORMAL/HIGH [0 : HIGH 1 : NORMAL]
6	Q2	TAPE HEAD R/P [0 : PB 1 : REC]
7	Q3	TAPE LM ON/OFF [0 : OFF 1 : ON]
8	Q4	TAPE REC/PB [0 : PB 1 : REC]
9	Q5	TAPE NR ON/OFF [0 : OFF 1 : ON]
10	Q6	TAPE RM ON/OFF [0 : ON 1 : OFF]
11	Q7	TAPE REC SENSITIVITY SELECT [0 : OFF 1 : ON]
12	Q8	TAPE 120/70 (DECK 2) [0 : 120 1 : 70]
13	Q9	TAPE NORMAL/HIGH [0 : NORMAL 1 : HIGH]
14	Q10	TAPE 120/70 (DECK 1) [0 : 120 1 : 70]
15	Q11	TAPE PB DECK 1/DECK 2 [0 : DECK 1 1 : DECK 2]
16	VDD	+5V

PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)

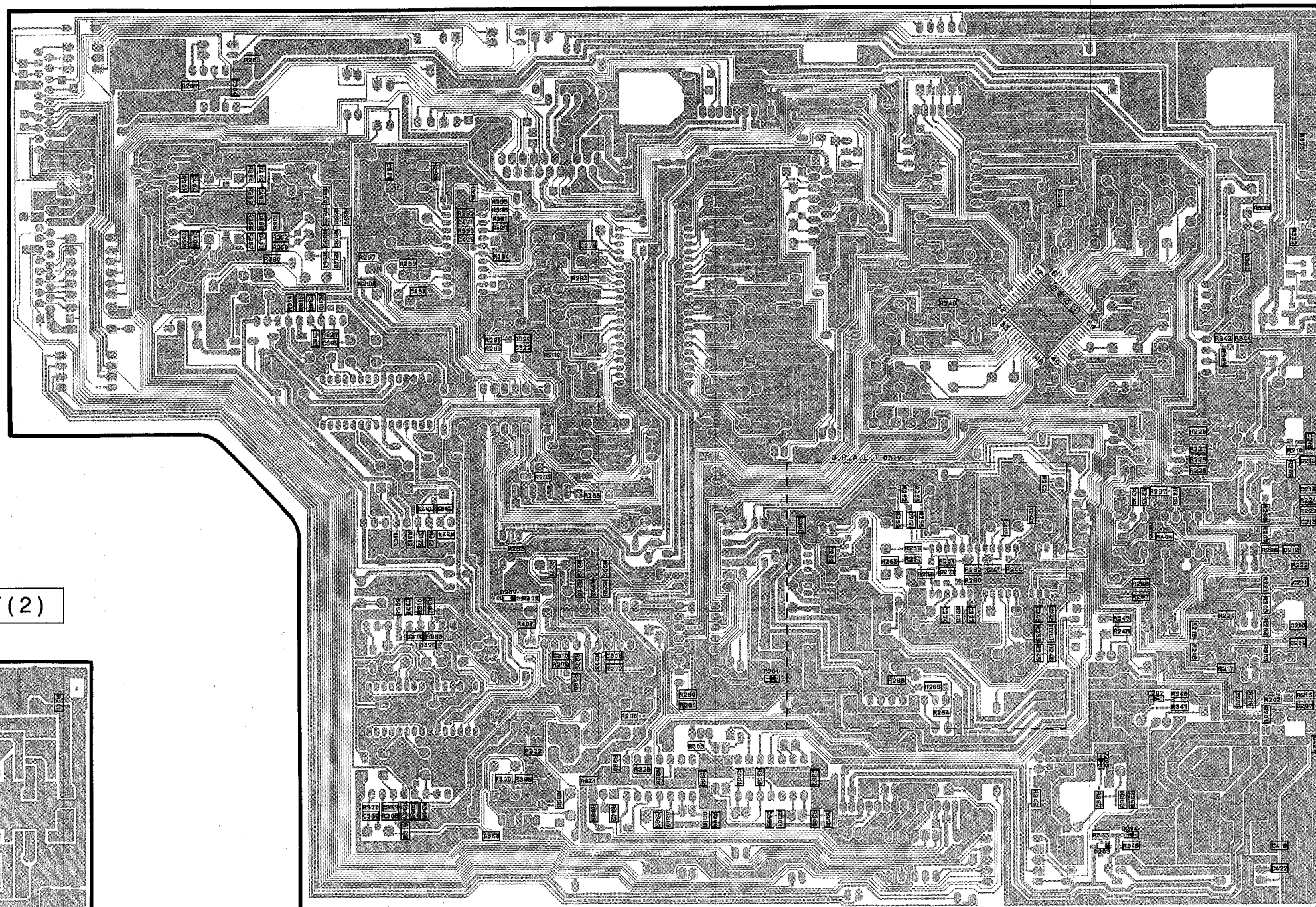
- ⑥ to ⑧ : TEST POINT WAVEFORMS (See page 54) / 波形ポイント (50ページ参照)
 ⑩ : TEST POINT WAVEFORMS (See page 58) / 波形ポイント (54ページ参照)



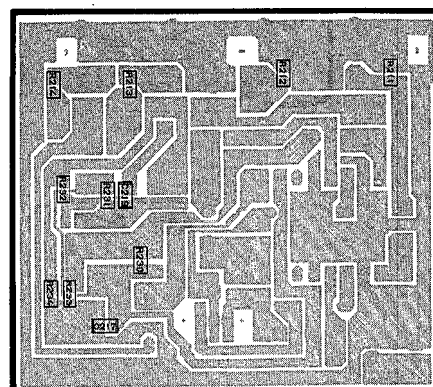


■ PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)

P. C. B. INPUT (1)

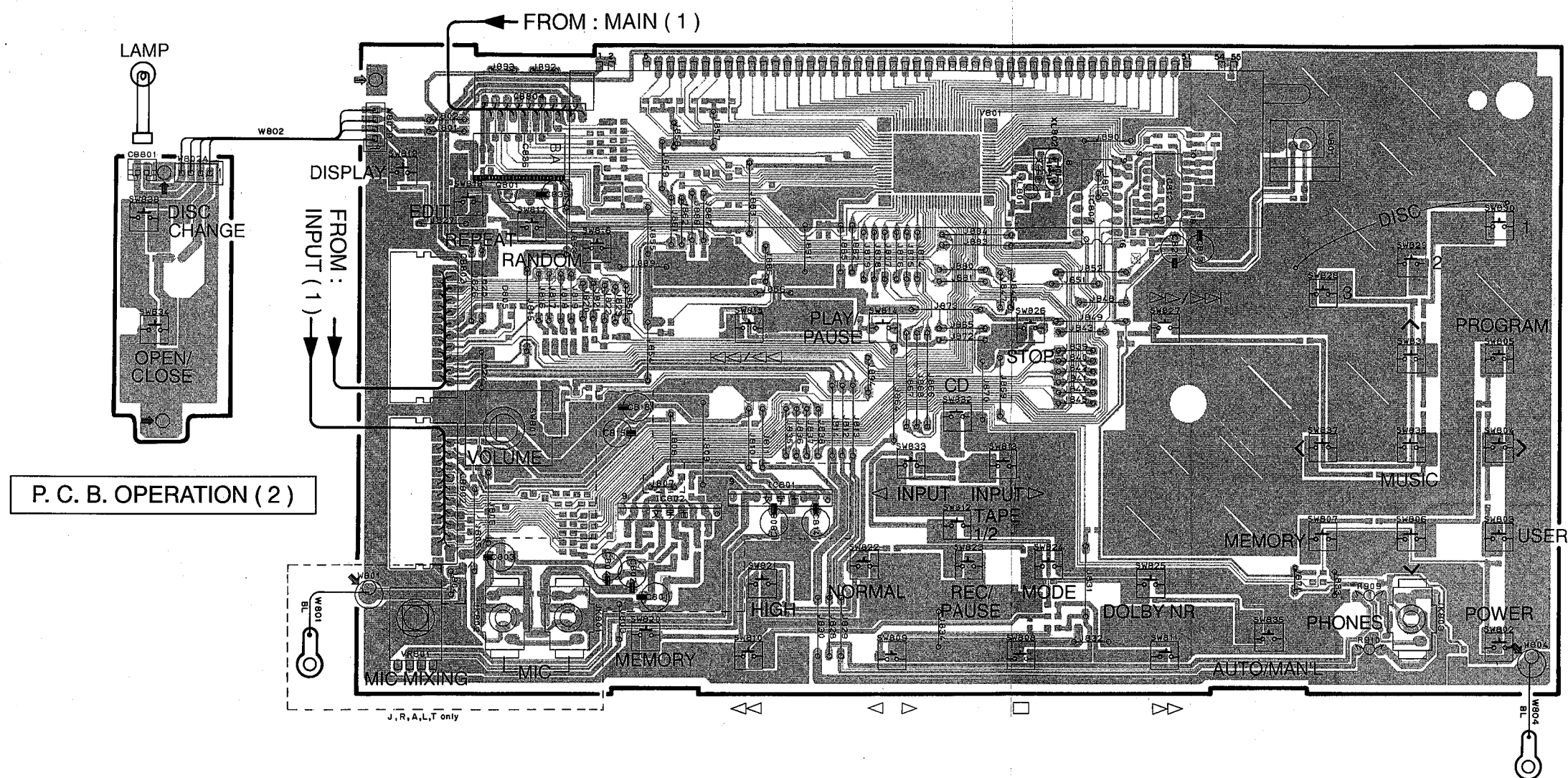


P. C. B. INPUT (2)



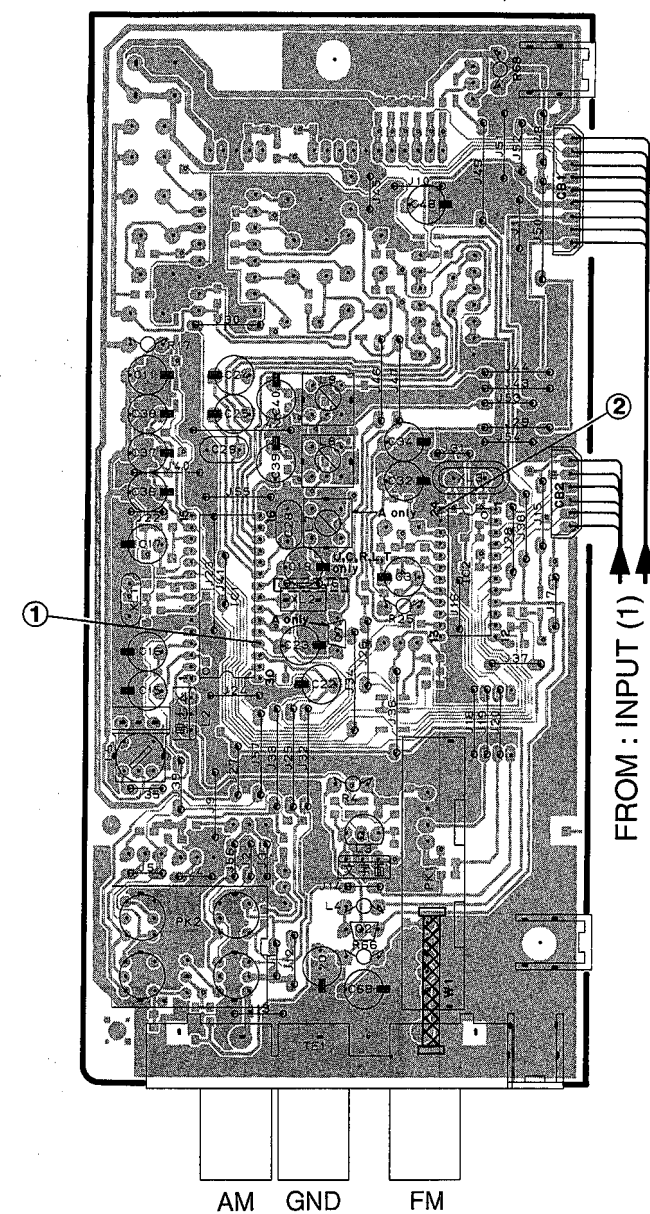
① and ② : TEST POINT WAVEFORMS (See page 52) / 波形ポイント (48ページ参照)

P. C. B. OPERATION (1)



● U, C, R, A, L, T models

P. C. B. TUNER



PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)

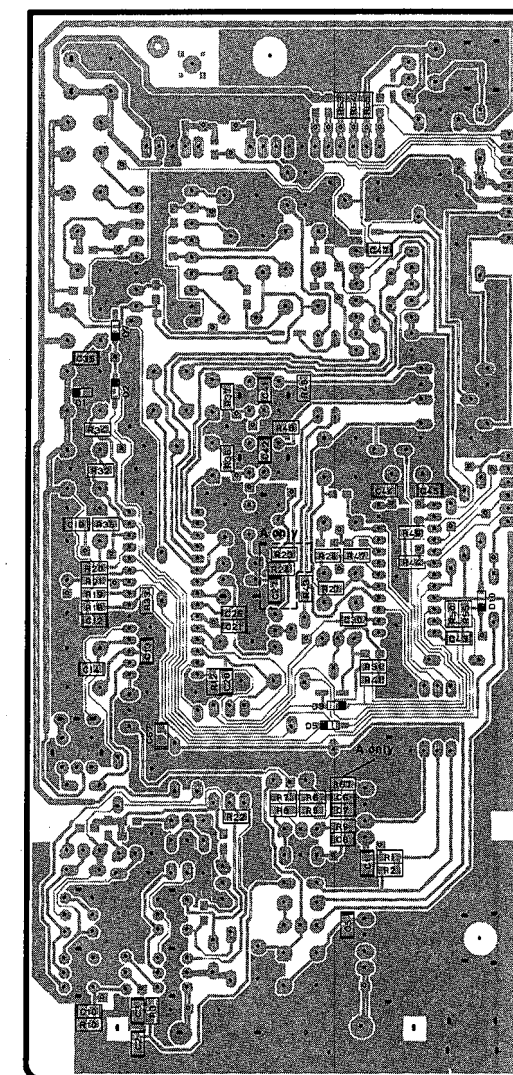
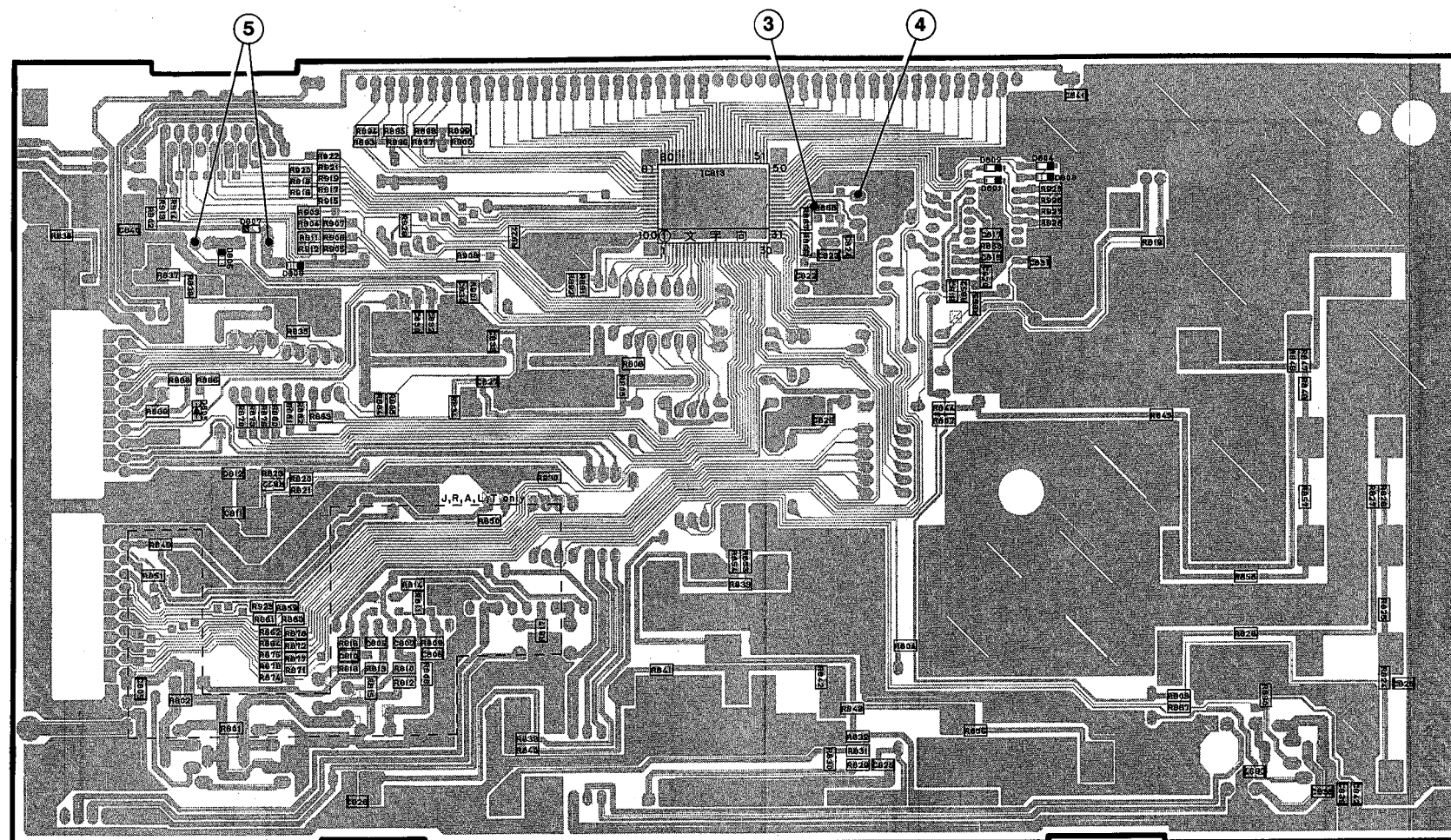
③ to ⑤ : TEST POINT WAVEFORMS (See page 53) / 波形ポイント (49ページ参照)

P. C. B. OPERATION (1)

P. C. B. OPERATION (2)

● U, C, R, A, L, T models

P. C. B. TUNER



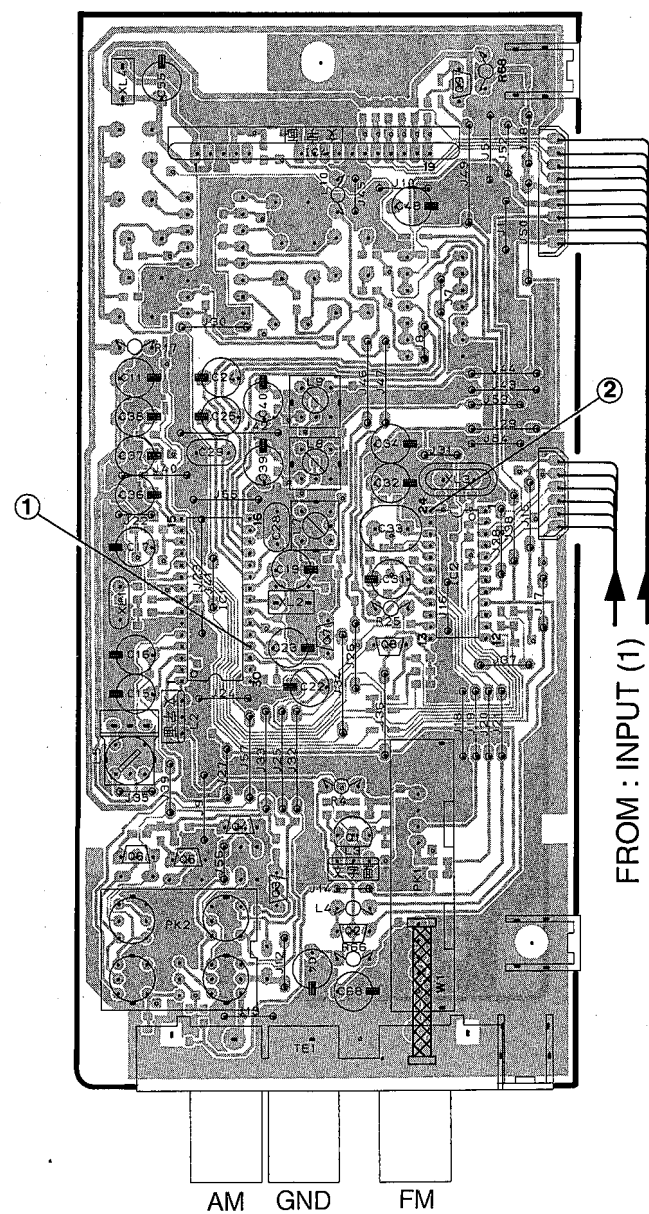
GX-70

■ PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)

① and ② : TEST POINT WAVEFORMS (See page 52) / 波形ポイント (48ページ参照)

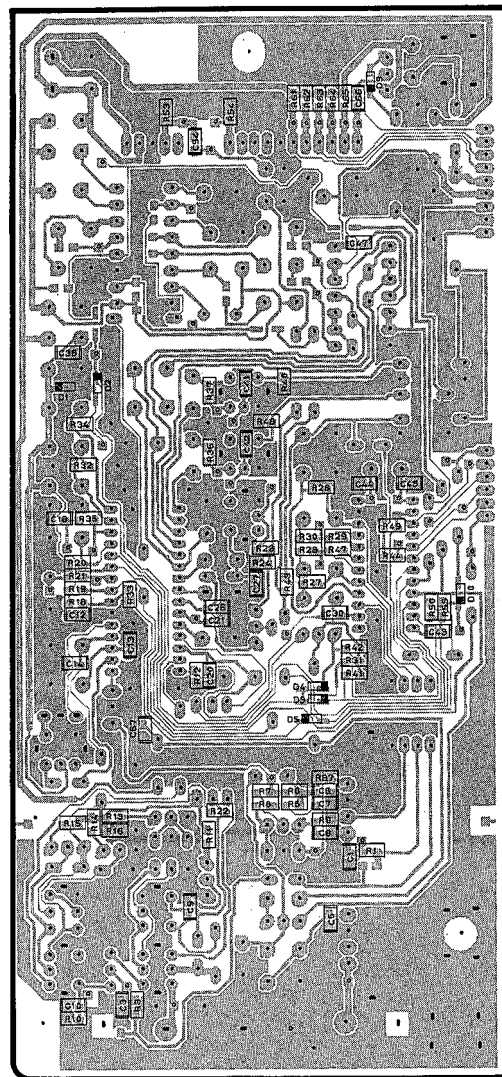
● B, G models

P. C. B. TUNER



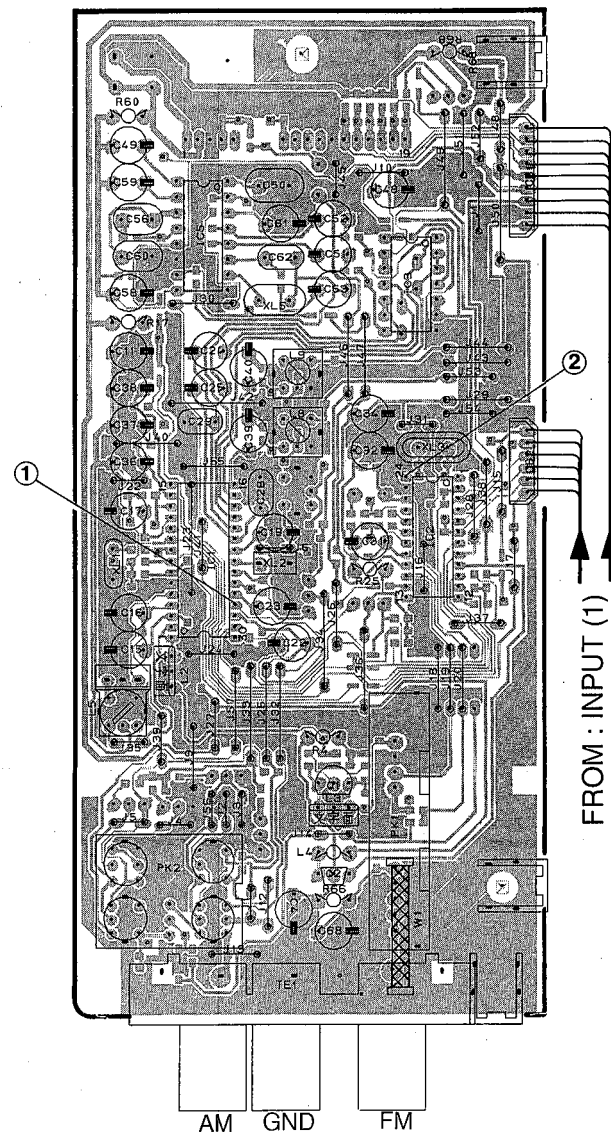
● B, G models

P. C. B. TUNER



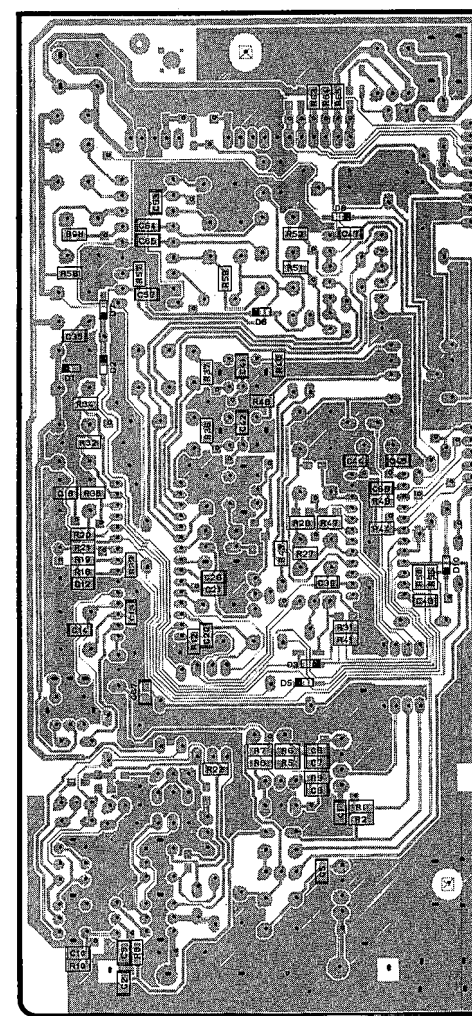
● J model

P. C. B. TUNER



● J model

P. C. B. TUNER



A

B

C

D

E

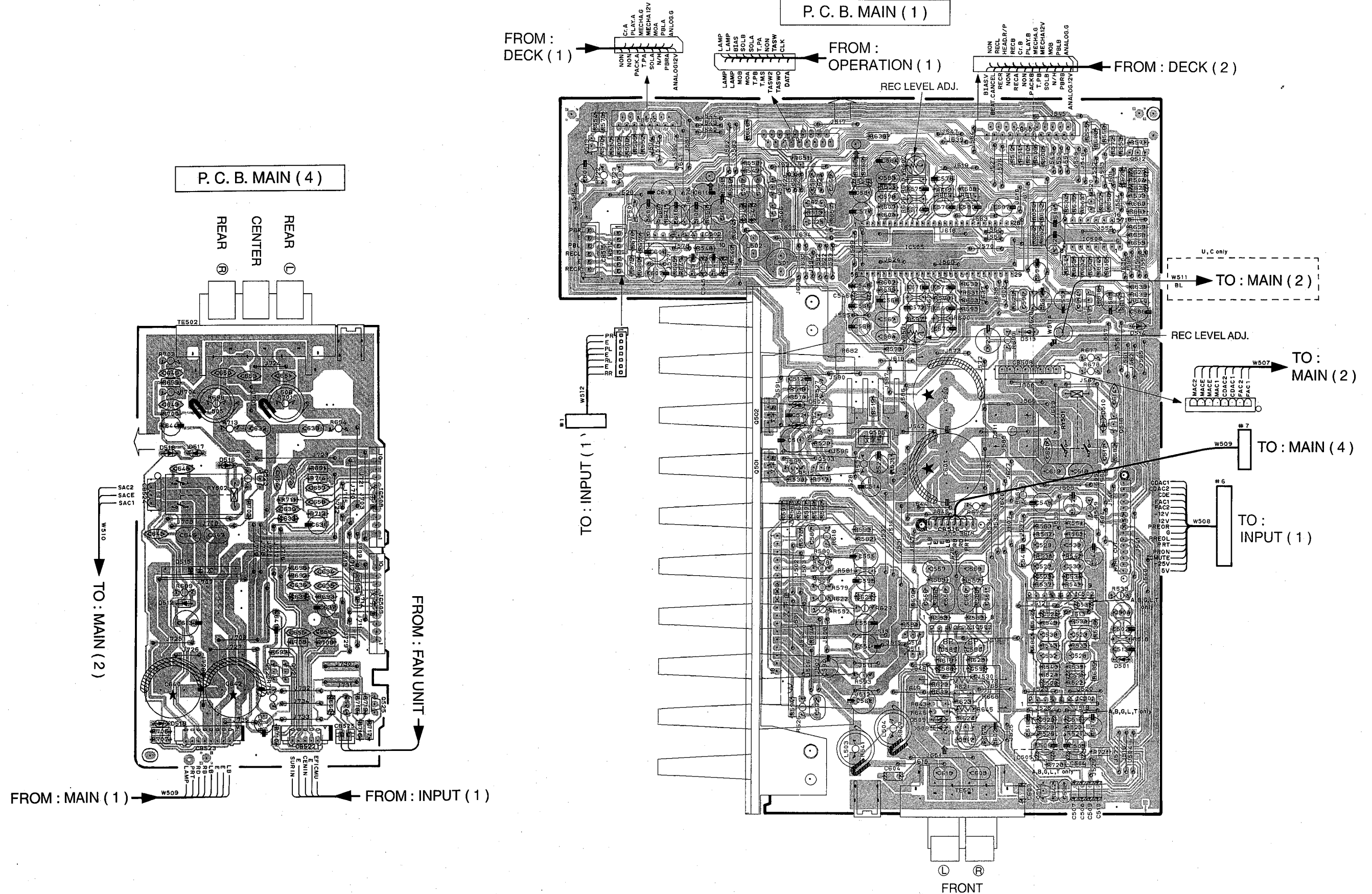
F

G

H

GX-70

■ PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)



GX-70

PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)

TO : MAIN (1) ← W507 W510 → TO : MAIN (4)

P. C. B. MAIN (2)

P. C. B. MAIN (5)

R only

P. C. B. MAIN (3)

VOLTAGE SELECTOR

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

PIN CONNECTION DIAGRAM / 半導体外形図

ICs

AN78N09 1: INPUT 2: COMMON 3: OUTPUT	BA15218N BA7612N NJM2082L	μPC4570HA	TA8409S	BA3312N	μPC1188H	STK4182II
STK311-020B	HD74HC125P TC4066BP	BU2090	TA2040AP TC4052BP TC4053BP	BA3835 BU9252S	LC72130 LV1015	
LA1835 LC7536	BA7726AS	LA2786	HA12182NT	M38024M6-260SP		
LA6536M	AN8803SB	LC75359E	MN66271RA	M38197MA-159FP		

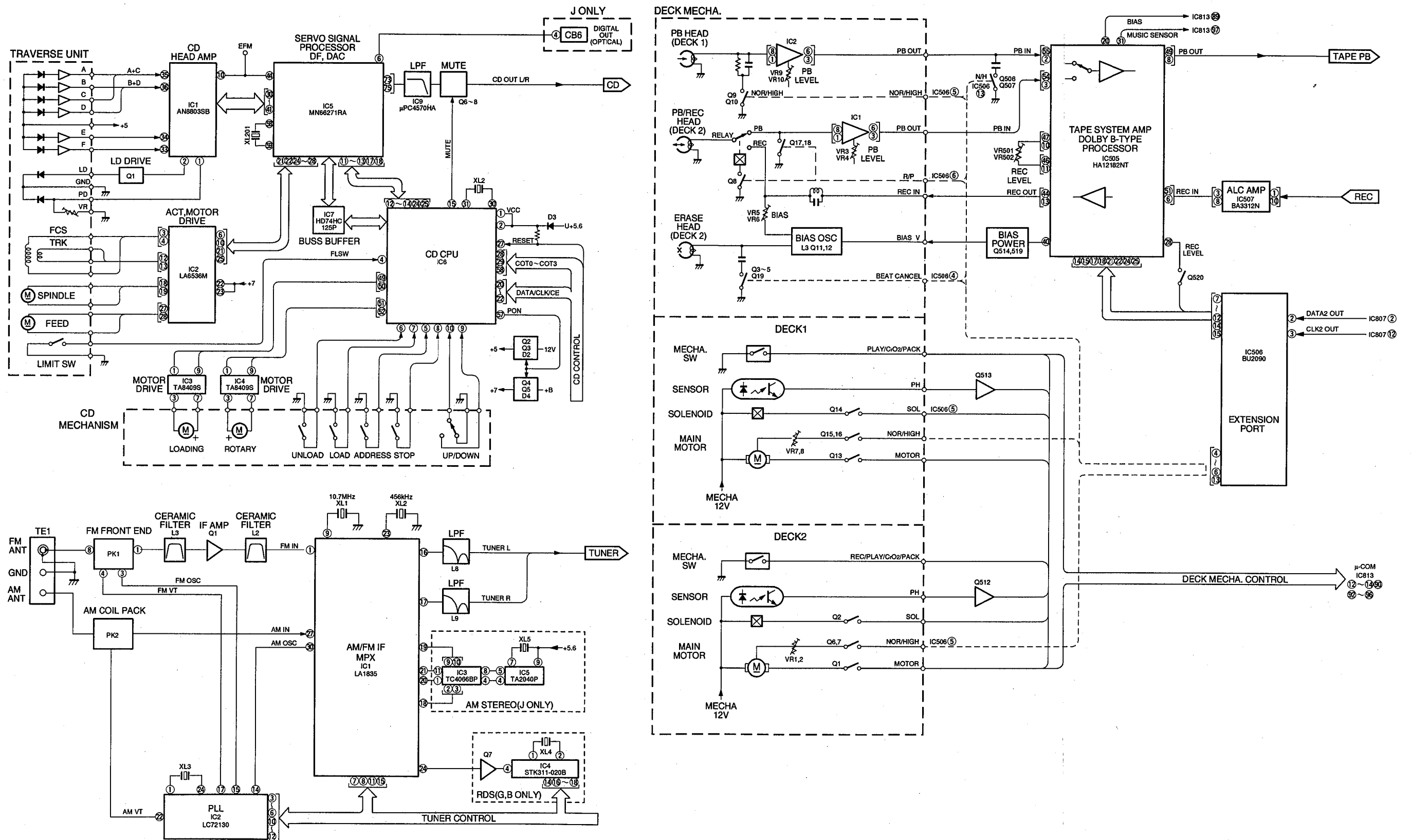
Diodes

1SS133 1SR139-400 MTZJ4.7C MTZJ13.0B MTZJ27.0D	S1VB20	D3SBA20
1SS355 MA8047-M MA8058-M MA8056-L MA8062-M MA8068-M MA8091-H UDZ7.5B	S4VB20	

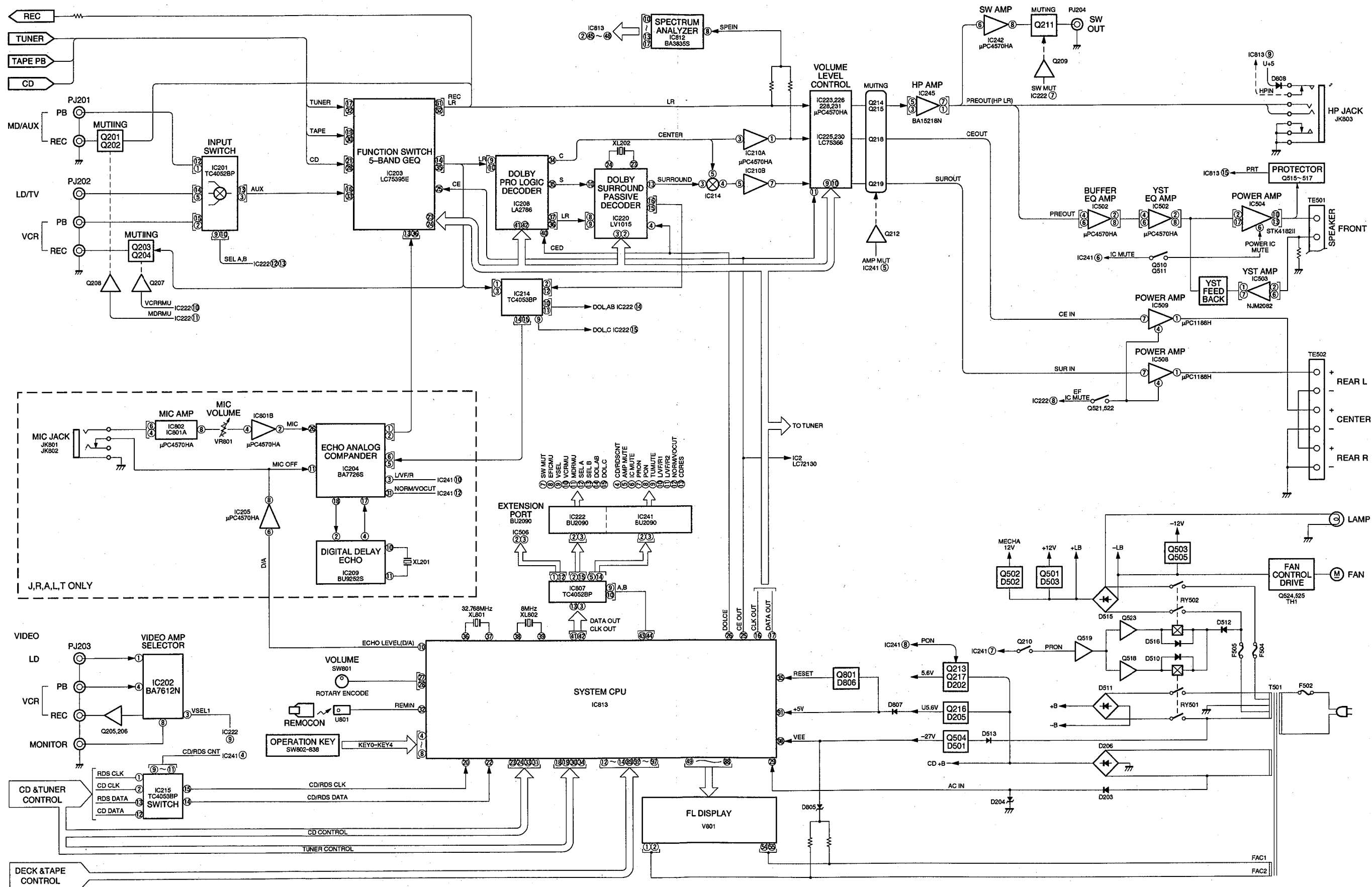
Transistors

2SA933S (Q, R) 2SC1740S (R, S) DTA114ES DTA144ES DTC144ES DTC143XS	2SD1858TV2 (Q, R)
2SA1015 (Y) 2SB647 (C, D) 2SC535 (A, B, C) 2SC1815 (Y) 2SC2878 (A, B) 2SC4208A (Q, R, S)	2SB1565 (E, F) 2SD2396 (J, K)

BLOCK DIAGRAM / ブロックダイアグラム

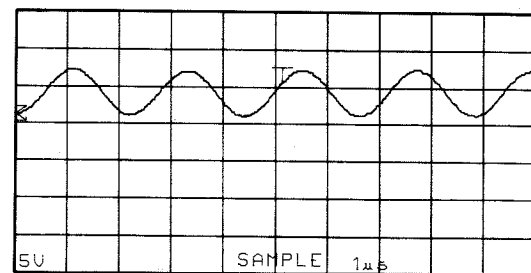


BLOCK DIAGRAM/ブロックダイアグラム

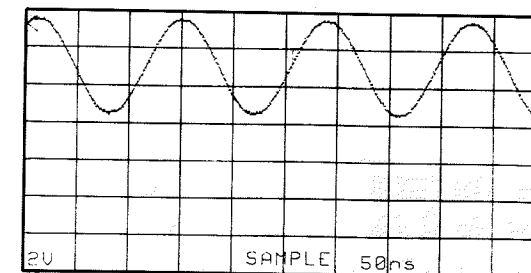


SCHEMATIC DIAGRAM／総回路図 (TUNER)

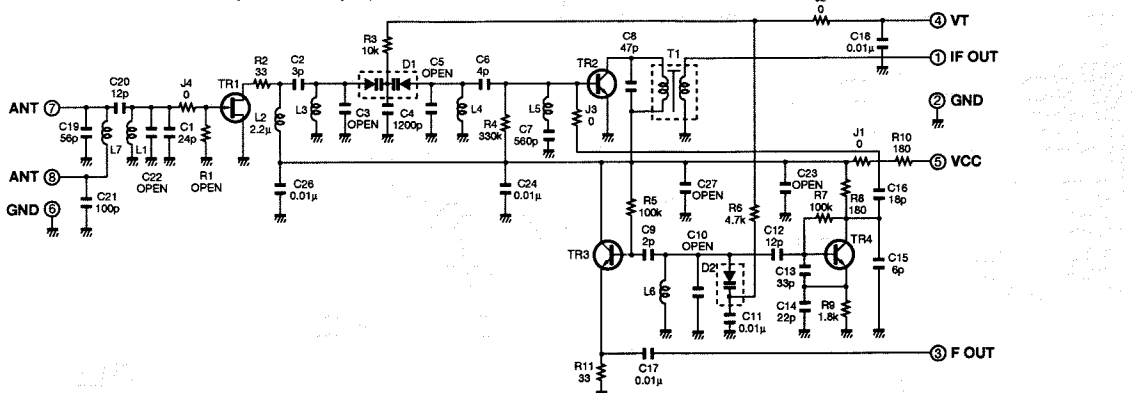
Point ① FM reception (Pin23 of IC1)
V : 5V/div H : 1 μsec/div
DC range 1 : 1 probe



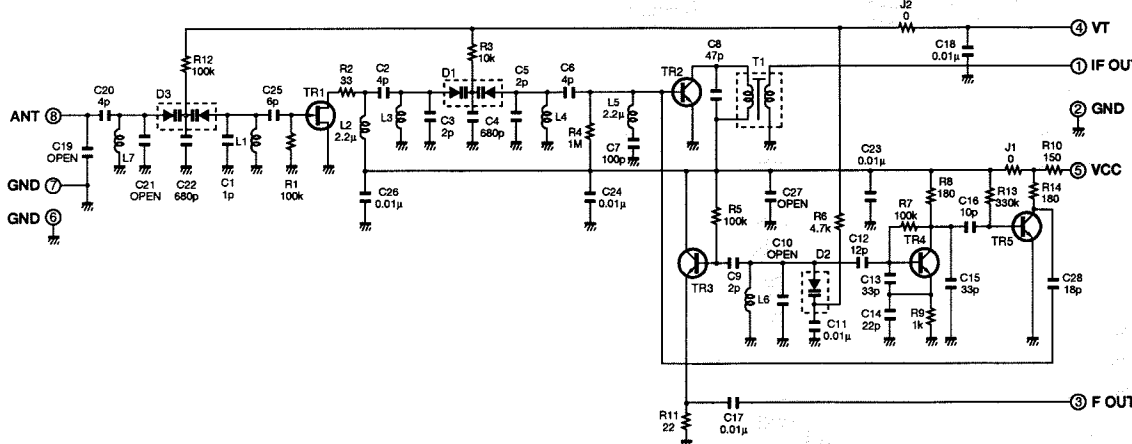
Point ② (Pin24 of IC2)
V : 2V/div H : 50nsec/div
DC range 1 : 1 probe



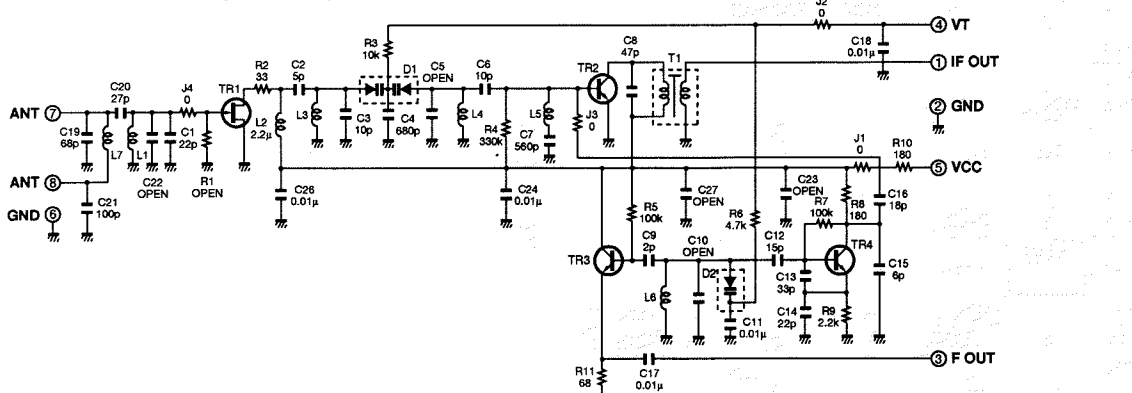
● PK1 : ENV-17298G1 (VU134400) U, C, R, L models



● PK1 : ENV-1729G1 (VU134500) A, B, G models



● PK1 : TFFJ2J541A (VV207900) J model

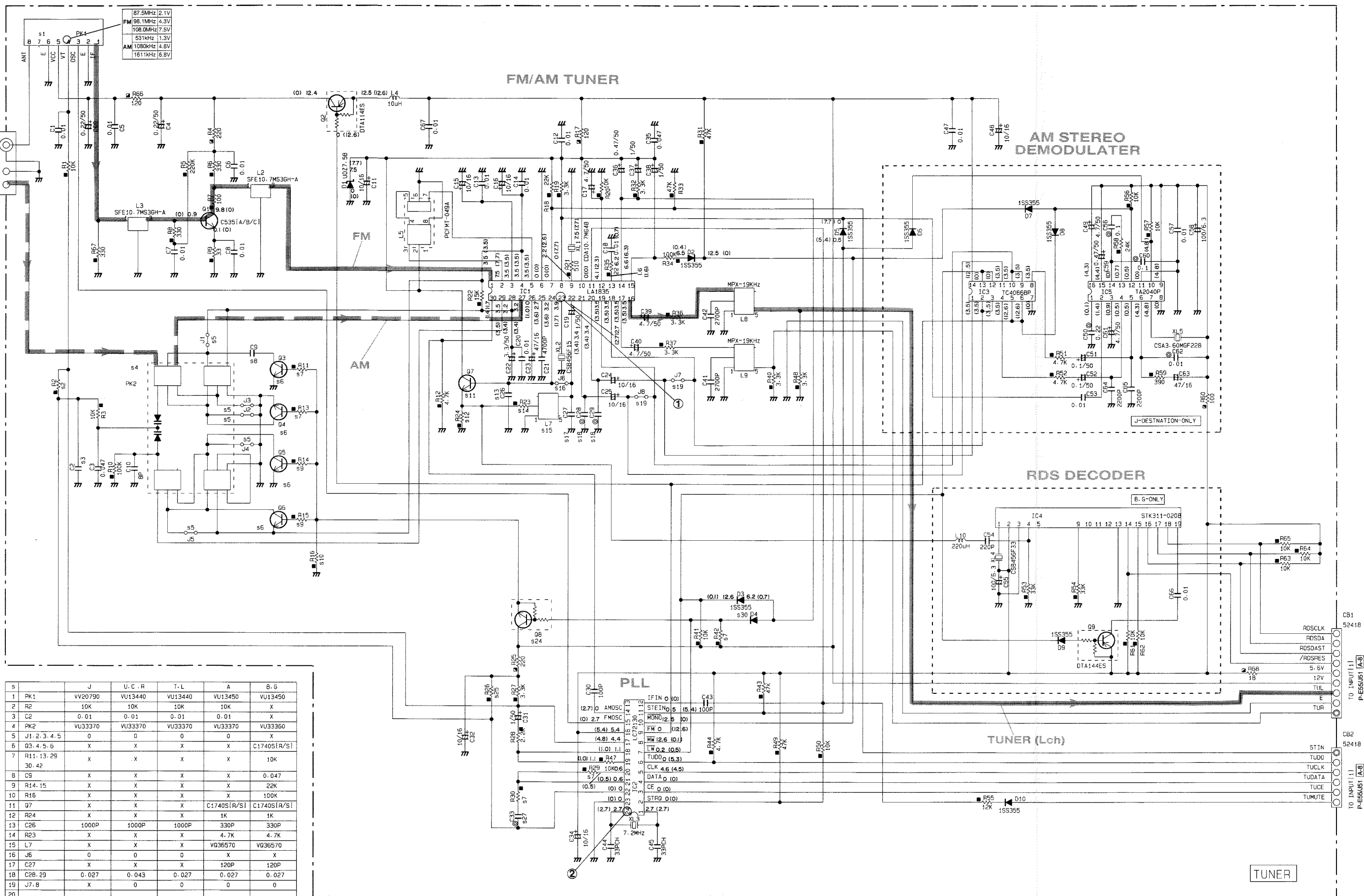


- * All voltage are measured with a 10MΩ/V DC electric volt meter.
- * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- * Schematic diagram is subject to change without notice.

- 電圧は、内部抵抗10MΩの電圧計で測定したものです。
- Δ 印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 本回路図は、標準回路図です。改良のため予告なく変更することがございます。

Each voltage represents the voltage when receiving FM (stereo) signal and the voltage in the parentheses () is the voltage when receiving AM signal.

● チューナー部の電圧は、FM83.0 MHzステレオ受信時の電圧です。ただし、()の電圧は、AM1080 kHz受信時の電圧です。



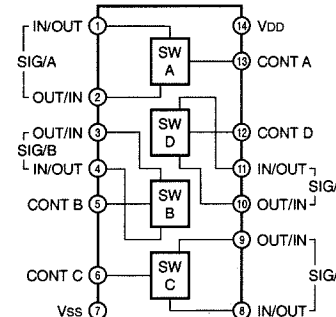
	J	U.C.R	T.L	A	B-G
1 PK1	VV20790	VU13440	VU13440	VU13450	VU13450
2 R2	10K	10K	10K	10K	X
3 C2	0.01	0.01	0.01	0.01	X
4 PK2	VU33370	VU33370	VU33370	VU33370	VU33360
5 J1, 2, 3, 4, 5	0	0	0	0	X
6 Q3, 4, 5, 6	X	X	X	X	C17405R/S1
7 R11, 13, 25	30, 42	X	X	X	10K
8 C5	X	X	X	X	0.047
9 R14, 15	X	X	X	X	22K
10 R16	X	X	X	X	100K
11 Q7	X	X	X	X	C17405R/S1
12 R24	X	X	X	X	1K
13 C26	1000P	1000P	1000P	330P	330P
14 R23	X	X	X	X	4.7K
15 L7	X	X	X	X	VQ36570
16 J6	0	0	0	0	X
17 C27	X	X	X	X	120P
18 C28, 29	0.027	0.043	0.027	0.027	0.027
19 J7, 8	X	0	0	0	0
20					
21					
22					
23					
24					
25 R26	X	X	X	X	3.3K
26					
27 C33	X	X	X	X	1
28					
29					
30 C4	X	X	X	X	ISS355

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

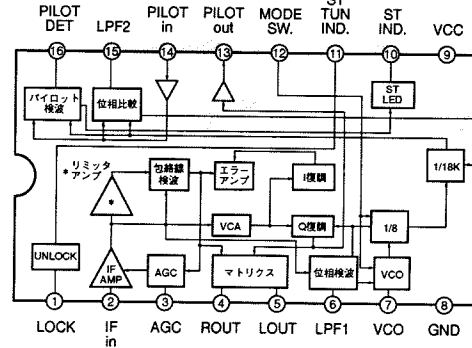
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
□	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
⊞	FIRE PROOF CARBON FILM RESISTOR
⊡	CEMENT MOLDED RESISTOR
⊞	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

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

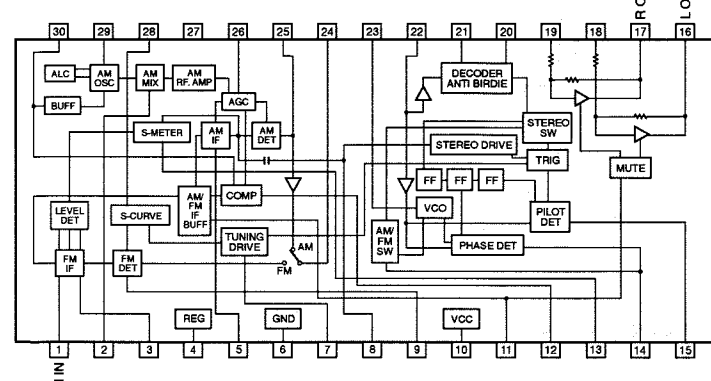
IC3 : TC4066BP
Quad Analog Switch/Multiplexer



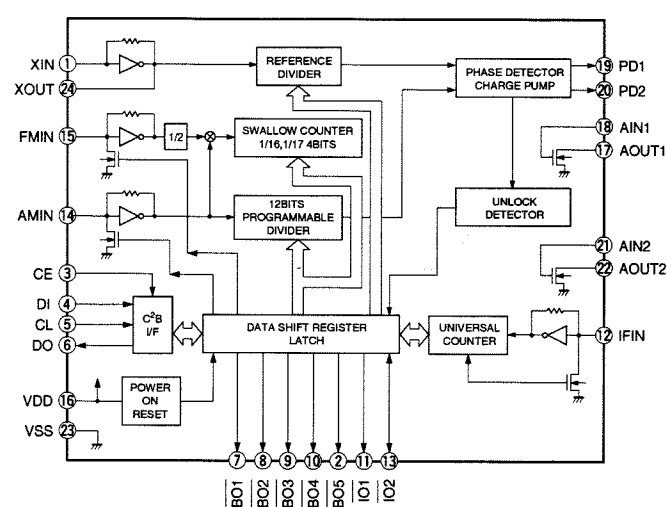
IC5 : TA2040AP
AM Stereo Demodulator



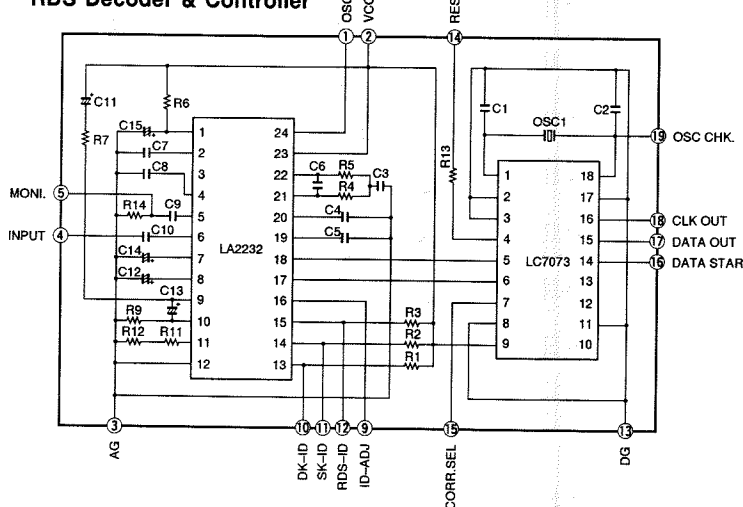
IC1 : LA1835
AM/FM Tunner



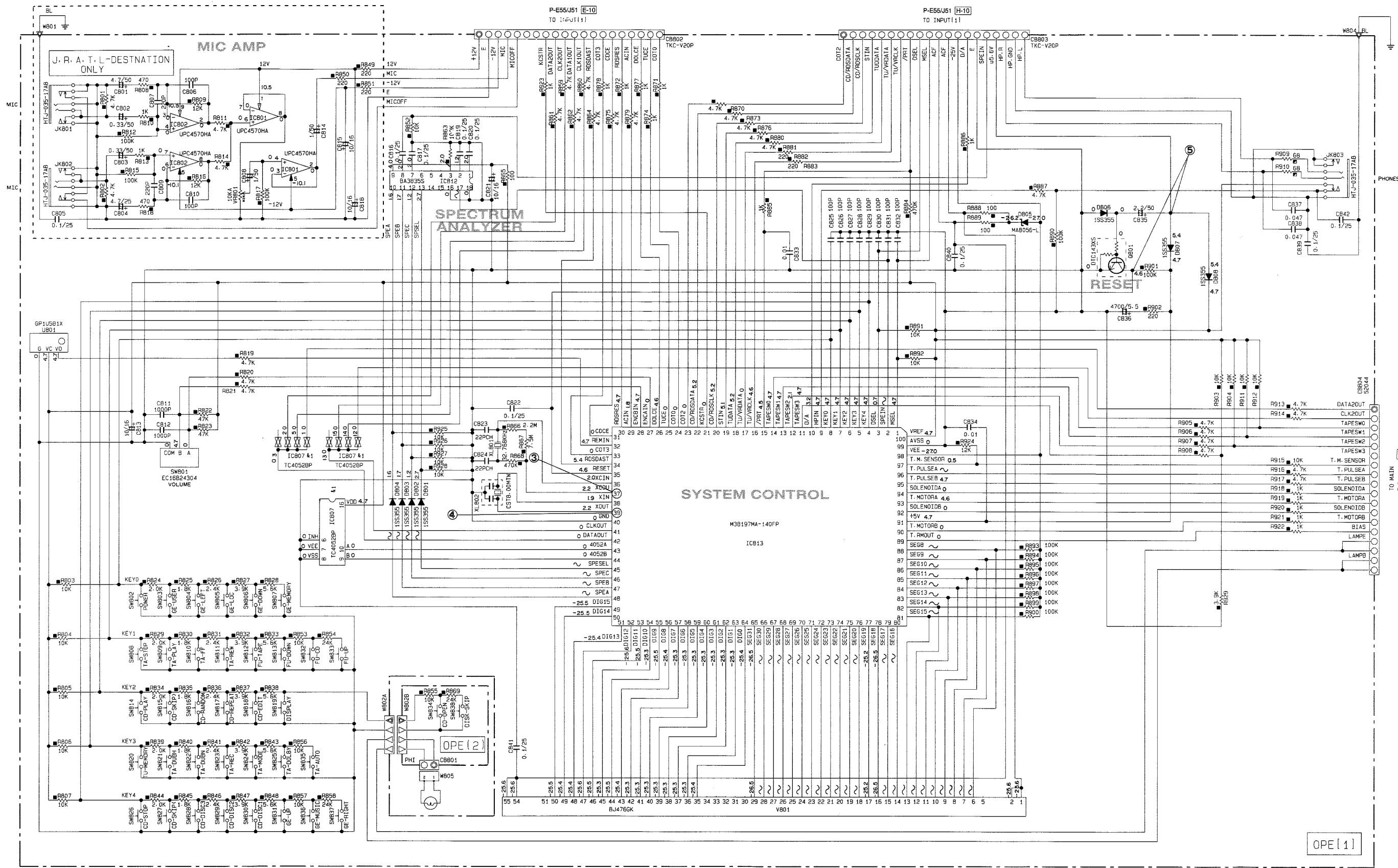
IC2 : LC72130
PLL Controller



IC4 : STK311-020B
RDS Decoder & Controller



SCHEMATIC DIAGRAM／総回路図 (OPERATION)

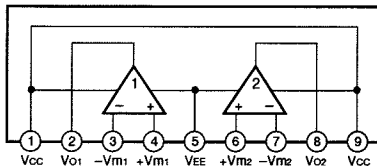


NOTICE (model)
(J)..... JAPANESE
(U)..... U.S.A.
(C)..... CANADIAN
(P)..... GENERAL
(A)..... AUSTRALIAN
(B)..... BRITISH
(G)..... EUROPEAN
(L)..... SINGAPORE

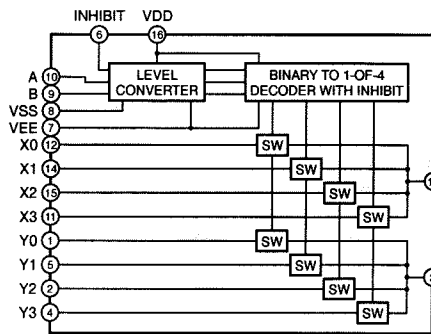
RESISTOR		CAPACITOR	
REMARKS	PARTS NAME	REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)	NO MARK	ELECTROLYTIC CAPACITOR
△	CARBON FILM RESISTOR (P=10)	NO MARK	TANTALUM CAPACITOR
△	METAL OXIDE FILM RESISTOR	NO MARK	CERAMIC CAPACITOR
△	METAL FILM RESISTOR	○	CERAMIC TUBULAR CAPACITOR
△	METAL PLATE RESISTOR	○	POLYESTER FILM CAPACITOR
△	FIRE PROOF CARBON FILM RESISTOR	○	POLYSTYRENE FILM CAPACITOR
□	CEMENT MOLDED RESISTOR	①	MICA CAPACITOR
□	SEMI VARIABLE RESISTOR	②	POLYPROPYLENE FILM CAPACITOR
■	CHIP RESISTOR	●	SEMICONDUCTIVE CERAMIC CAPACITOR

Interchangeable Parts at Manufacture-Stage	
Mark	Reference Parts Number
K1	IC807
	UPC4052BP

IC801, 802 : μ PC4570HA
Dual OP-Amp

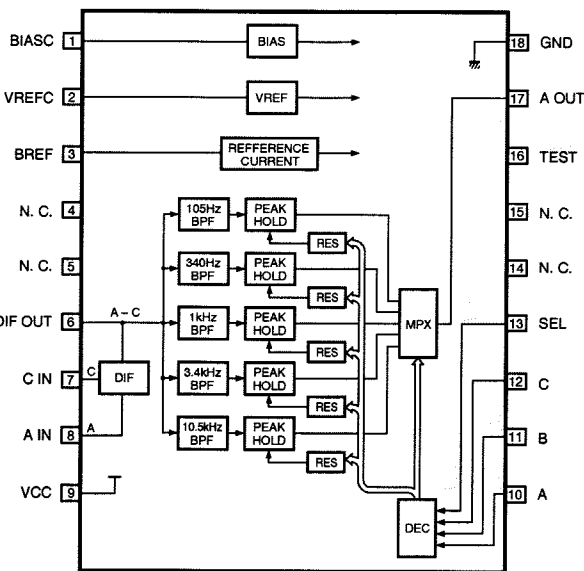


IC807 : TC4052BP
Dual 4 Channel Analog Multiplexers/Demultiplexers



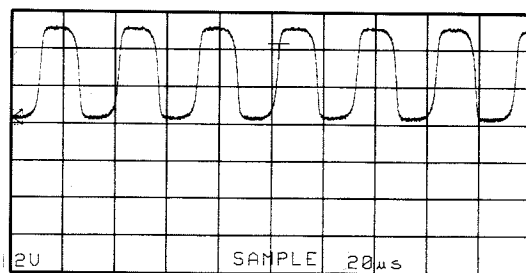
INHIBIT	B	A	
0	0	0	0x, 0y
0	0	1	1x, 1y
0	1	0	2x, 2y
0	1	1	3x, 3y
1	X	X	NONE

IC812 : BA3835S
5-Band BPF and Peak Hold for Spectrum Analyzer

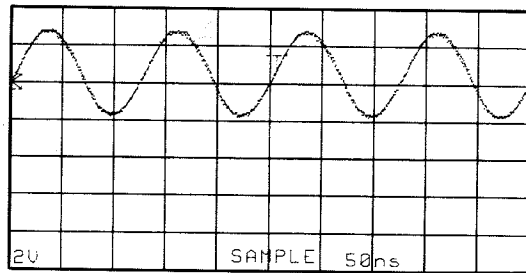


Other ICs
● IC813 : M38197MA-159FP → See page E-27/J-23

Point ③ (Pin37 of IC813)
V : 2V/div H : 20 μ sec/div
DC range 1 : 1 probe

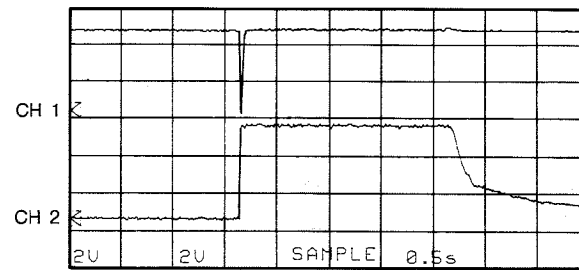


Point ④ (Pin39 of IC813)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



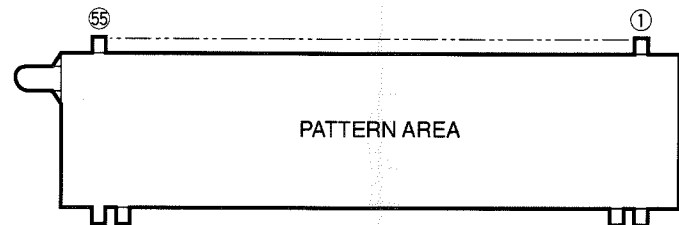
Point ⑤
CH1 : Pin35 of IC813 V : 2V/div (CH1)
CH2 : Anode of D807 V : 2V/div (CH2)

H : 1 sec/div DC range 1 : 1 probe
(This waveform is not available by pushing the power switch ON and OFF.)



With the POWER ON, disconnect the A/C power cord. Reconnect the A/C power cord and the above waveforms will start.

● V801 : BJ476GK (VU667200)

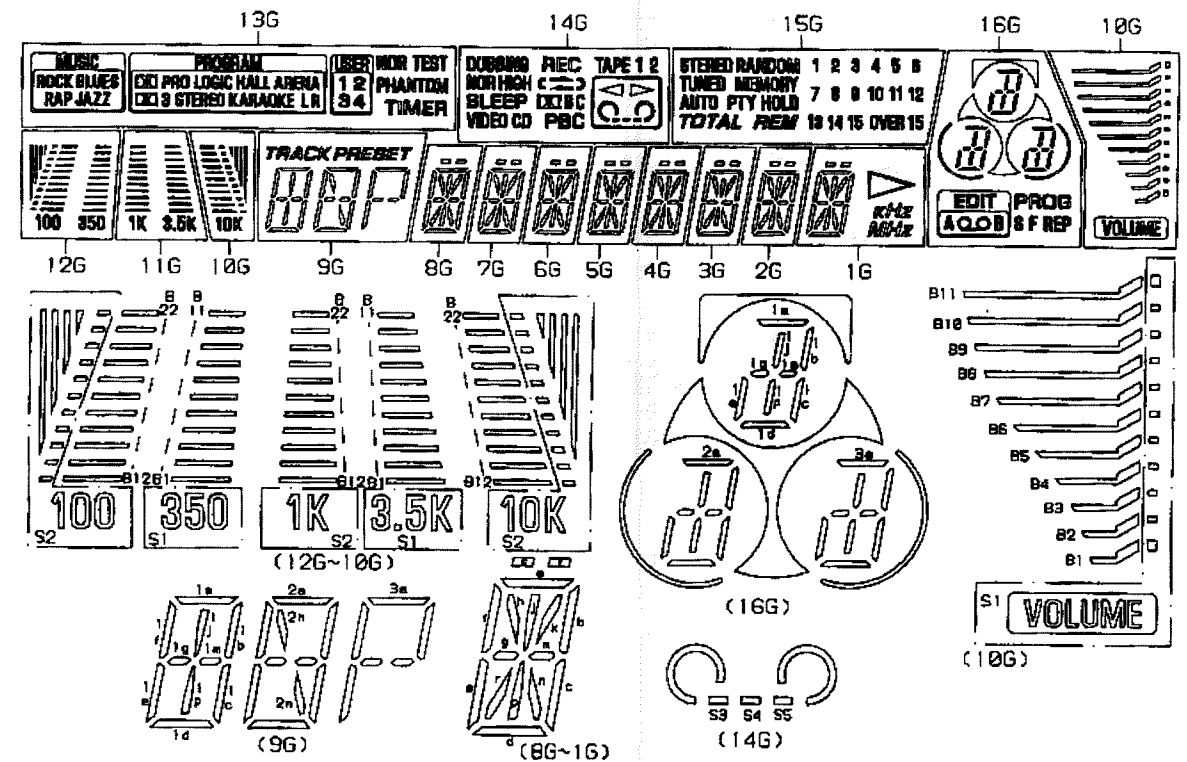


PIN CONNECTION

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Connection	F1	F1	NP	NP	NC	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24	NC
Pin No.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55					
Connection	NC	NC	NC	NC	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	NC	NP	F2	F2						

Note 1) F1, F2 Filament 3) NC No Connection 5) 1G-16G Grid
2) NP No Pin 4) P1-P24 Datum Line

GRID ASSIGNMENT



ANODE CONNECTION

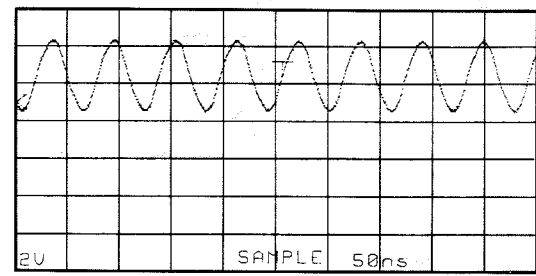
	16G	15G	14G	13G	12G	9G	8G	1G
P1	1e, 1b, 1d 1g, 1m	1	TAPE	MUSIC	S1	1d	d	d
P2	1c	2	1	ROCK	B1	1e	p	p
P3	1e	3	2	BLUES	B2	1c	n	n
P4	1j, 1p	4	△	RAP	B3	1m	r	r
P5	2a, 2b, 2d 2g, 2m	5	△	JAZZ	B4	1g	e	e
P6	2c	8	S3	-	B5	1f	c	c
P7	2e	7	S4	-	B6	1b	a	m
P8	2j, 2p	8	S5	TIMER	B7	1j, 1p	g	g
P9	3a, 3b, 3d 3g, 3m	8	△	PROGRAM	B8	1a	f	f
P10	3c	10	DUBBING	ARENA	B9	2d	b	b
P11	3e	11	NOR	PRO LOGIC	B10	2n	k	k
P12	3j, 3p	12	HIGH	DCI 3 STEREO	B11	2e	h	h
P13	△	13	REC	KARAOKE	S2	2c	j	j
P14	△	14	C	L	B12	2g, 2m	a	a
P15	△	15	R	R	B13	2f	t	t
P16	PROG OVER 15	△	HALL	HALL	B14	2b	s	s
P17	OLD TOTAL	△	△	△	B15	2h	-	△
P18	A REM	B	1	B16	2a	-	△	△
P19	B RANDOM	C	2	B17	3b	-	△	△
P20	EDIT	STEREO SLEEP	3	B18	3a, 3e, 3f 3g, 3m	-	-	-
P21	-	MEMORY VIDEO CD	4	B19	PRESET	-	-	-
P22	S TUNED	PBC	NOR	B20	TRACK	-	-	-
P23	F AUTO	-	PHANTOM	B21	-	-	-	-
P24	REP	PTY HOLD	-	B22	-	-	-	-

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

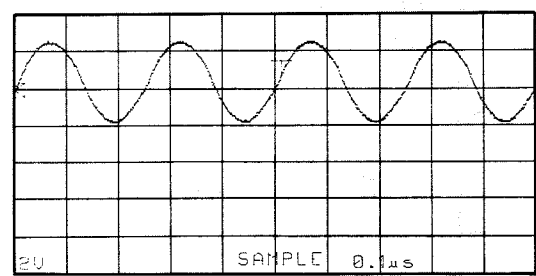
● 電圧は、内部抵抗10M Ω の電圧計で測定したものです。
● $\triangle$ 印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
● 本回路図は、標準回路図です。改良のため予告なく変更することがございます。

■ SCHEMATIC DIAGRAM／総回路図 (CD)

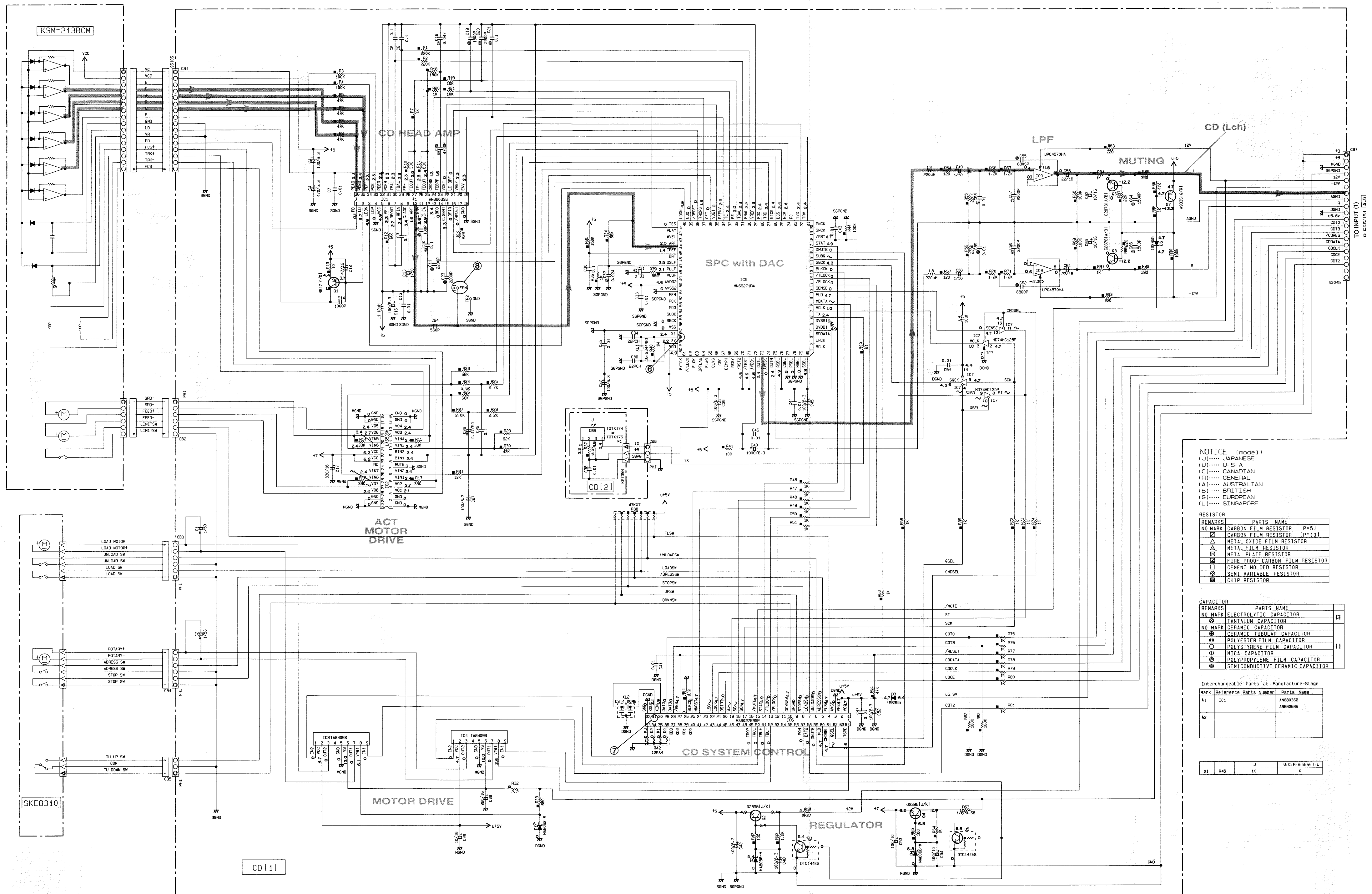
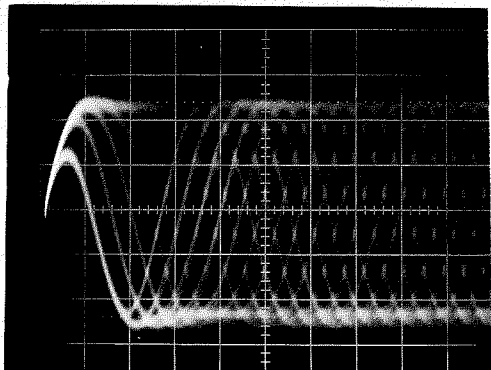
Point ⑥ (Pin58 of IC5)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



Point ⑦ (Pin31 of IC6)
V : 2V/div H : 0.1 μsec/div
DC range 1 : 1 probe



Point ⑧ (TP1 : Pin44 of IC5)
V : 0.2V/div H : 0.5 μsec/div
AC range 1 : 1 probe



NOTICE (model)

(J)..... JAPANESE
(U)..... U.S.A
(C)..... CANADIAN
(R)..... GENERAL
(A)..... AUSTRALIAN
(B)..... BRITISH
(G)..... EUROPEAN
(L)..... SINGAPORE

RESISTOR

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

CAPACITOR

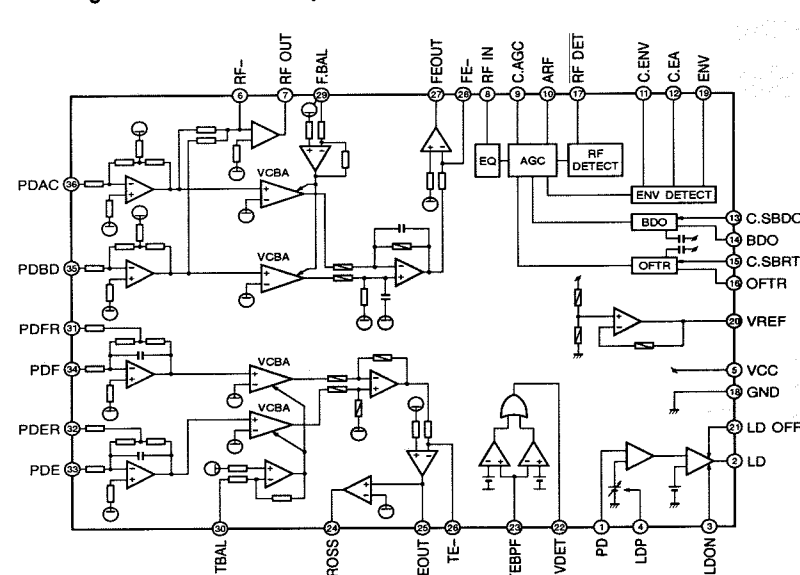
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊙	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	CERAMIC TUBULAR CAPACITOR
⊙	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
○	MICA CAPACITOR
⊙	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

Interchangeable Parts at Manufacture Stage

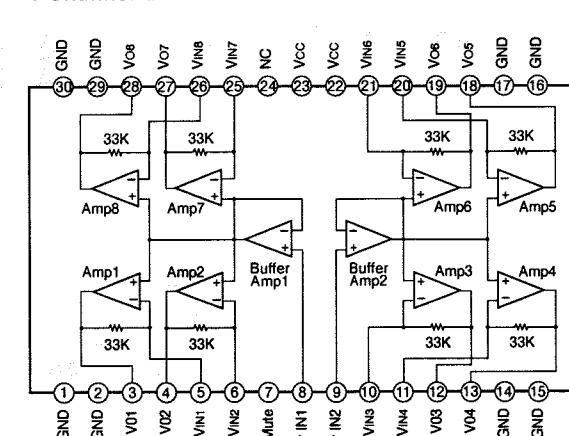
Mark	Reference Parts Number	Parts Name
A1	IC1	AN8803SB
A2		AN8806GB

Mark	Reference Parts Number	Parts Name
B1	R45	J
		U.C.R.A.B.E.T.L
		X

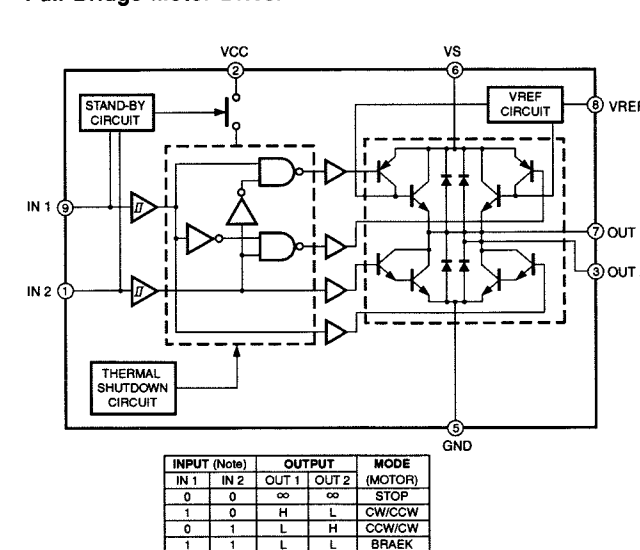
IC1 : AN8803SB
Digital Servo Head Amp



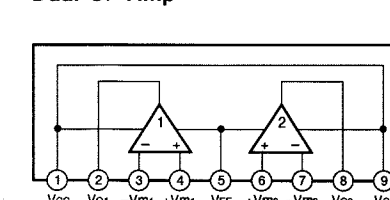
IC2 : LA6536M
4 Channel BTL Driver



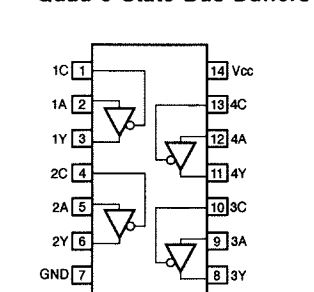
IC3, 4 : TA8409S
Full Bridge Motor Driver



IC9 : μPC4570HA
Dual OP-Amp



IC7 : HD74HC125P
Quad 3 State Bus Buffers

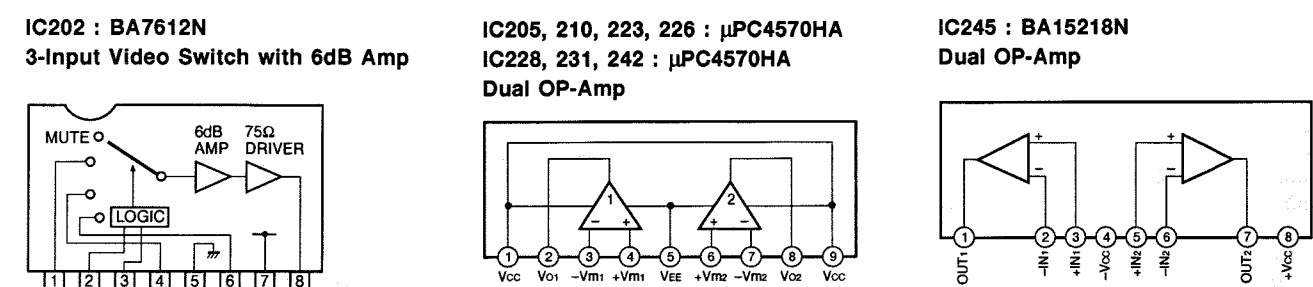


Other ICs

- IC5 : MN66271RA → See page E-23/J-19
- IC6 : M38024M6-260SP → See page E-25/J-21

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

● 電圧は、内部抵抗10MΩの電圧計で測定したものです。
● △印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
● 本回路図は、標準回路図です。改良のため予告なく変更することがございます。



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

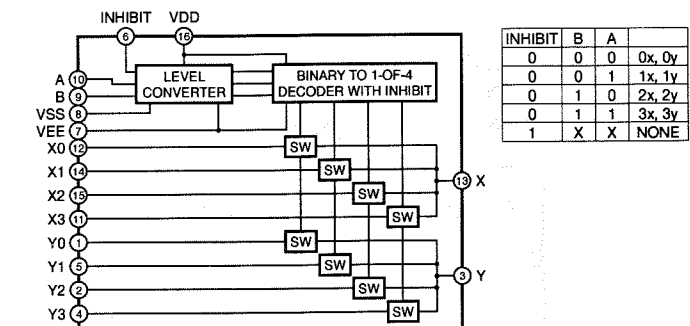
[illegible]

Figure 1 is a block diagram of the 74VHC04-100. It shows a 10-pin package with pins A, B, C, NH, VSS, VEE, and VDD. The internal circuitry includes a 'LOOK-LEVEL CONVERTER' and a '100% CHANNEL'. The output pins are labeled X-COMMON, IX, OY, IY, OZ, IZ, Z-COMMON, and Y-COMMON. The 'LOOK-LEVEL CONVERTER' has inputs A, B, C, and NH, and outputs X, Y, Z. The '100% CHANNEL' has inputs A, B, C, and NH, and outputs IX, OY, IY, OZ, IZ, Z-COMMON, and Y-COMMON.

PU SAMPLE 2.1ms

Other ICs

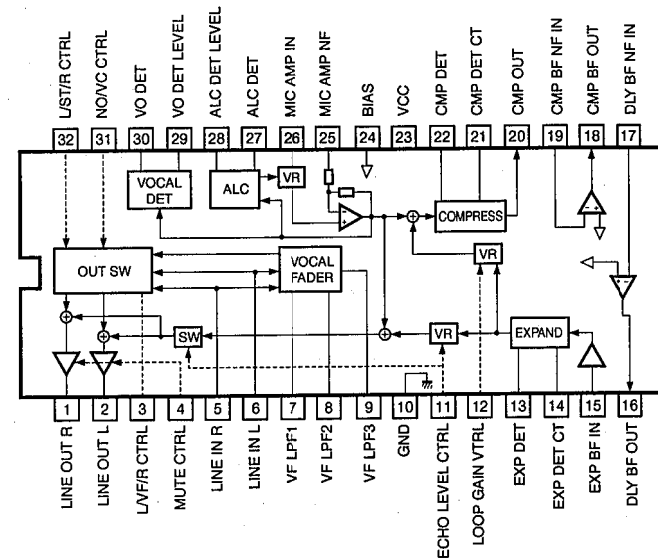
- IC204 : BA7726AS → See page E-56/J-52
- IC209 : BU9252S → See page E-56/J-52
- IC208 : LA2786 → See page E-56/J-52
- IC220 : LV1015 → See page E-56/J-52

- 電圧は、内部抵抗10MΩの電圧計で測定したものです。
- 凸印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 本回路図は、標準回路図です。改良のため予告なく変更することがございます。

IC BLOCKS / ICブロック (INPUT & MAIN)

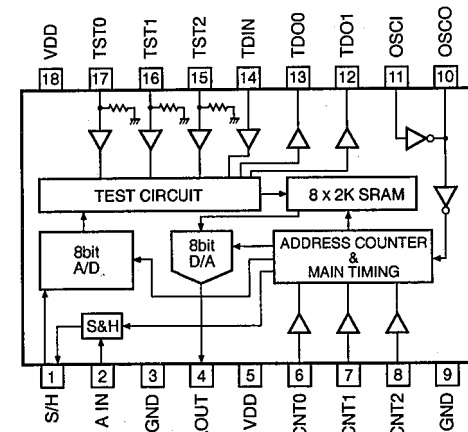
IC204 : BA7726AS

Analog Compressor for Karaoke Echo System



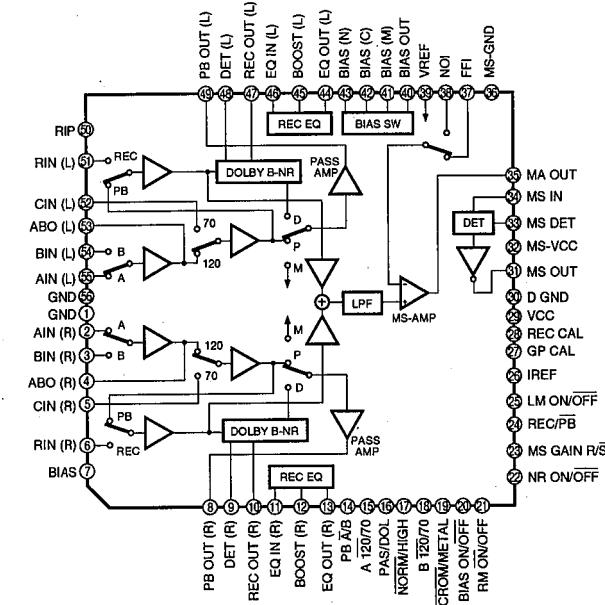
IC209 : BU9252S

Digital Delay for Karaoke Echo System



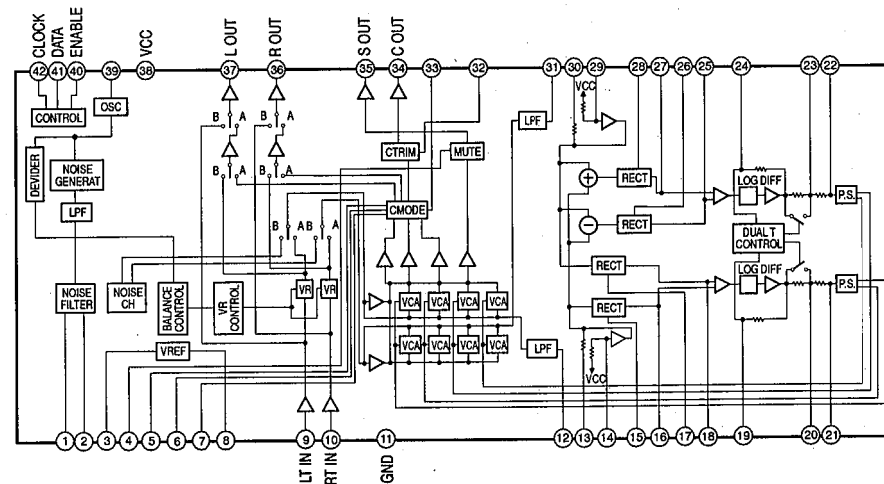
IC505 : HA12182NT

Tape System Processor (with Dolby B-Type)



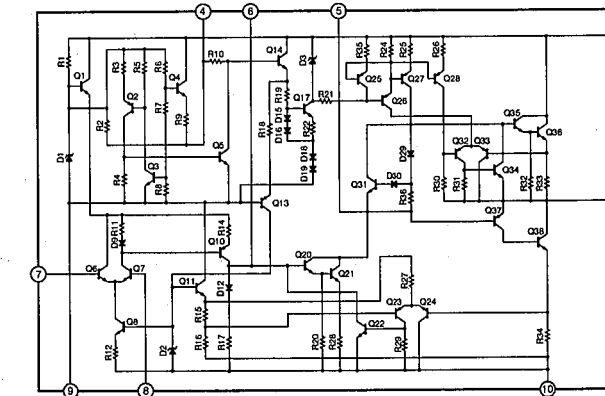
IC208 : LA2786

Dolby Pro Logic Surround Matrix Decoder



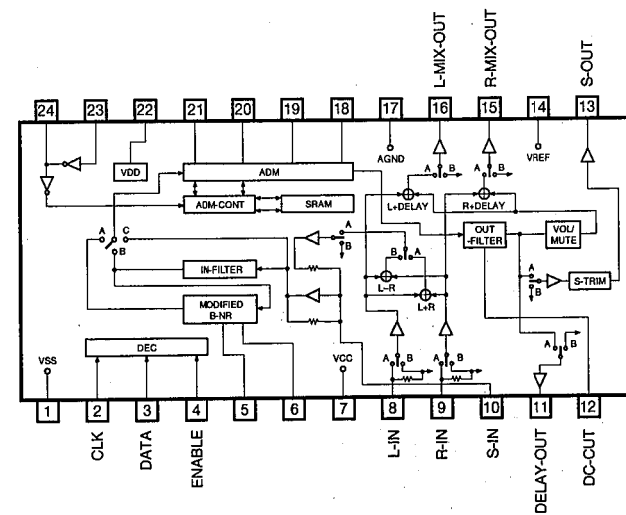
IC508, 509 : μPC1188H

Power Amp Driver



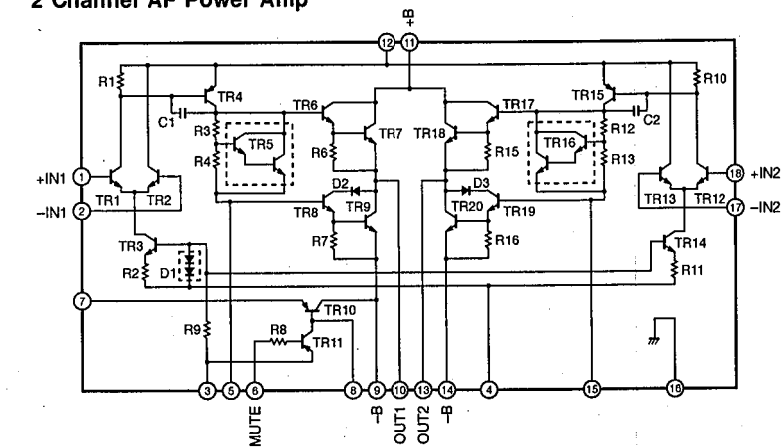
IC220 : LV1015

Dolby Surround Passive Decoder



IC504 : STK4182II

2 Channel AF Power Amp



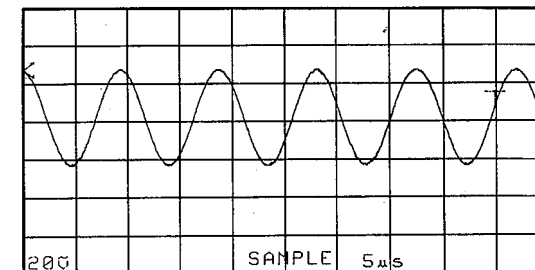
SCHEMATIC DIAGRAM / 総回路図 (DECK)

The voltages are measured by LH tape at PLAY mode (no-signal condition)
Only the voltages () are at REC mode.

各電圧は、デッキのPLAY時です。ただし () の電圧は、デッキBのREC時です。
・ DOLBY NR OFF

● DOLBY NR OFF

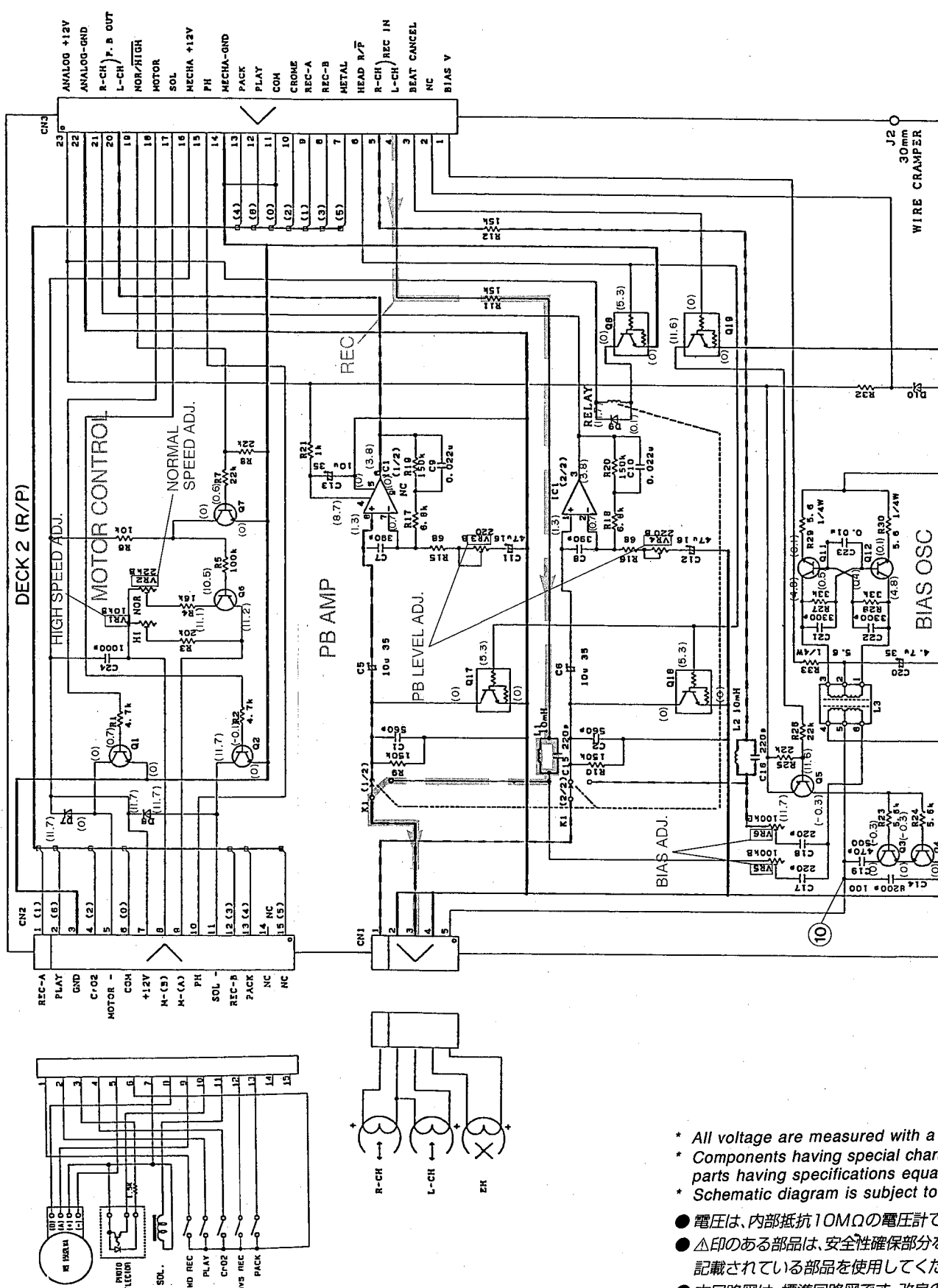
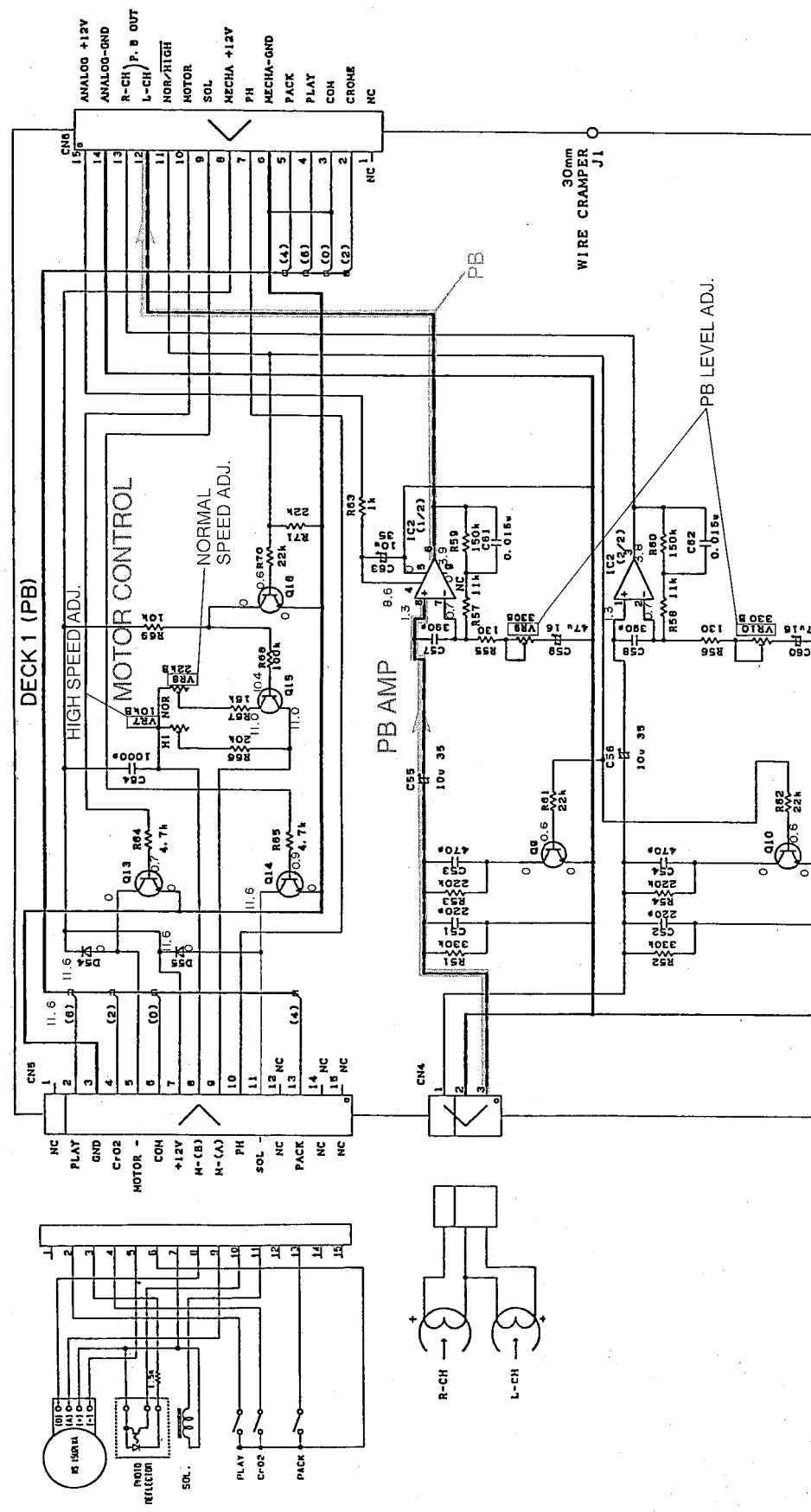
Point ⑩ (Both ends of C14) REC mode
V : 20V/div H : 5 μ s/div
AC range 1 : 1 probe



(BIAS OSC frequency 105kHz)

部品番号	部品名
IC1.2	TAB1255-G
DT-8, 54, 55	ISS133 or H5S104
Q1.2, 13, 14	2SC3246-G
Q3.4	2SC1845 (F, E)
Q5	2SA993 (F, E)
Q6, 15	2SA1175 (F, E) or 2SA1335 (Q, R)
Q7, 9-12, 16	2SC2705 (F, E) 2SC1740S (Q, R)
Q8, 17-19	UN4212 or DTC124ES

UN4212 or DTC124ES



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* Schematic diagram is subject to change without notice.

- 電圧は、内部抵抗10M Ω の電圧計で測定したものです。
- Δ 印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 本回路図は、標準回路図です。改良のため予告なく変更することがございます。

SCHEMATIC DIAGRAM/総回路図 (MAIN)

NOTICE (model)
(J)..... JAPANESE
(U)..... U.S.A.
(C)..... CANADIAN
(A)..... AUSTRALIAN
(B)..... BRITISH
(S)..... EUROPEAN
(L)..... SINGAPORE

RESISTOR

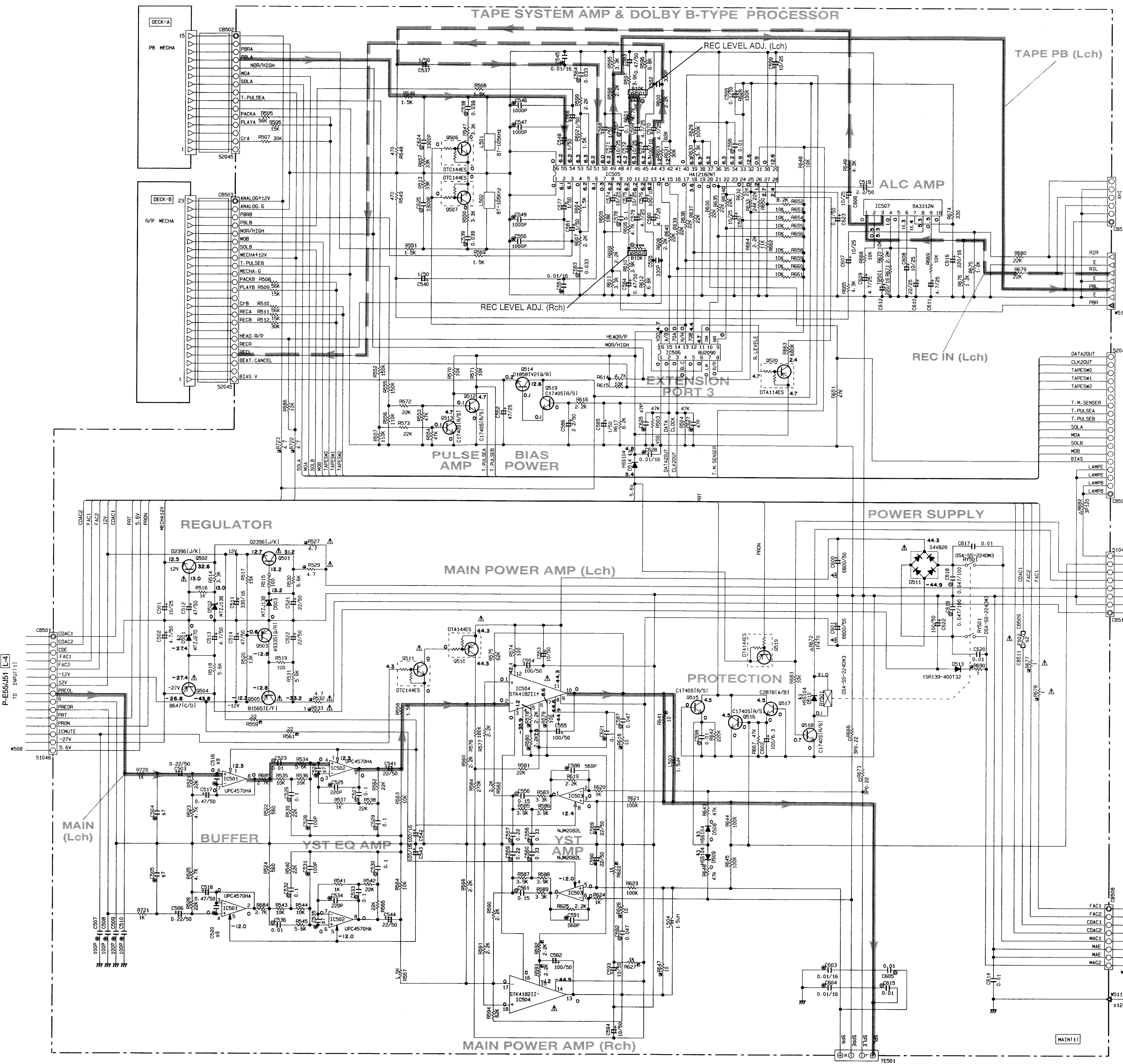
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
△	CARBON FILM RESISTOR (P=10)
□	METAL OXIDE FILM RESISTOR
◇	METAL FILM RESISTOR
■	METAL PLATE RESISTOR
●	FIRE PROOF CARBON FILM RESISTOR
○	CEMENT MOLDED RESISTOR
◎	SEMI VARIABLE RESISTOR
⊠	CHIP RESISTOR

CAPACITOR

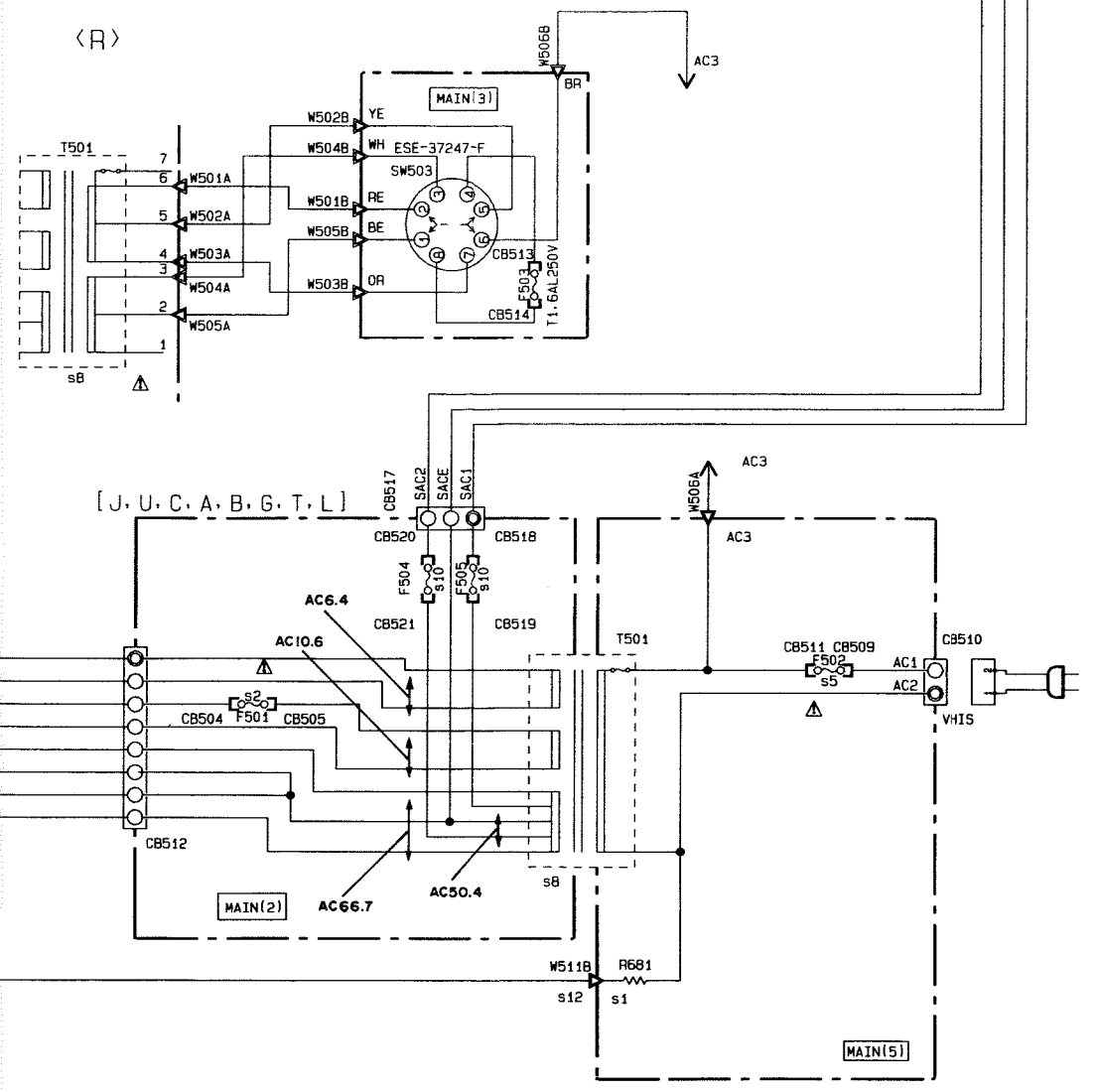
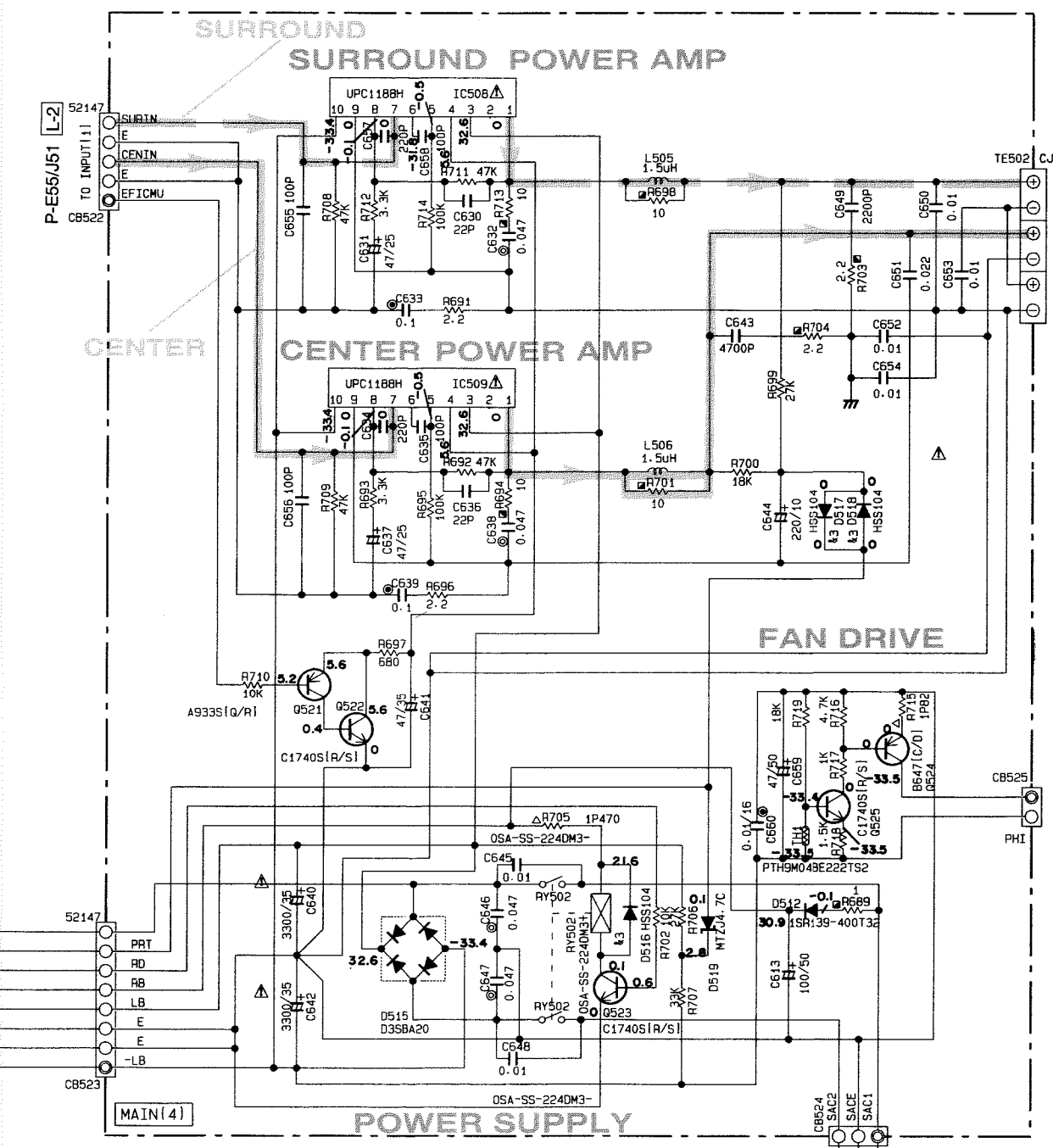
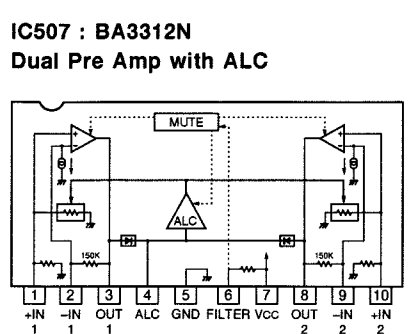
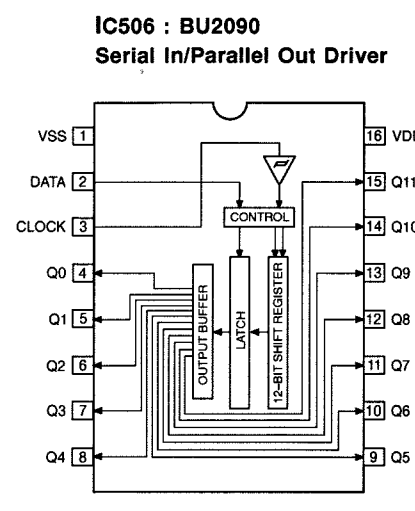
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊙	TANTALUM CAPACITOR
○	CERAMIC CAPACITOR
◎	CERAMIC TUBULAR CAPACITOR
◇	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
◇	MICA CAPACITOR
◎	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
42	0501	W7A270
43	0508-510-514-516-518	H5S272 H5S104 H5S133 H5S176

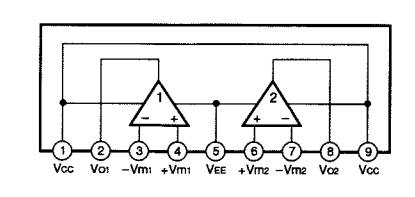


	J	U.C	R	A	B-6	T	L
1	R681	X	1/2W, 2M	X	X	X	X
2	F501	2A125V VSR2250	2A125V VSR2250	T2AL250V K800075	T2AL250V K800075	T2AL250V K800075	T2AL250V K800075
3							
5	F502	4A125V VSR2250	4A125V VSR2250	T4AL250V K800075	T1-6AL250V K800166	T1-6AL250V K800166	T1-6AL250V K800166
6							
7	C504, C505 C524, C535	X	X	X	220P	220P	220P
8	T501	XS421	XS422	XS423	XS424	XS425	XS426
9	C516- C520	X	X	X	100P	100P	100P
10	F504, 505	3-15A125V VSR2280	3-15A125V VSR2280	T3-15AL250V K800076	T3-15AL250V K800076	T3-15AL250V K800076	T3-15AL250V K800076
11							
12	W511A, W511B	X	0	X	X	X	X

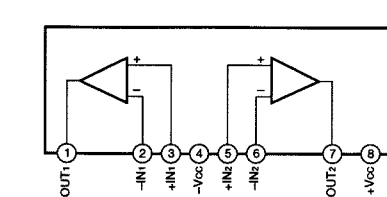


- Other ICs
- IC505 : HA12182NT → See page E-57/J-53
 - IC504 : STK4182II → See page E-57/J-53
 - IC508, 509 : μPC1188H → See page E-57/J-53

IC501, 502 : μPC4570HA Dual OP-Amp



IC503 : NJM2082L Dual OP-Amp



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PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

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

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

P.C.B. TUNER

Schm Ref.	PART NO.	Description
	VU690200	P.C.B. TUNER (UCR)
	VU690400	P.C.B. TUNER (A)
	VU690500	P.C.B. TUNER (BG)
	VU690600	P.C.B. TUNER (L)
CB1	VQ961200	CN 9P
CB2	VQ960900	CN 6P
C1	UB044100	C. CE. M. CHP 0.01uF 50V
C2	UB044100	C. CE. M. CHP 0.01uF 50V (UCRATL)
C3	UB044470	C. CE. M. CHP 0.047uF 50V
C4	VJ838800	C. EL 0.22uF 50V
C5	UB044100	C. CE. M. CHP 0.01uF 50V
C6	UB044100	C. CE. M. CHP 0.01uF 50V
C7	UB044100	C. CE. M. CHP 0.01uF 50V
C8	UB044100	C. CE. M. CHP 0.01uF 50V
C9	UB044470	C. CE. M. CHP 0.047uF 50V (BG)
C10	UB050800	C. CE. M. CHP 8pF 50V (UCRATL)
C10	UB051180	C. CE. M. CHP 18pF 50V (BG)
C11	VJ836900	C. EL 10uF 16V
C12	UB044100	C. CE. M. CHP 0.01uF 50V
C13	UB044100	C. CE. M. CHP 0.01uF 50V
C14	UB044100	C. CE. M. CHP 0.01uF 50V
C15	VJ836900	C. EL 10uF 16V
C16	VJ836900	C. EL 10uF 16V
C17	UM416470	C. EL 4.7uF 50V
C18	UB044100	C. CE. M. CHP 0.01uF 50V
C19	VJ839100	C. EL 1uF 50V
C20	UB044100	C. CE. M. CHP 0.01uF 50V
C21	UB013470	C. CE. M. CHP 4700pF 50V
C22	UM216330	C. EL 3.3uF 50V
C23	VJ837200	C. EL 47uF 16V
C24	VJ836900	C. EL 10uF 16V
C25	VJ836900	C. EL 10uF 16V
C26	UB012330	C. CE. M. CHP 330pF 50V (ABG)
C26	UB013100	C. CE. M. CHP 1000pF 50V (UCRTL)
C27	UB052120	C. CE. M. CHP 120pF 50V (ABG)
C28	UA654270	C. MYLAR 0.027uF 50V (UCRTL)
C28	UA654430	C. MYLAR 0.043uF 50V (UCR)
C29	UA654270	C. MYLAR 0.027uF 50V (ABGTL)
C29	UA654430	C. MYLAR 0.043uF 50V (UCR)
C30	UB052100	C. CE. M. CHP 100pF 50V
C31	VJ839100	C. EL 1uF 50V
C32	VJ836900	C. EL 10uF 16V
C33	UA656100	C. MYLAR 1uF 50V (BG)
C34	VJ836900	C. EL 10uF 16V
C35	UB044470	C. CE. M. CHP 0.047uF 50V
C36	VJ839000	C. EL 0.47uF 50V
C37	VJ839100	C. EL 1uF 50V
C38	VJ839100	C. EL 1uF 50V
C39	UM416470	C. EL 4.7uF 50V
C40	UM416470	C. EL 4.7uF 50V
C41	UB013270	C. CE. M. CHP 2700pF 50V
C42	UB013270	C. CE. M. CHP 2700pF 50V
C43	UB052100	C. CE. M. CHP 100pF 50V

* New Parts

Schm Ref.	PART NO.	Description
C44	VJ900700	C. CE. M. CHP 33pF 50V
C45	VJ900700	C. CE. M. CHP 33pF 50V
C47	UB044100	C. CE. M. CHP 0.01uF 50V
C48	VJ836900	C. EL 10uF 16V
C54	UB012220	C. CE. M. CHP 220pF 50V (BG)
C55	VF760000	C. EL 100uF 10V (BG)
C66	UB044100	C. CE. M. CHP 0.01uF 50V (BG)
C67	UB044100	C. CE. M. CHP 0.01uF 50V
C68	VJ838800	C. EL 0.22uF 50V
C69	UB044100	C. CE. M. CHP 0.01uF 50V
D1	VU172300	DIODE. ZENR UDZ7.5BTE-17 7.5V
D2	VT332900	DIODE 1SS355
D3	VT332900	DIODE 1SS355
D4	VT332900	DIODE 1SS355 (BG)
D5	VT332900	DIODE 1SS355
D9	VT332900	DIODE 1SS355 (BG)
D10	VT332900	DIODE 1SS355
IC1	XP246A00	IC LA1835
IC2	XQ360A00	IC LC72130
IC4	XQ359A00	IC STK311-020B (BG)
L2	GG000560	FLTR. CE SFE10.7MS3GHY-A
L3	GG000560	FLTR. CE SFE10.7MS3GHY-A
* L4	VU887900	COIL 10uH
L5	VU434500	FLTR. CE 450K PCFMT-049A
L7	VQ365700	FLTR. LC FB-7SG (ABG)
L8	VR888000	FLTR. LC 19KHz
L9	VR888000	FLTR. LC 19KHz
* L10	VU889500	COIL 220uH (BG)
PK1	VU134400	TUNER. FM TFFJ2U515A (UCRTL)
PK1	VU134500	TUNER. FM TFFJ4E515A (ABG)
PK2	VR888300	COILPK. AM RBQ07VB (BG)
PK2	VU333700	COILPK. AM 940536051A (UCRATL)
Q1	iC053540	TR 2SC535 A, B, C
Q2	VD678500	TR. DGT DTA114ES
Q3	iC174020	TR 2SC1740S R, S (BG)
Q4	iC174020	TR 2SC1740S R, S (BG)
Q5	iC174020	TR 2SC1740S R, S (BG)
Q6	iC174020	TR 2SC1740S R, S (BG)
Q7	iC174020	TR 2SC1740S R, S (ABG)
Q8	VG722000	TR. DGT DTC144ES (BG)
Q9	VG721700	TR. DGT DTA144ES (BG)
R1	RD257100	R. CAR. CHP 10K Ω 1/10W
R2	RD257100	R. CAR. CHP 10K Ω 1/10W (UCRATL)
R3	RD257100	R. CAR. CHP 10K Ω 1/10W
R4	HV455220	R. CAR. FP 220 Ω 1/4W
R5	RD258220	R. CAR. CHP 220K Ω 1/10W
R6	RD255330	R. CAR. CHP 330 Ω 1/10W
R7	RD255100	R. CAR. CHP 100 Ω 1/10W
R8	RD255330	R. CAR. CHP 330 Ω 1/10W
R9	RD254330	R. CAR. CHP 33 Ω 1/10W
R10	RD258100	R. CAR. CHP 100K Ω 1/10W
R11	RD257100	R. CAR. CHP 10K Ω 1/10W (BG)
R12	RD256560	R. CAR. CHP 5.6K Ω 1/10W

* New Parts

P.C.B. TUNER & CD

Schm Ref.	PART NO.	Description
R13	RD257100	R. CAR. CHP 10K Ω 1/10W(BG)
R14	RD257220	R. CAR. CHP 22K Ω 1/10W(BG)
R15	RD257220	R. CAR. CHP 22K Ω 1/10W(BG)
R16	RD258100	R. CAR. CHP 100K Ω 1/10W(BG)
R17	HV455120	R. CAR. FP 120 Ω 1/4W
R18	RD257220	R. CAR. CHP 22K Ω 1/10W
R19	RD256330	R. CAR. CHP 3.3K Ω 1/10W
R20	RD256820	R. CAR. CHP 8.2K Ω 1/10(UCRATL
R20	RD257100	R. CAR. CHP 10K Ω 1/10W(BG)
R21	RD255510	R. CAR. CHP 510 Ω 1/10W
R22	RD257150	R. CAR. CHP 15K Ω 1/10W
R23	RD256470	R. CAR. CHP 4.7K Ω 1/10W(ABG)
R24	RD256100	R. CAR. CHP 1K Ω 1/10W(ABG)
R25	HV455220	R. CAR. FP 220 Ω 1/4W
R26	RD256330	R. CAR. CHP 3.3K Ω 1/10W(BG)
R27	RD256330	R. CAR. CHP 3.3K Ω 1/10W
R28	RD256220	R. CAR. CHP 2.2K Ω 1/10W
R29	RD257100	R. CAR. CHP 10K Ω 1/10W(BG)
R30	RD257100	R. CAR. CHP 10K Ω 1/10W(BG)
R31	RD257470	R. CAR. CHP 47K Ω 1/10W
R32	RD256330	R. CAR. CHP 3.3K Ω 1/10W
R33	RD257470	R. CAR. CHP 47K Ω 1/10W
R34	RD258100	R. CAR. CHP 100K Ω 1/10W
R35	RD254220	R. CAR. CHP 22 Ω 1/10W
R36	RD256330	R. CAR. CHP 3.3K Ω 1/10W
R37	RD256330	R. CAR. CHP 3.3K Ω 1/10W
R40	RD256330	R. CAR. CHP 3.3K Ω 1/10W
R41	RD257100	R. CAR. CHP 10K Ω 1/10W
R42	RD257100	R. CAR. CHP 10K Ω 1/10W(BG)
R43	RD257470	R. CAR. CHP 47K Ω 1/10W
R44	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R47	RD257100	R. CAR. CHP 10K Ω 1/10W
R48	RD256330	R. CAR. CHP 3.3K Ω 1/10W
R49	RD257470	R. CAR. CHP 47K Ω 1/10W
R50	RD257150	R. CAR. CHP 15K Ω 1/10W
R53	RD257330	R. CAR. CHP 33K Ω 1/10W(BG)
R54	RD257330	R. CAR. CHP 33K Ω 1/10W(BG)
R55	RD257120	R. CAR. CHP 12K Ω 1/10W
R61	RD257100	R. CAR. CHP 10K Ω 1/10W
R62	RD257100	R. CAR. CHP 10K Ω 1/10W(BG)
R63	RD257100	R. CAR. CHP 10K Ω 1/10W
R64	RD257100	R. CAR. CHP 10K Ω 1/10W
R65	RD257100	R. CAR. CHP 10K Ω 1/10W
R66	HV455120	R. CAR. FP 120 Ω 1/4W
R67	RD255330	R. CAR. CHP 330 Ω 1/10W(ABG)
R68	HV454180	R. CAR. FP 18 Ω 1/4W
TE1	VU477800	TERM. ANT AJ-2038-040
XL1	VR888100	FLTR. CE CDA10.7MG48-A
XL2	VE905900	RSNR. CE 19KHz
XL3	QU003800	RSNR. CRYST 7.2MHz
XL4	VS860100	RSNR. CE 19KHz(BG)
	BB071360	SCR. TERM 8.3x13

* New Parts

Schm Ref.	PART NO.	Description
* VV194000	P. C. B.	CD
CB1	VU160200	CN. BS. PIN 16P
* CB2	VU929500	CN. BS. PIN 6P
* CB3	VU534900	CN. BS. PIN 6P
CB4	VD004900	CN. BS. PIN 6P
CB5	VD004600	CN. BS. PIN 3P
CB7	VQ047500	CN. BS. PIN 20P
C1	VG722100	C. EL 1uF 50V
C2	VG722100	C. EL 1uF 50V
C3	VF760000	C. EL 100uF 10V
C4	UJ628470	C. EL 470uF 10V
C5	UB045100	C. CE. M. CHP 0.1uF 50V
C6	UB045100	C. CE. M. CHP 0.1uF 50V
C7	UB044100	C. CE. M. CHP 0.01uF 50V
C8	UA652100	C. MYLAR 100pF 50V
C9	UB045100	C. CE. M. CHP 0.1uF 50V
C10	UA655100	C. MYLAR 0.1uF 50V
C11	UA653220	C. MYLAR 2200pF 50V
C12	VJ837200	C. EL 47uF 16V
C13	VJ839100	C. EL 1uF 50V
C14	UB013100	C. CE. M. CHP 1000pF 50V
C15	UB044100	C. CE. M. CHP 0.01uF 50V
C16	VF760000	C. EL 100uF 10V
C17	UJ638330	C. EL 330uF 16V
C18	UA654470	C. MYLAR 0.047uF 50V
C19	UA653180	C. MYLAR 1800pF 50V
C20	UA653220	C. MYLAR 2200pF 50V
C21	UA655100	C. MYLAR 0.1uF 50V
C22	UA653470	C. MYLAR 4700pF 50V
C23	UA653220	C. MYLAR 2200pF 50V
C24	UB012560	C. CE. M. CHP 560pF 50V
C25	UB045100	C. CE. M. CHP 0.1uF 50V
C26	UK665470	C. EL 0.47uF 50V
C27	VF760000	C. EL 100uF 10V
C28	UJ648220	C. EL 220uF 25V
C29	VJ836900	C. EL 10uF 16V
C30	UB045100	C. CE. M. CHP 0.1uF 50V
C31	UA655330	C. MYLAR 0.33uF 50V
C32	UA654240	C. MYLAR 0.024uF 50V
C33	UB044100	C. CE. M. CHP 0.01uF 50V
C34	VA761000	C. CE 22pF 50V
C35	UB044100	C. CE. M. CHP 0.01uF 50V
C36	VA761000	C. CE 22pF 50V
C37	VF760000	C. EL 100uF 10V
C39	VF760000	C. EL 100uF 10V
C40	VF637900	C. EL 1000uF 10V
C41	UB044100	C. CE. M. CHP 0.01uF 50V
C42	VF760000	C. EL 100uF 10V
C43	UB044100	C. CE. M. CHP 0.01uF 50V
C44	UB044100	C. CE. M. CHP 0.01uF 50V
C45	VF760000	C. EL 100uF 10V
C46	UB044100	C. CE. M. CHP 0.01uF 50V
C47	UB044100	C. CE. M. CHP 0.01uF 50V

* New Parts

P.C.B. CD

Schm Ref.	PART NO.	Description
C48	VF760000	C. EL 100uF 10V
C49	VJ839100	C. EL 1uF 50V
C50	VJ839100	C. EL 1uF 50V
C51	UB044100	C. CE. M. CHP 0.01uF 50V
C52	VF760000	C. EL 100uF 10V
C53	VF760000	C. EL 100uF 10V
C54	VF760000	C. EL 100uF 10V
C55	UA653680	C. MYLAR 6800pF 50V
C56	UM407220	C. EL 22uF 16V
C57	UA653220	C. MYLAR 2200pF 50V
C58	UA654100	C. MYLAR 0.01uF 50V
C59	UA654100	C. MYLAR 0.01uF 50V
C60	UA653220	C. MYLAR 2200pF 50V
C61	UM407220	C. EL 22uF 16V
C62	UA653680	C. MYLAR 6800pF 50V
C63	VJ836900	C. EL 10uF 16V
C64	UA653150	C. MYLAR 1500pF 50V
C65	VJ836900	C. EL 10uF 16V
C66	UA653150	C. MYLAR 1500pF 50V
D1	VU993400	DIODE. ZENR MA8062-M 6.2V
D2	VU993000	DIODE. ZENR MA8056-M 5.6V
D3	VT332900	DIODE 1SS355
D4	VU993800	DIODE. ZENR MA8068-M 6.8V
D5	VT332900	DIODE 1SS355
IC1	XS741A00	IC AN8806SB
IC2	XN105A00	IC LA6536M
IC3	XR274A00	IC TA8409SE
IC4	XR274A00	IC TA8409SE
IC5	XM572A00	IC MN66271
IC6	XS039E00	IC M38024M6-260SP CPU
IC7	iR012510	IC HD74HC125P
IC9	XB247301	IC uPC4570HA
L2	VU889500	COIL 220uH
L3	VU889500	COIL 220uH
Q1	VR402300	TR 2SB647 C, D
Q2	VR510800	TR 2SD2396 J, K
Q3	VD678700	TR. DGT DTC114ES
Q4	VR510800	TR 2SD2396 J, K
Q5	VD678700	TR. DGT DTC114ES
Q6	iC287820	TR 2SC2878 A, B
Q7	iA093320	TR 2SA933S Q, R
Q8	iC287820	TR 2SC2878 A, B
R1	RD258220	R. CAR. CHP 220K Ω 1/10W
R2	RD258220	R. CAR. CHP 220K Ω 1/10W
R3	RD258100	R. CAR. CHP 100K Ω 1/10W
R4	RD258100	R. CAR. CHP 100K Ω 1/10W
R5	RD257470	R. CAR. CHP 47K Ω 1/10W
R6	RD257470	R. CAR. CHP 47K Ω 1/10W
R7	RD256100	R. CAR. CHP 1K Ω 1/10W
R8	RD257470	R. CAR. CHP 47K Ω 1/10W
R9	RD257470	R. CAR. CHP 47K Ω 1/10W
R10	RD257300	R. CAR. CHP 30K Ω 1/10W
R11	RD257680	R. CAR. CHP 68K Ω 1/10W

* New Parts

Schm Ref.	PART NO.	Description
R12	RD257160	R. CAR. CHP 16K Ω 1/10W
R13	RD254100	R. CAR. CHP 10 Ω 1/10W
R14	RD257330	R. CAR. CHP 33K Ω 1/10W
R15	RD257330	R. CAR. CHP 33K Ω 1/10W
R16	RD257330	R. CAR. CHP 33K Ω 1/10W
R17	RD257330	R. CAR. CHP 33K Ω 1/10W
R18	RD258180	R. CAR. CHP 180K Ω 1/10W
R19	RD257100	R. CAR. CHP 10K Ω 1/10W
R20	RD256100	R. CAR. CHP 1K Ω 1/10W
R21	RD257100	R. CAR. CHP 10K Ω 1/10W
R22	RD257100	R. CAR. CHP 10K Ω 1/10W
R23	RD257680	R. CAR. CHP 68K Ω 1/10W
R24	RD256560	R. CAR. CHP 5.6K Ω 1/10W
R25	RD256270	R. CAR. CHP 2.7K Ω 1/10W
R26	RD257680	R. CAR. CHP 68K Ω 1/10W
R27	RD256200	R. CAR. CHP 2K Ω 1/10W
R28	RD256220	R. CAR. CHP 2.2K Ω 1/10W
R29	RD257620	R. CAR. CHP 62K Ω 1/10W
R30	RD257430	R. CAR. CHP 43K Ω 1/10W
R31	RD257100	R. CAR. CHP 10K Ω 1/10W
R32	HV453220	R. CAR. FP 2.2 Ω 1/4W
R33	RD255680	R. CAR. CHP 680 Ω 1/10W
R34	RD257680	R. CAR. CHP 68K Ω 1/10W
R35	RD258150	R. CAR. CHP 150K Ω 1/10W
R36	RD259100	R. CAR. CHP 1M Ω 1/10W
R38	VL207800	R. ARRAY RGL7X473J
R39	RD255680	R. CAR. CHP 680 Ω 1/10W
R40	RD259100	R. CAR. CHP 1M Ω 1/10W
R41	RD255100	R. CAR. CHP 100 Ω 1/10W
R42	VQ379500	R. ARRAY 10K Ω x4
R43	RD255100	R. CAR. CHP 100 Ω 1/10W
R44	RD258100	R. CAR. CHP 100K Ω 1/10W
R46	RD256100	R. CAR. CHP 1K Ω 1/10W
R47	RD256100	R. CAR. CHP 1K Ω 1/10W
R48	RD256100	R. CAR. CHP 1K Ω 1/10W
R49	RD256100	R. CAR. CHP 1K Ω 1/10W
R50	RD256100	R. CAR. CHP 1K Ω 1/10W
R51	RD256100	R. CAR. CHP 1K Ω 1/10W
R52	VC757300	R. MTL. OXD 27 Ω 2W
R53	RD256150	R. CAR. CHP 1.5K Ω 1/10W
R54	RD255120	R. CAR. CHP 120 Ω 1/10W
R55	RD258220	R. CAR. CHP 220K Ω 1/10W
R56	RD258220	R. CAR. CHP 220K Ω 1/10W
R57	RD255120	R. CAR. CHP 120 Ω 1/10W
R58	RD256100	R. CAR. CHP 1K Ω 1/10W
R59	RD256100	R. CAR. CHP 1K Ω 1/10W
R60	RD256100	R. CAR. CHP 1K Ω 1/10W
R61	RD257470	R. CAR. CHP 47K Ω 1/10W
R62	RD258100	R. CAR. CHP 100K Ω 1/10W
R63	Vi868300	R. FUS 0.68 Ω 1/6W
R64	RD256100	R. CAR. CHP 1K Ω 1/10W
R65	RD255100	R. CAR. CHP 100 Ω 1/10W
R66	RD256120	R. CAR. CHP 1.2K Ω 1/10W

* New Parts

P.C.B. CD & INPUT

Schm Ref.	PART NO.	Description
R67	RD256120	R. CAR. CHP 1.2K Ω 1/10W
R68	RD258100	R. CAR. CHP 100K Ω 1/10W
R69	RD258100	R. CAR. CHP 100K Ω 1/10W
R70	RD256120	R. CAR. CHP 1.2K Ω 1/10W
R71	RD256120	R. CAR. CHP 1.2K Ω 1/10W
R72	RD256100	R. CAR. CHP 1K Ω 1/10W
R73	RD256100	R. CAR. CHP 1K Ω 1/10W
R74	RD256100	R. CAR. CHP 1K Ω 1/10W
R75	RD256100	R. CAR. CHP 1K Ω 1/10W
R76	RD256100	R. CAR. CHP 1K Ω 1/10W
R77	RD256100	R. CAR. CHP 1K Ω 1/10W
R78	RD256100	R. CAR. CHP 1K Ω 1/10W
R79	RD256100	R. CAR. CHP 1K Ω 1/10W
R80	RD256100	R. CAR. CHP 1K Ω 1/10W
R81	RD256100	R. CAR. CHP 1K Ω 1/10W
R82	RD258100	R. CAR. CHP 100K Ω 1/10W
R83	RD255220	R. CAR. CHP 220 Ω 1/10W
R84	RD256100	R. CAR. CHP 1K Ω 1/10W
R85	RD255390	R. CAR. CHP 390 Ω 1/10W
R86	RD257470	R. CAR. CHP 47K Ω 1/10W
R87	RD257220	R. CAR. CHP 22K Ω 1/10W
R88	RD256100	R. CAR. CHP 1K Ω 1/10W
R89	RD257220	R. CAR. CHP 22K Ω 1/10W
R90	RD258100	R. CAR. CHP 100K Ω 1/10W
R91	RD256100	R. CAR. CHP 1K Ω 1/10W
R92	RD255390	R. CAR. CHP 390 Ω 1/10W
R93	RD255220	R. CAR. CHP 220 Ω 1/10W
R94	RD253220	R. CAR. CHP 2.2 Ω 1/10W
TP1	VL448600	JUMPER. TST
TP2	VL448600	JUMPER. TST
XL1	VJ719800	RSNR. CRYST 16.9344MHz
XL2	VE906000	RSNR. CE 4MHz
	VJ828000	PIN IMSA-6024-03E
	Vi835500	HEAT. SINK PH-0124S-B
* * * *	VV180000	P.C.B. INPUT(UC)
	VV180100	P.C.B. INPUT(R)
	VV180200	P.C.B. INPUT(ATL)
	VV180300	P.C.B. INPUT(BG)
CB203	VQ963000	CN. BS. PIN 9P
CB204	VQ962700	CN. BS. PIN 6P
CB205	VQ047500	CN. BS. PIN 20P
CB206	VU163200	SOCKET 20P
CB207	VU163200	SOCKET 20P
CB208	Vi878300	CN. BS. PIN 5P
CB209	VF667600	CN. BS. PIN 15P
CB210	Vi878100	CN. BS. PIN 3P
CB211	Vi878100	CN. BS. PIN 3P
CB212	VD005000	CN. BS. PIN 7P
C202	VJ836900	C. EL 10uF 16V
C203	VJ837200	C. EL 47uF 16V

* New Parts

Schm Ref.	PART NO.	Description
C204	VJ836900	C. EL 10uF 16V
C205	VF637900	C. EL 1000uF 10V
C206	VF637900	C. EL 1000uF 10V
C207	UB012560	C. CE. M. CHP 560pF 50V
C208	UB012560	C. CE. M. CHP 560pF 50V
C209	UB012220	C. CE. M. CHP 220pF 50V
C210	UB012220	C. CE. M. CHP 220pF 50V
C211	UB012560	C. CE. M. CHP 560pF 50V
C212	UB012560	C. CE. M. CHP 560pF 50V
C213	UB012560	C. CE. M. CHP 560pF 50V
C214	UB012560	C. CE. M. CHP 560pF 50V
C215	UB012220	C. CE. M. CHP 220pF 50V
C216	UB012220	C. CE. M. CHP 220pF 50V
C217	UB245100	C. CE. M. CHP 0.1uF 25V
C218	UJ638470	C. EL 470uF 16V
C219	UB051220	C. CE. M. CHP 22pF 50V
C220	UM407220	C. EL 22uF 16V
C221	UA654220	C. MYLAR 0.022uF 50V
C222	UA653680	C. MYLAR 6800pF 50V
C223	UA653220	C. MYLAR 2200pF 50V
C224	VG722100	C. EL 1uF 50V
C225	UA655150	C. MYLAR 0.15uF 50V
C226	UA654560	C. MYLAR 0.056uF 50V
C227	UA655470	C. MYLAR 0.47uF 50V
C228	UM215100	C. EL 0.1uF 50V
C229	UM215100	C. EL 0.1uF 50V
C230	UM215100	C. EL 0.1uF 50V
C231	UM215100	C. EL 0.1uF 50V
C232	UM215100	C. EL 0.1uF 50V
C233	UM215100	C. EL 0.1uF 50V
C234	UM215100	C. EL 0.1uF 50V
C235	UA655470	C. MYLAR 0.47uF 50V
C236	UA655150	C. MYLAR 0.15uF 50V
C237	UA654560	C. MYLAR 0.056uF 50V
C238	UM215100	C. EL 0.1uF 50V
C239	UA654220	C. MYLAR 0.022uF 50V
C240	UA653680	C. MYLAR 6800pF 50V
C241	UA653220	C. MYLAR 2200pF 50V
C242	VG722100	C. EL 1uF 50V
C243	UM407220	C. EL 22uF 16V
C244	VJ838800	C. EL 0.22uF 50V(RATL)
C245	UB013470	C. CE. M. CHP 4700pF 50V(RATL)
C246	UB013470	C. CE. M. CHP 4700pF 50V(RATL)
C247	UA652680	C. MYLAR 680pF 50V
C248	UA654150	C. MYLAR 0.015uF 50V
C249	UA654220	C. MYLAR 0.022uF 50V
C250	VF760000	C. EL 100uF 10V
C251	UA652100	C. MYLAR 100pF 50V
C252	UM407220	C. EL 22uF 16V
C253	VJ836900	C. EL 10uF 16V
C254	VF760000	C. EL 100uF 10V
C255	UM407220	C. EL 22uF 16V
C256	UA652100	C. MYLAR 100pF 50V

* New Parts

P.C.B. INPUT

Schm Ref.	PART NO.	Description
C257	VF760000	C. EL 100uF 10V
C258	UA654220	C. MYLAR 0.022uF 50V
C259	UA654150	C. MYLAR 0.015uF 50V
C260	UA652680	C. MYLAR 680pF 50V
C261	VJ837200	C. EL 47uF 16V (RATL)
C262	UA653390	C. MYLAR 3900pF 50V (RATL)
C263	UA653560	C. MYLAR 5600pF 50V (RATL)
C264	UJ638470	C. EL 470uF 16V (RATL)
C265	UB012220	C. CE. M. CHP 220pF 50V (RATL)
C266	UA653390	C. MYLAR 3900pF 50V (RATL)
C267	VJ837200	C. EL 47uF 16V (RATL)
C268	VJ839000	C. EL 0.47uF 50V (RATL)
C269	UA655100	C. MYLAR 0.1uF 50V (RATL)
C270	VJ839100	C. EL 1uF 50V (RATL)
C271	UB012220	C. CE. M. CHP 220pF 50V (RATL)
C272	UA654680	C. MYLAR 0.068uF 50V (RATL)
C273	VJ839000	C. EL 0.47uF 50V (RATL)
C274	UB045100	C. CE. M. CHP 0.1uF 50V (RATL)
C275	UA654150	C. MYLAR 0.015uF 50V (RATL)
C276	VJ838800	C. EL 0.22uF 50V (RATL)
C277	UB045100	C. CE. M. CHP 0.1uF 50V (RATL)
C278	UB044100	C. CE. M. CHP 0.01uF 50V
C279	UA654220	C. MYLAR 0.022uF 50V
C280	UA654470	C. MYLAR 0.047uF 50V
C281	UJ648220	C. EL 220uF 25V
C282	UM417100	C. EL 10uF 50V
C283	UM417100	C. EL 10uF 50V
C284	UM417100	C. EL 10uF 50V
C285	UM417100	C. EL 10uF 50V
C286	UJ648220	C. EL 220uF 25V
C287	VJ839100	C. EL 1uF 50V
C288	VJ839100	C. EL 1uF 50V
C289	UA655100	C. MYLAR 0.1uF 50V
C290	UA655100	C. MYLAR 0.1uF 50V
C291	VJ839000	C. EL 0.47uF 50V
C292	UM416470	C. EL 4.7uF 50V
C293	VJ839000	C. EL 0.47uF 50V
C294	UM416470	C. EL 4.7uF 50V
C295	UA655150	C. MYLAR 0.15uF 50V
C296	UM216330	C. EL 3.3uF 50V
C297	UA655150	C. MYLAR 0.15uF 50V
C298	UA653560	C. MYLAR 5600pF 50V (RATL)
C299	UB013100	C. CE. M. CHP 1000pF 50V (RATL)
C300	VJ839100	C. EL 1uF 50V (RATL)
C301	UB045100	C. CE. M. CHP 0.1uF 50V (RATL)
C302	VJ836900	C. EL 10uF 16V (RATL)
C303	VJ839100	C. EL 1uF 50V (RATL)
C304	UB044100	C. CE. M. CHP 0.01uF 50V
C305	UA652470	C. MYLAR 470pF 50V
C306	UM416470	C. EL 4.7uF 50V
C307	UA653150	C. MYLAR 1500pF 50V
C308	UA652560	C. MYLAR 560pF 50V
C309	UB052100	C. CE. M. CHP 100pF 50V

* New Parts

Schm Ref.	PART NO.	Description
C310	UB052100	C. CE. M. CHP 100pF 50V
C311	UM416470	C. EL 4.7uF 50V
C312	UA652680	C. MYLAR 680pF 50V
C313	UM417100	C. EL 10uF 50V
C314	UM417100	C. EL 10uF 50V
C315	UM417100	C. EL 10uF 50V
C316	UM417100	C. EL 10uF 50V
C317	UA655470	C. MYLAR 0.47uF 50V
C318	UA654100	C. MYLAR 0.01uF 50V
C319	UJ667470	C. EL 47uF 50V
C320	UA655100	C. MYLAR 0.1uF 50V
C321	UA655100	C. MYLAR 0.1uF 50V
C322	UB245100	C. CE. M. CHP 0.1uF 25V
C323	UB013470	C. CE. M. CHP 4700pF 50V
C324	VJ839000	C. EL 0.47uF 50V
C325	UM416470	C. EL 4.7uF 50V
C326	VJ839000	C. EL 0.47uF 50V
C327	UM416470	C. EL 4.7uF 50V
C328	UA655150	C. MYLAR 0.15uF 50V
C329	UM216330	C. EL 3.3uF 50V
C330	UA655150	C. MYLAR 0.15uF 50V
C331	VJ836900	C. EL 10uF 16V
C332	VJ836900	C. EL 10uF 16V
C334	UM417100	C. EL 10uF 50V
C335	UA653680	C. MYLAR 6800pF 50V
C336	VJ836900	C. EL 10uF 16V
C337	VJ836900	C. EL 10uF 16V
C338	UM417100	C. EL 10uF 50V
C339	UM417100	C. EL 10uF 50V
C340	UM417100	C. EL 10uF 50V
C341	UB245100	C. CE. M. CHP 0.1uF 25V
C342	UJ648220	C. EL 220uF 25V
C343	UA654820	C. MYLAR 0.082uF 50V
C344	VJ839200	C. EL 2.2uF 50V
C345	UA653330	C. MYLAR 3300pF 50V
C346	UA654820	C. MYLAR 0.082uF 50V
C347	VJ839000	C. EL 0.47uF 50V
C348	UM417100	C. EL 10uF 50V
C349	UM417100	C. EL 10uF 50V
C350	UM417100	C. EL 10uF 50V
C351	UJ648220	C. EL 220uF 25V
C352	UM417100	C. EL 10uF 50V
C355	UB012220	C. CE. M. CHP 220pF 50V
C356	UB012220	C. CE. M. CHP 220pF 50V
C357	UB045100	C. CE. M. CHP 0.1uF 50V
C358	UB012220	C. CE. M. CHP 220pF 50V
C359	UB012220	C. CE. M. CHP 220pF 50V
C360	VJ836900	C. EL 10uF 16V
C362	VJ838800	C. EL 0.22uF 50V
C363	VJ836900	C. EL 10uF 16V
C365	VJ836900	C. EL 10uF 16V
C368	VJ838800	C. EL 0.22uF 50V
C369	VJ836900	C. EL 10uF 16V

* New Parts

P.C.B. INPUT

Schm Ref.	PART NO.	Description
C370	UB012220	C. CE. M. CHP 220pF 50V
C371	UB012220	C. CE. M. CHP 220pF 50V
C372	UB012220	C. CE. M. CHP 220pF 50V
C373	UB012220	C. CE. M. CHP 220pF 50V
C374	VJ836900	C. EL 10uF 16V
C376	VJ838800	C. EL 0.22uF 50V
C377	VJ836900	C. EL 10uF 16V
C379	VJ836900	C. EL 10uF 16V
C382	VJ838800	C. EL 0.22uF 50V
C383	UB012220	C. CE. M. CHP 220pF 50V
C384	VJ836900	C. EL 10uF 16V
C385	UB012220	C. CE. M. CHP 220pF 50V
C386	UB045100	C. CE. M. CHP 0.1uF 50V
C387	UB012220	C. CE. M. CHP 220pF 50V
C388	UB012220	C. CE. M. CHP 220pF 50V
C389	UB052100	C. CE. M. CHP 100pF 50V
C390	VJ839000	C. EL 0.47uF 50V
C391	VJ839000	C. EL 0.47uF 50V
C392	UB052100	C. CE. M. CHP 100pF 50V
C393	VJ839200	C. EL 2.2uF 50V
C394	VJ839200	C. EL 2.2uF 50V
C395	UB052100	C. CE. M. CHP 100pF 50V
C396	VJ836900	C. EL 10uF 16V
C397	VJ836900	C. EL 10uF 16V
C398	VJ836900	C. EL 10uF 16V
C399	VJ836900	C. EL 10uF 16V
C400	VJ836900	C. EL 10uF 16V
C401	VJ839100	C. EL 1uF 50V
C402	UB051470	C. CE. M. CHP 47pF 50V
C403	UB051470	C. CE. M. CHP 47pF 50V
C404	UB051470	C. CE. M. CHP 47pF 50V
C405	UK665470	C. EL 0.47uF 50V
C406	UM417100	C. EL 10uF 50V
C407	UM417100	C. EL 10uF 50V
C408	UB051470	C. CE. M. CHP 47pF 50V
C409	UB051470	C. CE. M. CHP 47pF 50V
C410	UB051470	C. CE. M. CHP 47pF 50V
C411	VJ839100	C. EL 1uF 50V
C412	VJ839000	C. EL 0.47uF 50V
C413	VJ836900	C. EL 10uF 16V
C414	VJ837200	C. EL 47uF 16V
C415	VF904800	C. EL 2200uF 16V
C416	UA654100	C. MYLAR 0.01uF 50V
C417	UA654100	C. MYLAR 0.01uF 50V
C418	UB044100	C. CE. M. CHP 0.01uF 50V
C419	UM407220	C. EL 22uF 16V
C420	UM407220	C. EL 22uF 16V
C421	UB044100	C. CE. M. CHP 0.01uF 50V
C422	UB044100	C. CE. M. CHP 0.01uF 50V
C426	UB052100	C. CE. M. CHP 100pF 50V
C427	UB052100	C. CE. M. CHP 100pF 50V
C428	UB052100	C. CE. M. CHP 100pF 50V
C429	UB052100	C. CE. M. CHP 100pF 50V

* New Parts

Schm Ref.	PART NO.	Description
C430	UM417100	C. EL 10uF 50V
C431	UB245100	C. CE. M. CHP 0.1uF 25V
C432	UM416470	C. EL 4.7uF 50V
C433	UM416470	C. EL 4.7uF 50V
C434	VJ836900	C. EL 10uF 16V
C435	UB013470	C. CE. M. CHP 4700pF 50V (RATL)
C437	UM416470	C. EL 4.7uF 50V
* D201	VU995100	DIODE. ZENR MA8091-H 9.4V
D202	VU993400	DIODE. ZENR MA8062-M 6.2V
D203	VT332900	DIODE 1SS355
* D204	VU992300	DIODE. ZENR MA8047-H 4.9V
D205	VU993400	DIODE. ZENR MA8062-M 6.2V
Δ D206	VQ379300	DIODE. BRG S1VB20 1.0A 200V
D207	VT332900	DIODE 1SS355
IC201	XA053A00	IC TC4052BP
IC202	XQ164A00	IC BA7612N
IC203	XR273A00	IC LC75395E
IC204	XR272A00	IC BA7726AS (RATL)
IC205	XB247301	IC uPC4570HA (RATL)
* IC208	XS023A00	IC LA2786 DOLBY
IC209	XR276A00	IC BU9252S (RATL)
IC210	XB247301	IC uPC4570HA
IC214	iG055100	IC TC4053BP
IC215	iG055100	IC TC4053BP
IC219	XQ084A00	IC AN78N09
* IC220	XS025A00	IC LV1015
IC222	XP265A00	IC BU2090
IC223	XB247301	IC uPC4570HA
IC225	XS884A00	IC LC7536Y
IC226	XB247301	IC uPC4570HA
IC228	XB247301	IC uPC4570HA
IC230	XS884A00	IC LC7536Y
IC231	XB247301	IC uPC4570HA
IC241	XP265A00	IC BU2090
IC242	XB247301	IC uPC4570HA
IC245	XG938A00	IC BA15218N
* PJ201	VV306900	JACK. PIN 4P
* PJ202	VV307000	JACK. PIN 6P
* PJ203	VV307100	JACK. PIN 4P
PJ204	VK437600	JACK. PIN 1P
Q201	iC287820	TR 2SC2878 A, B
Q202	iC287820	TR 2SC2878 A, B
Q203	iC287820	TR 2SC2878 A, B
Q204	iC287820	TR 2SC2878 A, B
Q205	iA101521	TR 2SA1015 Y
Q206	iC1815C0	TR 2SC1815 Y
Q207	VG721700	TR. DGT DTA144ES
Q208	VG721700	TR. DGT DTA144ES
Q209	VG721700	TR. DGT DTA144ES
Q210	VG721700	TR. DGT DTA144ES
Q211	iC287820	TR 2SC2878 A, B
Q212	VD678500	TR. DGT DTA114ES
Δ Q213	VK407600	TR 2SC4208A Q, R, S

* New Parts

P.C.B. INPUT

Schm Ref.	PART NO.	Description
Q214	iC287820	TR 2SC2878 A, B
Q215	iC287820	TR 2SC2878 A, B
Q216	VK407600	TR 2SC4208A Q, R, S
Q217	VG722000	TR. DGT DTC144ES
Q218	iC287820	TR 2SC2878 A, B
Q219	iC287820	TR 2SC2878 A, B
R201	RD255470	R. CAR. CHP 470 Ω 1/10W
R202	RD255470	R. CAR. CHP 470 Ω 1/10W
R203	RD255330	R. CAR. CHP 330 Ω 1/10W
R204	RD255330	R. CAR. CHP 330 Ω 1/10W
R205	RD255470	R. CAR. CHP 470 Ω 1/10W
R206	RD255470	R. CAR. CHP 470 Ω 1/10W
R207	RD255470	R. CAR. CHP 470 Ω 1/10W
R208	RD255470	R. CAR. CHP 470 Ω 1/10W
R209	RD255330	R. CAR. CHP 330 Ω 1/10W
R210	RD255330	R. CAR. CHP 330 Ω 1/10W
R211	RD254750	R. CAR. CHP 75 Ω 1/10W
R212	RD254750	R. CAR. CHP 75 Ω 1/10W
R213	RD254750	R. CAR. CHP 75 Ω 1/10W
R214	RD254430	R. CAR. CHP 43 Ω 1/10W
R215	RD258100	R. CAR. CHP 100K Ω 1/10W
R216	RD258100	R. CAR. CHP 100K Ω 1/10W
R217	RD256220	R. CAR. CHP 2.2K Ω 1/10W
R218	RD257100	R. CAR. CHP 10K Ω 1/10W
R219	RD257100	R. CAR. CHP 10K Ω 1/10W
R220	RD256220	R. CAR. CHP 2.2K Ω 1/10W
R221	RD258100	R. CAR. CHP 100K Ω 1/10W
R222	RD258100	R. CAR. CHP 100K Ω 1/10W
R223	RD258100	R. CAR. CHP 100K Ω 1/10W
R224	RD258100	R. CAR. CHP 100K Ω 1/10W
R225	RD256220	R. CAR. CHP 2.2K Ω 1/10W
R226	RD257100	R. CAR. CHP 10K Ω 1/10W
R227	RD257100	R. CAR. CHP 10K Ω 1/10W
R228	RD256220	R. CAR. CHP 2.2K Ω 1/10W
R229	HV454470	R. CAR. FP 47 Ω 1/4W
R230	RD257330	R. CAR. CHP 33K Ω 1/10W
R231	RD256100	R. CAR. CHP 1K Ω 1/10W
R232	RD255150	R. CAR. CHP 150 Ω 1/10W
R233	RD257220	R. CAR. CHP 22K Ω 1/10W
R234	RD255150	R. CAR. CHP 150 Ω 1/10W
R235	RD257470	R. CAR. CHP 47K Ω 1/10W
R236	RD257470	R. CAR. CHP 47K Ω 1/10W
R237	RD257180	R. CAR. CHP 18K Ω 1/10W
R238	RD257180	R. CAR. CHP 18K Ω 1/10W
R239	RD258100	R. CAR. CHP 100K Ω 1/10W
R240	RD258100	R. CAR. CHP 100K Ω 1/10W
R241	RD256270	R. CAR. CHP 2.7K Ω 1/10W (RATL)
R242	RD258100	R. CAR. CHP 100K Ω 1/10W (RATL)
R243	RD259220	R. CAR. CHP 2.2M Ω 1/10W (RATL)
R244	RD257100	R. CAR. CHP 10K Ω 1/10W (RATL)
R245	RD256330	R. CAR. CHP 3.3K Ω 1/10W (RATL)
R246	RD256330	R. CAR. CHP 3.3K Ω 1/10W (RATL)
R247	RD258100	R. CAR. CHP 100K Ω 1/10W

* New Parts

Schm Ref.	PART NO.	Description
R248	RD258100	R. CAR. CHP 100K Ω 1/10W
R249	HV454220	R. CAR. FP 22 Ω 1/4W
R250	HV454220	R. CAR. FP 22 Ω 1/4W (RATL)
R251	RD257180	R. CAR. CHP 18K Ω 1/10W (RATL)
R252	RD257470	R. CAR. CHP 47K Ω 1/10W (RATL)
R253	RD257390	R. CAR. CHP 39K Ω 1/10W (RATL)
R254	RD256100	R. CAR. CHP 1K Ω 1/10W (RATL)
R255	RD257180	R. CAR. CHP 18K Ω 1/10W (RATL)
R256	RD257470	R. CAR. CHP 47K Ω 1/10W (RATL)
R257	RD257180	R. CAR. CHP 18K Ω 1/10W (RATL)
R258	RD257390	R. CAR. CHP 39K Ω 1/10W (RATL)
R259	RD256120	R. CAR. CHP 1.2K Ω 1/10W (RATL)
R260	RD257100	R. CAR. CHP 10K Ω 1/10W (RATL)
R261	RD256120	R. CAR. CHP 1.2K Ω 1/10W (RATL)
R262	RD257100	R. CAR. CHP 10K Ω 1/10W (RATL)
R263	RD257560	R. CAR. CHP 56K Ω 1/10W (RATL)
R264	RD257100	R. CAR. CHP 10K Ω 1/10W (RATL)
R265	RD257120	R. CAR. CHP 12K Ω 1/10W (RATL)
R266	RD257100	R. CAR. CHP 10K Ω 1/10W (RATL)
R267	RD258100	R. CAR. CHP 100K Ω 1/10W
R268	RD258100	R. CAR. CHP 100K Ω 1/10W
R269	RD257180	R. CAR. CHP 18K Ω 1/10W (RATL)
R270	RD257100	R. CAR. CHP 10K Ω 1/10W
R271	RD257100	R. CAR. CHP 10K Ω 1/10W
R272	RD256620	R. CAR. CHP 6.2K Ω 1/10W
R273	RD258470	R. CAR. CHP 470K Ω 1/10W
R274	RD258470	R. CAR. CHP 470K Ω 1/10W
R275	RD256220	R. CAR. CHP 2.2K Ω 1/10W
R276	RD256220	R. CAR. CHP 2.2K Ω 1/10W
R277	RD258470	R. CAR. CHP 470K Ω 1/10W
R278	RD258470	R. CAR. CHP 470K Ω 1/10W
R279	RD256560	R. CAR. CHP 5.6K Ω 1/10W
R280	RD257470	R. CAR. CHP 47K Ω 1/10W
R281	RD257470	R. CAR. CHP 47K Ω 1/10W
R282	RD258470	R. CAR. CHP 470K Ω 1/10W
R283	RD255180	R. CAR. CHP 180 Ω 1/10W
R284	RD257200	R. CAR. CHP 20K Ω 1/10W
R285	RD256120	R. CAR. CHP 1.2K Ω 1/10W
R286	RD256120	R. CAR. CHP 1.2K Ω 1/10W
R287	RD257100	R. CAR. CHP 10K Ω 1/10W
R288	RD255100	R. CAR. CHP 100 Ω 1/10W
R289	HV454220	R. CAR. FP 22 Ω 1/4W
R290	RD256100	R. CAR. CHP 1K Ω 1/10W
R291	HV454220	R. CAR. FP 22 Ω 1/4W
R292	HV456560	R. CAR. FP 5.6K Ω 1/4W
R293	RD259100	R. CAR. CHP 1M Ω 1/10W
R294	RD257390	R. CAR. CHP 39K Ω 1/10W
R295	RD257150	R. CAR. CHP 15K Ω 1/10W
R296	RD257220	R. CAR. CHP 22K Ω 1/10W
R297	RD258470	R. CAR. CHP 470K Ω 1/10W
R298	RD258470	R. CAR. CHP 470K Ω 1/10W
R299	RD258470	R. CAR. CHP 470K Ω 1/10W
R300	RD257470	R. CAR. CHP 47K Ω 1/10W

* New Parts

P.C.B. INPUT & MAIN

Schm Ref.	PART NO.	Description
R301	RD257470	R. CAR. CHP 47K Ω 1/10W
R302	HV454100	R. CAR. FP 10 Ω 1/4W
R303	RD257470	R. CAR. CHP 47K Ω 1/10W
R304	RD257470	R. CAR. CHP 47K Ω 1/10W
R305	RD257470	R. CAR. CHP 47K Ω 1/10W
R306	RD257470	R. CAR. CHP 47K Ω 1/10W
R307	RD259100	R. CAR. CHP 1M Ω 1/10W
R308	RD256100	R. CAR. CHP 1K Ω 1/10W
R309	RD257470	R. CAR. CHP 47K Ω 1/10W
R310	RD259100	R. CAR. CHP 1M Ω 1/10W
R311	RD259100	R. CAR. CHP 1M Ω 1/10W
R312	RD257470	R. CAR. CHP 47K Ω 1/10W
R313	RD256680	R. CAR. CHP 6.8K Ω 1/10W
R314	RD259100	R. CAR. CHP 1M Ω 1/10W
R315	RD257470	R. CAR. CHP 47K Ω 1/10W
R316	RD256680	R. CAR. CHP 6.8K Ω 1/10W
R317	RD257470	R. CAR. CHP 47K Ω 1/10W
R318	RD257470	R. CAR. CHP 47K Ω 1/10W
R319	RD258470	R. CAR. CHP 470K Ω 1/10W
R320	RD257150	R. CAR. CHP 15K Ω 1/10W
R321	HV454220	R. CAR. FP 22 Ω 1/4W
R322	HV454220	R. CAR. FP 22 Ω 1/4W
R323	RD258470	R. CAR. CHP 470K Ω 1/10W
R324	RD257150	R. CAR. CHP 15K Ω 1/10W
R325	HV454220	R. CAR. FP 22 Ω 1/4W
R326	HV454220	R. CAR. FP 22 Ω 1/4W
R327	RD257150	R. CAR. CHP 15K Ω 1/10W
R328	RD256270	R. CAR. CHP 2.7K Ω 1/10W
R329	RD256270	R. CAR. CHP 2.7K Ω 1/10W
R330	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R331	HV454220	R. CAR. FP 22 Ω 1/4W
R332	RD257160	R. CAR. CHP 16K Ω 1/10W
R333	RD258100	R. CAR. CHP 100K Ω 1/10W
R334	HV454220	R. CAR. FP 22 Ω 1/4W
R335	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R336	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R337	RD256100	R. CAR. CHP 1K Ω 1/10W
R338	RD257470	R. CAR. CHP 47K Ω 1/10W
R339	RD257470	R. CAR. CHP 47K Ω 1/10W
R340	RD256100	R. CAR. CHP 1K Ω 1/10W
R341	RD255100	R. CAR. CHP 100 Ω 1/10W
R342	RD255100	R. CAR. CHP 100 Ω 1/10W
R343	RD256100	R. CAR. CHP 1K Ω 1/10W
R344	RD257220	R. CAR. CHP 22K Ω 1/10W
R345	RD257100	R. CAR. CHP 10K Ω 1/10W
R346	RD256100	R. CAR. CHP 1K Ω 1/10W
R347	RD255100	R. CAR. CHP 100 Ω 1/10W
R348	RD256220	R. CAR. CHP 2.2K Ω 1/10W
R349	HV454220	R. CAR. FP 22 Ω 1/4W
R350	RD255220	R. CAR. CHP 220 Ω 1/10W
R351	RD257120	R. CAR. CHP 12K Ω 1/10W
R352	RD257100	R. CAR. CHP 10K Ω 1/10W
R353	RD258100	R. CAR. CHP 100K Ω 1/10W

* New Parts

Schm Ref.	PART NO.	Description
R354	RD256270	R. CAR. CHP 2.7K Ω 1/10W
R355	RD258100	R. CAR. CHP 100K Ω 1/10W
R356	RD258100	R. CAR. CHP 100K Ω 1/10W
R357	RD256270	R. CAR. CHP 2.7K Ω 1/10W
R358	RD257100	R. CAR. CHP 10K Ω 1/10W
R359	RD257120	R. CAR. CHP 12K Ω 1/10W
R360	RD258100	R. CAR. CHP 100K Ω 1/10W
R361	RD255220	R. CAR. CHP 220 Ω 1/10W
R362	HV454220	R. CAR. FP 22 Ω 1/4W
R363	RD255680	R. CAR. CHP 680 Ω 1/10W
R364	RD257100	R. CAR. CHP 10K Ω 1/10W
R365	RD256330	R. CAR. CHP 3.3K Ω 1/10W
R366	HV454330	R. CAR. FP 33 Ω 1/4W
R367	RD255100	R. CAR. CHP 100 Ω 1/10W
R368	RD256220	R. CAR. CHP 2.2K Ω 1/10W
R369	RD257470	R. CAR. CHP 47K Ω 1/10W
R370	RD256200	R. CAR. CHP 2K Ω 1/10W(R)
R370	RD256390	R. CAR. CHP 3.9K Ω 1/10W(ATL)
R370	RD256620	R. CAR. CHP 6.2K Ω 1/10W(BG)
R370	RD257100	R. CAR. CHP 10K Ω 1/10W(UC)
R383	RD257150	R. CAR. CHP 15K Ω 1/10W
R384	RD256100	R. CAR. CHP 1K Ω 1/10W
R389	RD257100	R. CAR. CHP 10K Ω 1/10W
R390	RD258100	R. CAR. CHP 100K Ω 1/10W
R391	RD257470	R. CAR. CHP 47K Ω 1/10W
R392	RD257470	R. CAR. CHP 47K Ω 1/10W
R393	RD257470	R. CAR. CHP 47K Ω 1/10W
R394	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R395	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R396	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R397	RD256100	R. CAR. CHP 1K Ω 1/10W
R398	RD256100	R. CAR. CHP 1K Ω 1/10W
R399	RD257100	R. CAR. CHP 10K Ω 1/10W
R400	RD257100	R. CAR. CHP 10K Ω 1/10W
R401	RD257220	R. CAR. CHP 22K Ω 1/10W
R402	RD256100	R. CAR. CHP 1K Ω 1/10W
R403	RD257120	R. CAR. CHP 12K Ω 1/10W
R404	RD257120	R. CAR. CHP 12K Ω 1/10W
* SW201	VU755700	SW. SLIDE SS029-P012BEB(R)
* SW202	VU755700	SW. SLIDE SS029-P012BEB-PC4
XL201	VJ958100	RSNR. CE CSB455E(RATL)
XL202	VJ802400	RSNR. CE 8MHz
	VJ828000	PIN IMSA-6024-03E
	BB071360	SCR. TERM 8.3x13
* VV180500	P.C.B.	MAIN(R)
* VV180600	P.C.B.	MAIN(ABGTL)
* VV312500	P.C.B.	MAIN(UC)
CB501	Vi879300	CN. BS. PIN 15P
CB502	VM859600	CN. BS. PIN 15P
CB503	VM689000	CN. BS. PIN 23P

* New Parts

P.C.B. MAIN

Schm Ref.	PART NO.	Description	
CB504	VP206500	HOLDER. FUS	EYF-52BC
CB505	VP206500	HOLDER. FUS	EYF-52BC
CB507	VP573800	CN. BS. PIN	18P
CB508	VA725800	HOLDER	8P
CB509	VP206500	HOLDER. FUS	EYF-52BC
CB510	VG879900	CN. BS. PIN	2P
CB511	VP206500	HOLDER. FUS	EYF-52BC
CB512	VA725800	HOLDER	8P
CB513	VP206500	HOLDER. FUS	EYF-52BC (R)
CB514	VP206500	HOLDER. FUS	EYF-52BC (R)
CB515	VL845000	CN. BS. PIN	6P
CB516	Vi878600	CN. BS. PIN	8P
CB517	VA725300	HOLDER	3P
CB518	VP206500	HOLDER. FUS	EYF-52BC
CB519	VP206500	HOLDER. FUS	EYF-52BC
CB520	VP206500	HOLDER. FUS	EYF-52BC
CB521	VP206500	HOLDER. FUS	EYF-52BC
CB522	VK024900	CN. BS. PIN	5P
CB523	VK025200	CN. BS. PIN	8P
CB524	VA725300	HOLDER	3P
CB525	VD004500	CN. BS. PIN	2P
C501	UM417100	C. EL	10uF 50V
C502	UM416470	C. EL	4.7uF 50V
C503	VJ838800	C. EL	0.22uF 50V
C504	VG278400	C. CE. TUBLR	220pF 50V (ABGTL)
C505	VG278400	C. CE. TUBLR	220pF 50V (ABGTL)
C506	VJ838800	C. EL	0.22uF 50V
C507	VF466800	C. CE. TUBLR	100pF 50V
C508	VF466800	C. CE. TUBLR	100pF 50V
C509	VF466800	C. CE. TUBLR	100pF 50V
C510	VF466800	C. CE. TUBLR	100pF 50V
C511	UJ638330	C. EL	330uF 16V
C512	UJ667470	C. EL	47uF 50V
C513	UM416470	C. EL	4.7uF 50V
C514	UJ667470	C. EL	47uF 50V
C516	VF466800	C. CE. TUBLR	100pF 50V (ABGTL)
C517	VJ839000	C. EL	0.47uF 50V
C518	VJ839000	C. EL	0.47uF 50V
C519	VJ839200	C. EL	2.2uF 50V
C520	VF466800	C. CE. TUBLR	100pF 50V (ABGTL)
C521	Ui367220	C. EL	22uF 50V
C522	Ui367220	C. EL	22uF 50V
C523	UA654100	C. MYLAR	0.01uF 50V
C524	VG278400	C. CE. TUBLR	220pF 50V (ABGTL)
C525	VG278400	C. CE. TUBLR	220pF 50V
C526	UA655100	C. MYLAR	0.1uF 50V
C527	UA655100	C. MYLAR	0.1uF 50V
C528	VF466800	C. CE. TUBLR	100pF 50V
C529	UA655100	C. MYLAR	0.1uF 50V
C530	UA655100	C. MYLAR	0.1uF 50V
C531	VF466800	C. CE. TUBLR	100pF 50V
C532	UA655100	C. MYLAR	0.1uF 50V
C533	UA655100	C. MYLAR	0.1uF 50V

* New Parts

Schm Ref.	PART NO.	Description	
C534	VG278400	C. CE. TUBLR	220pF 50V
C535	VG278400	C. CE. TUBLR	220pF 50V (ABGTL)
C536	UA654100	C. MYLAR	0.01uF 50V
C537	VJ839100	C. EL	1uF 50V
C538	UA654390	C. MYLAR	0.039uF 50V
C539	UA654390	C. MYLAR	0.039uF 50V
C540	VJ839100	C. EL	1uF 50V
C541	Ui367220	C. EL	22uF 50V
C542	VF964800	C. EL	100uF 16V
C543	VF964800	C. EL	100uF 16V
C544	Ui367220	C. EL	22uF 50V
C545	VF467300	C. CE. TUBLR	0.01uF 16V
C546	VF467000	C. CE. TUBLR	1000pF 50V
C547	VF467000	C. CE. TUBLR	1000pF 50V
C548	VJ839100	C. EL	1uF 50V
C549	VF467000	C. CE. TUBLR	1000pF 50V
C550	VF467000	C. CE. TUBLR	1000pF 50V
C551	VF467300	C. CE. TUBLR	0.01uF 16V
C552	UJ667470	C. EL	47uF 50V
C553	UM417100	C. EL	10uF 50V
C554	UJ668100	C. EL	100uF 50V
C555	UJ668100	C. EL	100uF 50V
C556	UA655150	C. MYLAR	0.15uF 50V
C557	UA655220	C. MYLAR	0.22uF 50V
C558	UA655330	C. MYLAR	0.33uF 50V
C559	UA655220	C. MYLAR	0.22uF 50V
C560	UA655330	C. MYLAR	0.33uF 50V
C561	UA655150	C. MYLAR	0.15uF 50V
C562	UJ668100	C. EL	100uF 50V
C563	VJ839000	C. EL	0.47uF 50V
C564	UA654330	C. MYLAR	0.033uF 50V
C565	FG212330	C. CE	330pF 50V
C566	VJ839100	C. EL	1uF 50V
C567	UA655100	C. MYLAR	0.1uF 50V
C568	VJ839100	C. EL	1uF 50V
C569	UM416470	C. EL	4.7uF 50V
C570	UM416470	C. EL	4.7uF 50V
C571	UM417100	C. EL	10uF 50V
C572	UM417100	C. EL	10uF 50V
C573	VF760000	C. EL	100uF 10V
C574	UM417100	C. EL	10uF 50V
C575	UM417100	C. EL	10uF 50V
C576	VF760000	C. EL	100uF 10V
C577	VJ839100	C. EL	1uF 50V
C578	UA655100	C. MYLAR	0.1uF 50V
C579	UM416470	C. EL	4.7uF 50V
C580	UM416470	C. EL	4.7uF 50V
C581	VJ839100	C. EL	1uF 50V
C582	FG212330	C. CE	330pF 50V
C583	UA654330	C. MYLAR	0.033uF 50V
C584	VJ839000	C. EL	0.47uF 50V
C585	VJ839100	C. EL	1uF 50V
C586	VJ839200	C. EL	2.2uF 50V

* New Parts

P.C.B. MAIN

Schm Ref.	PART NO.	Description
C587	UA654470	C. MYLAR 0.047uF 50V
C588	VG278800	C. CE. TUBLR 560pF 50V
C589	VS949500	C. EL 22uF 50V
C590	VS949500	C. EL 22uF 50V
C591	VG278800	C. CE. TUBLR 560pF 50V
C592	UA654470	C. MYLAR 0.047uF 50V
C593	UM417100	C. EL 10uF 50V
C594	UM417100	C. EL 10uF 50V
C595	UM215100	C. EL 0.1uF 50V
C596	UA654100	C. MYLAR 0.01uF 50V
C597	UM417100	C. EL 10uF 50V
C598	UM416470	C. EL 4.7uF 50V
C599	UM417100	C. EL 10uF 50V
△* C600	VV205900	C. EL 6800uF 50V
△* C601	VV205900	C. EL 6800uF 50V
C602	UM407220	C. EL 22uF 16V
C603	VF467300	C. CE. TUBLR 0.01uF 16V
C604	VF467300	C. CE. TUBLR 0.01uF 16V
C605	UA654100	C. MYLAR 0.01uF 50V
C606	UM417100	C. EL 10uF 50V
C607	UM417100	C. EL 10uF 50V
C608	UM417100	C. EL 10uF 50V
C609	UM416470	C. EL 4.7uF 50V
C610	UM407220	C. EL 22uF 16V
C611	UM416470	C. EL 4.7uF 50V
C612	UJ648220	C. EL 220uF 25V
C613	UJ668100	C. EL 100uF 50V
C614	FG214100	C. CE 0.01uF 50V
C615	UA654100	C. MYLAR 0.01uF 50V
C616	UJ648220	C. EL 220uF 25V
C617	VR324600	C. MYLAR 0.01uF 100V
C618	VR325300	C. MYLAR 0.047uF 100V
C619	VR325300	C. MYLAR 0.047uF 100V
C620	VR324600	C. MYLAR 0.01uF 100V
C621	UA655330	C. MYLAR 0.33uF 50V
C622	UJ668100	C. EL 100uF 50V
C623	UM215100	C. EL 0.1uF 50V
C624	UA653330	C. MYLAR 3300pF 50V
C625	UA653330	C. MYLAR 3300pF 50V
C626	VF466700	C. CE. TUBLR 47pF 50V
C627	VF466700	C. CE. TUBLR 47pF 50V
C628	VF467300	C. CE. TUBLR 0.01uF 16V
C630	FG251220	C. CE 22pF 50V
C631	UJ667470	C. EL 47uF 50V
C632	UA654470	C. MYLAR 0.047uF 50V
C633	VH053100	C. CE. TUBLR 0.1uF 50V
C634	FG212220	C. CE 220pF 50V
C635	FG212100	C. CE 100pF 50V
C636	FG251220	C. CE 22pF 50V
C637	UJ667470	C. EL 47uF 50V
C638	UA654470	C. MYLAR 0.047uF 50V
C639	VH053100	C. CE. TUBLR 0.1uF 50V
△ C640	VL544800	C. EL 3300uF 35V

* New Parts

Schm Ref.	PART NO.	Description
C641	UJ667470	C. EL 47uF 50V
△ C642	VL544800	C. EL 3300uF 35V
C643	FG413220	C. CE 2200pF 50V
C644	VE117600	C. EL 220uF 10V
C645	FG214100	C. CE 0.01uF 50V
C646	UA654470	C. MYLAR 0.047uF 50V
C647	UA654470	C. MYLAR 0.047uF 50V
C648	FG214100	C. CE 0.01uF 50V
C649	FG413220	C. CE 2200pF 50V
C650	FG214100	C. CE 0.01uF 50V
C651	FG214100	C. CE 0.01uF 50V
C652	FG214100	C. CE 0.01uF 50V(ABGTL)
C653	FG214100	C. CE 0.01uF 50V
C655	FG212100	C. CE 100pF 50V
C656	FG212100	C. CE 100pF 50V
C657	FG212220	C. CE 220pF 50V
C658	FG212100	C. CE 100pF 50V
C659	UJ667470	C. EL 47uF 50V
C660	VF467300	C. CE. TUBLR 0.01uF 16V
C661	VF467300	C. CE. TUBLR 0.01uF 16V(ABGTL)
D501	VG443100	DIODE. ZENR MTZJ27D 27V
D502	VG440500	DIODE. ZENR MTZJ13B 13V
D503	VG440500	DIODE. ZENR MTZJ13B 13V
D508	VD631600	DIODE 1SS133, 176, HSS104
D509	VD631600	DIODE 1SS133, 176, HSS104
D510	VD631600	DIODE 1SS133, 176, HSS104
△ D511	iH001090	DIODE. BRG S4VB20 2.6A 200V
D512	VU264100	DIODE 1SR139-400
D513	VU264100	DIODE 1SR139-400
D514	VD631600	DIODE 1SS133, 176, HSS104
D515	VN011300	DIODE. BRG D3SBA20 4A 200V
D516	VD631600	DIODE 1SS133, 176, HSS104
D517	VD631600	DIODE 1SS133, 176, HSS104
D518	VD631600	DIODE 1SS133, 176, HSS104
D519	VG437200	DIODE. ZENR MTZJ4.7C 4.7V
D520	VD631600	DIODE 1SS133, 176, HSS104
D521	VD631600	DIODE 1SS133, 176, HSS104
D522	VD631600	DIODE 1SS133, 176, HSS104
D523	VD631600	DIODE 1SS133, 176, HSS104
△ F501	KB000750	FUSE. MNI T2.0A 250V(RABGTL)
△ F501	VS822500	FUSE 2.0A 125V(UC)
△ F502	KB000790	FUSE T4.0A 250V(R)
△ F502	KB001660	FUSE T1.60A 250V(ABGTL)
△ F502	VS822900	FUSE T4.0A 125V(UC)
△ F503	KB001660	FUSE T1.60A 250V(R)
△ F504	KB000760	FUSE T3.15A 250V(RABGTL)
△ F504	VS822800	FUSE T3.15A 125V(UC)
△ F505	KB000760	FUSE T3.15A 250V(RABGTL)
△ F505	VS822800	FUSE T3.15A 125V(UC)
△ IC501	XB247301	IC uPC4570HA
IC502	XB247301	IC uPC4570HA
IC503	XN796A00	IC NJM2082L
△* IC504	XS428A00	IC STK41821I 45W 2CH

* New Parts

P.C.B. MAIN & OPERATION

Schm Ref.	PART NO.	Description
IC505	XR497A00	IC HA12182NT
IC506	XP265A00	IC BU2090
IC507	XL988A00	IC BA3312N
△ IC508	iG102700	IC uPC1188H
△ IC509	iG102700	IC uPC1188H
L501	VP916900	COIL. BIAS 105KHz
L502	VP916900	COIL. BIAS 105KHz
L503	VU038100	COIL 1.5uH
L504	VU038100	COIL 1.5uH
L505	VU038100	COIL 1.5uH
L506	VU038100	COIL 1.5uH
△ Q501	VR510800	TR 2SD2396 J, K
△ Q502	VR510800	TR 2SD2396 J, K
△ Q503	iA093320	TR 2SA933S Q, R
△ Q504	VR402300	TR 2SB647 C, D
△ Q505	VS883300	TR 2SB1565 E, F
Q506	VG722000	TR. DGT DTC144ES
Q507	VG722000	TR. DGT DTC144ES
△ Q510	VG721700	TR. DGT DTA144ES
△ Q511	VG722000	TR. DGT DTC144ES
Q512	iC174020	TR 2SC1740S R, S
Q513	iC174020	TR 2SC1740S R, S
Q514	VE613400	TR 2SD1858 Q, R
Q515	iC174020	TR 2SC1740S R, S
Q516	iC174020	TR 2SC1740S R, S
Q517	iC287820	TR 2SC2878 A, B
Q518	iC174020	TR 2SC1740S R, S
Q519	iC174020	TR 2SC1740S R, S
Q520	VD678500	TR. DGT DTA114ES
Q521	iA093320	TR 2SA933S Q, R
Q522	iC174020	TR 2SC1740S R, S
Q523	iC174020	TR 2SC1740S R, S
Q524	VR402300	TR 2SB647 C, D
Q525	iC174020	TR 2SC1740S R, S
R515	VK187800	R. FUS 100Ω 1/4W
△ R527	HV453470	R. CAR. FP 4.7Ω 1/4W
△ R529	HV453470	R. CAR. FP 4.7Ω 1/4W
△ R532	HV453470	R. CAR. FP 4.7Ω 1/4W
△ R533	HV453100	R. CAR. FP 1Ω 1/4W
R559	HV454220	R. CAR. FP 22Ω 1/4W
R561	HV454220	R. CAR. FP 22Ω 1/4W
R578	HV456220	R. CAR. FP 2.2KΩ 1/4W
R579	HV455100	R. CAR. FP 100Ω 1/4W
R580	HV456220	R. CAR. FP 2.2KΩ 1/4W
R592	HV456220	R. CAR. FP 2.2KΩ 1/4W
R593	HV456220	R. CAR. FP 2.2KΩ 1/4W
R618	HV454100	R. CAR. FP 10Ω 1/4W
R622	HV456100	R. CAR. FP 1KΩ 1/4W
R626	HV454100	R. CAR. FP 10Ω 1/4W
R627	HV456100	R. CAR. FP 1KΩ 1/4W
R641	HV454100	R. CAR. FP 10Ω 1/4W
R647	HV454100	R. CAR. FP 10Ω 1/4W
R666	VT424900	R. WW 0.22Ω 3W

* New Parts

Schm Ref.	PART NO.	Description
R672	HV454100	R. CAR. FP 10Ω 1/4W
R673	VT424900	R. WW 0.22Ω 3W
△ R677	HV453100	R. CAR. FP 1Ω 1/4W
△ R678	HV453100	R. CAR. FP 1Ω 1/4W
* R682	HL235120	R. MIL. OXD 120Ω 3W
R689	HV453100	R. CAR. FP 1Ω 1/4W
R690	HV453100	R. CAR. FP 1Ω 1/4W
R694	HV454100	R. CAR. FP 10Ω 1/4W
R698	HV454100	R. CAR. FP 10Ω 1/4W
R701	HV454100	R. CAR. FP 10Ω 1/4W
R703	HV453220	R. CAR. FP 2.2Ω 1/4W
R704	HV453220	R. CAR. FP 2.2Ω 1/4W
R705	HV454100	R. CAR. FP 10Ω 1/4W
R713	HV454100	R. CAR. FP 10Ω 1/4W
R715	HV453100	R. CAR. FP 1Ω 1/4W
R722	HV453470	R. CAR. FP 4.7Ω 1/4W
R723	HV453470	R. CAR. FP 4.7Ω 1/4W
RY501	VU161600	RELAY DC OSA-SS-224DM3
RY502	VU161600	RELAY DC OSA-SS-224DM3
△ SW503	VA961800	VOLT. SELCT ESE-37247-F(R)
* TE501	VT941500	TERM. SP 4P
* TE502	VU900200	TERM. SP 6P
TH1	VV272700	THERMISTOR PTH9M04BE222TS2F
TP501	VL448600	JUMPER. TST
VR501	VJ693600	VR. TRIM B10KΩ
VR502	VJ693600	VR. TRIM B10KΩ
	VQ368600	PUSH. RIVET P3555-B
	VK865300	SCR. HEX 3x18 FCRM3-BL
	VJ828000	PIN IMSA-6024-03E
	BB071360	SCR. TERM 8.3x13
	VN126800	HEAT. SINK UOT-16C25-MP
△ VR510800	TR	2SD2396 J, K
* VV272700	THERMISTOR	PTH9M04BE222TS2F
* VU915800	HEAT. SINK	
* VS011700	SHEET. RD	
* VU986300	SHEET. RD	15x71
VV392600	FRAME	
EK930010	SCR. BW. HD	3x8-8 FCRM3-BL
* VV180700	P. C. B.	OPERATION (RATL)
* VV180800	P. C. B.	OPERATION (UCBG)
CB801	VD004500	CN. BS. PIN 2P
CB802	VU163100	CN 20P
CB803	VU163100	CN 20P
CB804	VQ044800	CN. BS. PIN 18P
C801	UM416470	C. EL 4.7uF 50V (RATL)
C802	VJ402700	C. EL 0.33uF 50V (RATL)
C803	VJ402700	C. EL 0.33uF 50V (RATL)
C804	UM416470	C. EL 4.7uF 50V (RATL)
C805	UB245100	C. CE. M. CHP 0.1uF 25V (RATL)
C806	UB052100	C. CE. M. CHP 100pF 50V (RATL)

* New Parts

P.C.B. OPERATION

Schm Ref.	PART NO.	Description
C807	UB012220	C. CE. M. CHP 220pF 50V(RATL)
C808	VJ839100	C. EL 1uF 50V(RATL)
C809	UB012220	C. CE. M. CHP 220pF 50V(RATL)
C810	UB052100	C. CE. M. CHP 100pF 50V(RATL)
C811	UB013100	C. CE. M. CHP 1000pF 50V
C812	UB013100	C. CE. M. CHP 1000pF 50V
C813	VJ836900	C. EL 10uF 16V
C814	VJ839100	C. EL 1uF 50V(RATL)
C815	VJ836900	C. EL 10uF 16V(RATL)
C816	UB245100	C. CE. M. CHP 0.1uF 25V
C817	UB245100	C. CE. M. CHP 0.1uF 25V
C818	VJ836900	C. EL 10uF 16V(RATL)
C819	UB245100	C. CE. M. CHP 0.1uF 25V
C820	UB245100	C. CE. M. CHP 0.1uF 25V
C821	VJ836900	C. EL 10uF 16V
C822	UB245100	C. CE. M. CHP 0.1uF 25V
C823	VJ900300	C. CE. M. CHP 22pF 50V
C824	VJ900300	C. CE. M. CHP 22pF 50V
C825	UB052100	C. CE. M. CHP 100pF 50V
C826	UB052100	C. CE. M. CHP 100pF 50V
C827	UB052100	C. CE. M. CHP 100pF 50V
C828	UB052100	C. CE. M. CHP 100pF 50V
C829	UB052100	C. CE. M. CHP 100pF 50V
C830	UB052100	C. CE. M. CHP 100pF 50V
C831	UB052100	C. CE. M. CHP 100pF 50V
C832	UB052100	C. CE. M. CHP 100pF 50V
C833	UB044100	C. CE. M. CHP 0.01uF 50V
C834	UB044100	C. CE. M. CHP 0.01uF 50V
C835	VJ839200	C. EL 2.2uF 50V
C836	VS672200	C. EL 4700uF 5.5V
C837	UB044470	C. CE. M. CHP 0.047uF 50V
C838	UB044470	C. CE. M. CHP 0.047uF 50V
C839	UB245100	C. CE. M. CHP 0.1uF 25V
C840	UB245100	C. CE. M. CHP 0.1uF 25V
C841	UB245100	C. CE. M. CHP 0.1uF 25V
C842	UB245100	C. CE. M. CHP 0.1uF 25V
D801	VT332900	DIODE 1SS355
D802	VT332900	DIODE 1SS355
D803	VT332900	DIODE 1SS355
D804	VT332900	DIODE 1SS355
* D805	VU992900	DIODE. ZENR MA8056-L 5.4V
D806	VT332900	DIODE 1SS355
D807	VV833200	DIODE 1SS380
D808	VT332900	DIODE 1SS355
IC801	XB247301	IC uPC4570HA(RATL)
IC802	XB247301	IC uPC4570HA(RATL)
IC807	XA053A00	IC TC4052BP
IC812	XR275A00	IC BA3835S
IC813	XS280A00	IC M38197MA-159FP CPU
JK801	VT941600	JACK. MNI (RATL)
JK802	VT941600	JACK. MNI (RATL)
JK803	VT941600	JACK. MNI SW HTJ-035-17AB
Q801	VD488500	TR. DGT DTC143XS

* New Parts

Schm Ref.	PART NO.	Description
R801	RD256470	R. CAR. CHP 4.7K Ω 1/10W(RATL)
R802	RD256470	R. CAR. CHP 4.7K Ω 1/10W(RATL)
R803	RD257100	R. CAR. CHP 10K Ω 1/10W
R804	RD257100	R. CAR. CHP 10K Ω 1/10W
R805	RD257100	R. CAR. CHP 10K Ω 1/10W
R806	RD257100	R. CAR. CHP 10K Ω 1/10W
R807	RD257100	R. CAR. CHP 10K Ω 1/10W
R808	RD255470	R. CAR. CHP 470 Ω 1/10W(RATL)
R809	RD257120	R. CAR. CHP 12K Ω 1/10W(RATL)
R810	RD256100	R. CAR. CHP 1K Ω 1/10W(RATL)
R811	RD256470	R. CAR. CHP 4.7K Ω 1/10W(RATL)
R812	RD258100	R. CAR. CHP 100K Ω 1/10W(RATL)
R813	RD256100	R. CAR. CHP 1K Ω 1/10W(RATL)
R814	RD256470	R. CAR. CHP 4.7K Ω 1/10W(RATL)
R815	RD258100	R. CAR. CHP 100K Ω 1/10W(RATL)
R816	RD257120	R. CAR. CHP 12K Ω 1/10W(RATL)
R817	RD258100	R. CAR. CHP 100K Ω 1/10W(RATL)
R818	RD255470	R. CAR. CHP 470 Ω 1/10W(RATL)
R819	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R820	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R821	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R822	RD257470	R. CAR. CHP 47K Ω 1/10W
R823	RD257470	R. CAR. CHP 47K Ω 1/10W
R824	RD256200	R. CAR. CHP 2K Ω 1/10W
R825	RD256180	R. CAR. CHP 1.8K Ω 1/10W
R826	RD256240	R. CAR. CHP 2.4K Ω 1/10W
R827	RD256390	R. CAR. CHP 3.9K Ω 1/10W
R828	RD256560	R. CAR. CHP 5.6K Ω 1/10W
R829	RD256200	R. CAR. CHP 2K Ω 1/10W
R830	RD256180	R. CAR. CHP 1.8K Ω 1/10W
R831	RD256240	R. CAR. CHP 2.4K Ω 1/10W
R832	RD256390	R. CAR. CHP 3.9K Ω 1/10W
R833	RD256560	R. CAR. CHP 5.6K Ω 1/10W
R834	RD256200	R. CAR. CHP 2K Ω 1/10W
R835	RD256180	R. CAR. CHP 1.8K Ω 1/10W
R836	RD256240	R. CAR. CHP 2.4K Ω 1/10W
R837	RD256390	R. CAR. CHP 3.9K Ω 1/10W
R838	RD256560	R. CAR. CHP 5.6K Ω 1/10W
R839	RD256200	R. CAR. CHP 2K Ω 1/10W
R840	RD256180	R. CAR. CHP 1.8K Ω 1/10W
R841	RD256240	R. CAR. CHP 2.4K Ω 1/10W
R842	RD256390	R. CAR. CHP 3.9K Ω 1/10W
R843	RD256560	R. CAR. CHP 5.6K Ω 1/10W
R844	RD256200	R. CAR. CHP 2K Ω 1/10W
R845	RD256180	R. CAR. CHP 1.8K Ω 1/10W
R846	RD256240	R. CAR. CHP 2.4K Ω 1/10W
R847	RD256390	R. CAR. CHP 3.9K Ω 1/10W
R848	RD256560	R. CAR. CHP 5.6K Ω 1/10W
R849	RD255220	R. CAR. CHP 220 Ω 1/10W(RATL)
R850	RD255220	R. CAR. CHP 220 Ω 1/10W(RATL)
R851	RD255220	R. CAR. CHP 220 Ω 1/10W(RATL)
R852	RD257100	R. CAR. CHP 10K Ω 1/10W
R853	RD257100	R. CAR. CHP 10K Ω 1/10W

* New Parts

P.C.B. OPERATION

Schm Ref.	PART NO.	Description
R854	RD257240	R. CAR. CHP 24K Ω 1/10W
R855	RD257100	R. CAR. CHP 10K Ω 1/10W
R856	RD257100	R. CAR. CHP 10K Ω 1/10W
R857	RD257100	R. CAR. CHP 10K Ω 1/10W
R858	RD257240	R. CAR. CHP 24K Ω 1/10W
R859	RD256100	R. CAR. CHP 1K Ω 1/10W
R860	RD256100	R. CAR. CHP 1K Ω 1/10W
R861	RD256100	R. CAR. CHP 1K Ω 1/10W
R862	RD256100	R. CAR. CHP 1K Ω 1/10W
R863	RD258100	R. CAR. CHP 100K Ω 1/10W
R864	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R865	RD255100	R. CAR. CHP 100 Ω 1/10W
R866	RD259220	R. CAR. CHP 2.2M Ω 1/10W
* R867	RD259750	R. CAR. CHP 7.5M Ω 1/10W
R868	RD258470	R. CAR. CHP 470K Ω 1/10W
R869	RD257240	R. CAR. CHP 24K Ω 1/10W
R870	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R871	RD256100	R. CAR. CHP 1K Ω 1/10W
R872	RD256100	R. CAR. CHP 1K Ω 1/10W
R873	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R874	RD256100	R. CAR. CHP 1K Ω 1/10W
R875	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R876	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R877	RD256100	R. CAR. CHP 1K Ω 1/10W
R878	RD256100	R. CAR. CHP 1K Ω 1/10W
R879	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R880	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R881	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R882	RD255220	R. CAR. CHP 220 Ω 1/10W
R883	RD255220	R. CAR. CHP 220 Ω 1/10W
R884	RD258470	R. CAR. CHP 470K Ω 1/10W
R885	RD256100	R. CAR. CHP 1K Ω 1/10W
R886	RD256100	R. CAR. CHP 1K Ω 1/10W
R887	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R888	RD255100	R. CAR. CHP 100 Ω 1/10W
R889	RD255100	R. CAR. CHP 100 Ω 1/10W
R890	RD258100	R. CAR. CHP 100K Ω 1/10W
R891	RD257100	R. CAR. CHP 10K Ω 1/10W
R892	RD257100	R. CAR. CHP 10K Ω 1/10W
R893	RD258100	R. CAR. CHP 100K Ω 1/10W
R894	RD258100	R. CAR. CHP 100K Ω 1/10W
R895	RD258100	R. CAR. CHP 100K Ω 1/10W
R896	RD258100	R. CAR. CHP 100K Ω 1/10W
R897	RD258100	R. CAR. CHP 100K Ω 1/10W
R898	RD258100	R. CAR. CHP 100K Ω 1/10W
R899	RD258100	R. CAR. CHP 100K Ω 1/10W
R900	RD258100	R. CAR. CHP 100K Ω 1/10W
R901	RD258100	R. CAR. CHP 100K Ω 1/10W
R902	RD255220	R. CAR. CHP 220 Ω 1/10W
R903	RD257100	R. CAR. CHP 10K Ω 1/10W
R904	RD257100	R. CAR. CHP 10K Ω 1/10W
R905	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R906	RD256470	R. CAR. CHP 4.7K Ω 1/10W

* New Parts

Schm Ref.	PART NO.	Description
R907	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R908	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R909	HV454680	R. CAR. FP 68 Ω 1/4W
R910	HV454680	R. CAR. FP 68 Ω 1/4W
R911	RD257100	R. CAR. CHP 10K Ω 1/10W
R912	RD257100	R. CAR. CHP 10K Ω 1/10W
R913	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R914	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R915	RD257100	R. CAR. CHP 10K Ω 1/10W
R916	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R917	RD256470	R. CAR. CHP 4.7K Ω 1/10W
R918	RD256100	R. CAR. CHP 1K Ω 1/10W
R919	RD256100	R. CAR. CHP 1K Ω 1/10W
R920	RD256100	R. CAR. CHP 1K Ω 1/10W
R921	RD256100	R. CAR. CHP 1K Ω 1/10W
R922	RD256100	R. CAR. CHP 1K Ω 1/10W
R923	RD256100	R. CAR. CHP 1K Ω 1/10W
R924	RD257120	R. CAR. CHP 12K Ω 1/10W
R925	RD257100	R. CAR. CHP 10K Ω 1/10W
R926	RD257100	R. CAR. CHP 10K Ω 1/10W
R927	RD257100	R. CAR. CHP 10K Ω 1/10W
R928	RD257100	R. CAR. CHP 10K Ω 1/10W
R929	RD256390	R. CAR. CHP 3.9K Ω 1/10W
R930	RD258100	R. CAR. CHP 100K Ω 1/10W
R931	RD258100	R. CAR. CHP 100K Ω 1/10W
SW801	VT941400	SW. RT. ENC EC16B24304
SW802	VG392900	SW. TACT SKHVAA
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
SW816	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
SW825	VG392900	SW. TACT SKHVAA
SW826	VG392900	SW. TACT SKHVAA
SW827	VG392900	SW. TACT SKHVAA
SW828	VG392900	SW. TACT SKHVAA

* New Parts

P.C.B. OPERATION

Schm Ref.	PART NO.	Description
SW829	VG392900	SW. TACT
SW830	VG392900	SW. TACT
SW831	VG392900	SW. TACT
SW832	VG392900	SW. TACT
SW833	VG392900	SW. TACT
SW834	VG392900	SW. TACT
SW835	VG392900	SW. TACT
SW836	VG392900	SW. TACT
SW837	VG392900	SW. TACT
SW838	VG392900	SW. TACT
U801	VM485300	L. DTCT
V801	VU667200	FL. DSPLY
VR801	VR933500	VR
XL801	VQ328900	RSNR. CRYST
XL802	VJ802400	RSNR. CE
	VJ828000	PIN
	VU351500	SPACER
	VU986400	SHEET. FL
		SKHVAA
		SKHVAA
		SKHVAA
		SKHVAA
		SKHVAA
		SKHVAA
		SKHVAA
		SKHVAA
		SKHVAA
		GP1U581X
		BJ476GK
		A10KΩ (RATL)
		32.768KHz
		8MHz
		IMSA-6024-03E
		FL
		40x150

* New Parts

[illegible]

*** New Parts**

P.C.B. DECK MECHANISM

Schm	Ref.	PART NO.	Description	Remarks		
*		NX635320	P.C.B.	MECH.		P282620000
C1		FG212560	C. CE	560pF	50V	CK45FB1H561
C2		FG212560	C. CE	560pF	50V	CK45FB1H561
C5		UM417100	C. EL	10uF	50V	CE04LW1V100
C6		UM417100	C. EL	10uF	50V	CE04LW1V100
C7		FG212390	C. CE	390pF	50V	CK45FB1H391
C8		FG212390	C. CE	390pF	50V	CK45FB1H391
C9		UA654220	C. POL	0.022uF	50V	CQ92FM1H223
C10		UA654220	C. POL	0.022uF	50V	CQ92FM1H223
C11		VJ837200	C. EL	47uF	16V	CE04LW1C470
C12		VJ837200	C. EL	47uF	16V	CE04LW1C470
C13		UM417100	C. EL	10uF	50V	CE04LW1V100
C14		UT653820	C. PP	8200pF	100V	CQ93HP2A822
C15		FG212220	C. CE	220pF	50V	CC45FSL1H222
C16		FG212220	C. CE	220pF	50V	CC45FSL1H222
C17		FG212220	C. CE	220pF	50V	CC45FSL1H222
C18		FG212220	C. CE	220pF	50V	CC45FSL1H222
C19		FX611440	C. CE	470pF	500V	CK45FB2H471
C20		UM416470	C. EL	4.7uF	50V	CE04LW1V47R
C21		FG413330	C. CE	3300pF	50V	CK45FB1H332
C22		FG413330	C. CE	3300pF	50V	CK45FB1H332
C23		UG444100	C. CE	0.01uF	50V	CK45FF1H103
C24		FG213100	C. CE	1000pF	50V	CK45FB1H102
C51		FG212220	C. CE	220pF	50V	CC45FSL1H222
C52		FG212220	C. CE	220pF	50V	CC45FSL1H222
C53		FG212470	C. CE	470pF	50V	CK45FB1H471
C54		FG212470	C. CE	470pF	50V	CK45FB1H471
C55		UM417100	C. EL	10uF	50V	CE04LW1V100
C56		UM417100	C. EL	10uF	50V	CE04LW1V100
C57		FG212390	C. CE	390pF	50V	CK45FB1H391
C58		FG212390	C. CE	390pF	50V	CK45FB1H391
C59		VJ837200	C. EL	47uF	16V	CE04LW1C470
C60		VJ837200	C. EL	47uF	16V	CE04LW1C470
C61		UA654150	C. POL	0.015uF	50V	CQ92FM1H153
C62		UA654150	C. POL	0.015uF	50V	CQ92FM1H153
C63		UM417100	C. EL	10uF	50V	CE04LW1V100
C64		FG213100	C. CE	1000pF	50V	CK45FB1H102
CN1		LX610080	CN	5P		E40324905
CN2		LX610090	CN	15P		E40424405
CN3		LX610110	CN. FLAT	23P		E40416305
CN4		LX610070	CN	3P		E40324705
CN5		LX610090	CN	15P		E40424405
CN6		LX610100	CN. FLAT	15P		E40415505
D7		iF006130	DIODE	1SS133		1SS133
D8		iF006130	DIODE	1SS133		1SS133
D9		iF006130	DIODE	1SS133		1SS133
D54		iF006130	DIODE	1SS133		1SS133
D55		iF006130	DIODE	1SS133		1SS133
IC1		iX636420	IC			TA8125S
IC2		iX636420	IC			TA8125S
J1		VB966900	PIN	30mm		
J2		VB966900	PIN	30mm		
K1		VM640200	RELAY	RY12W-OH-K	DC12V	S76001805

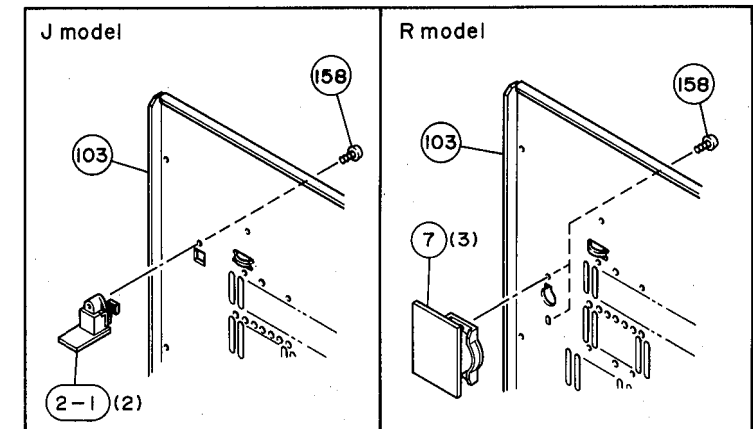
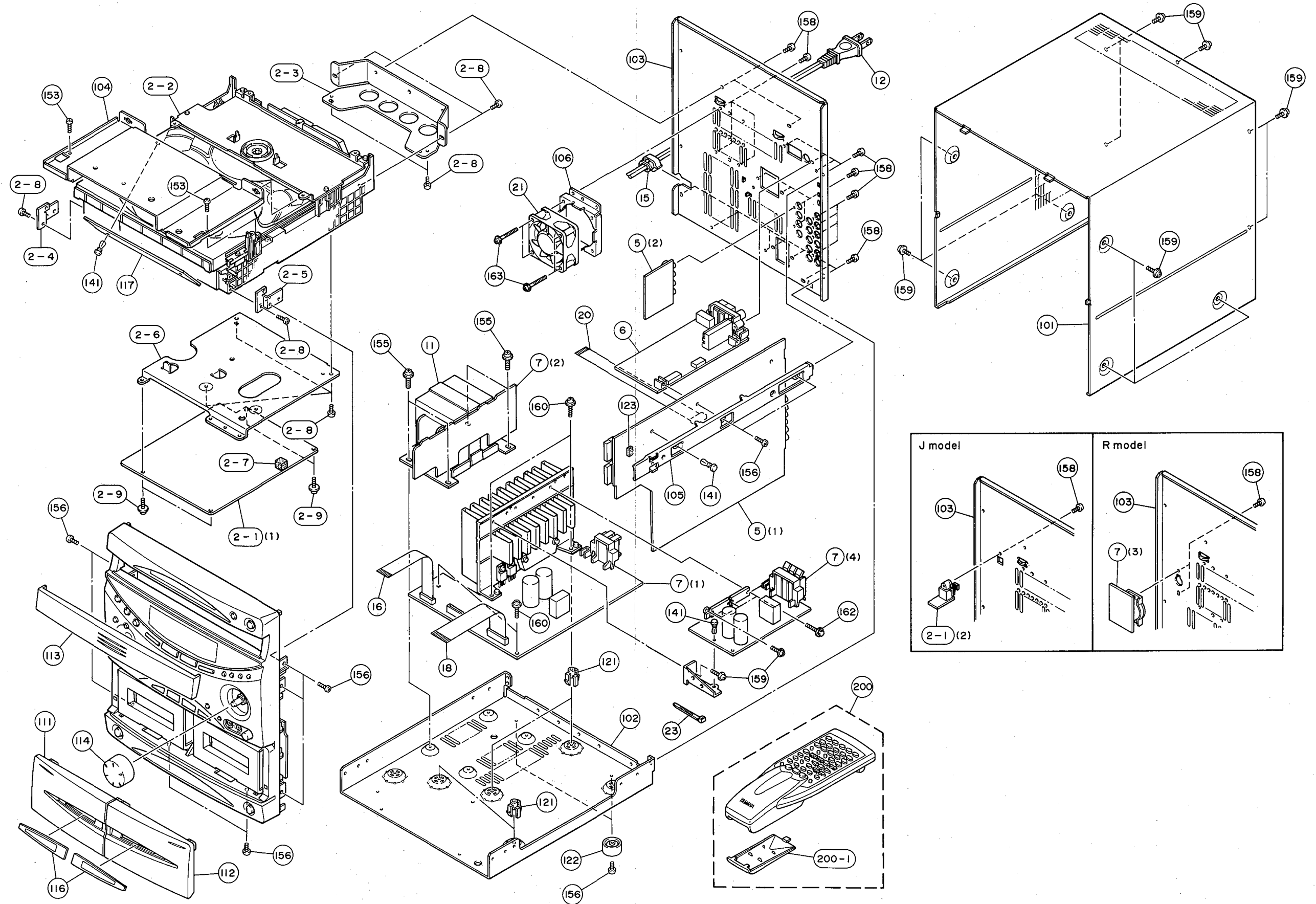
* New Parts

Schm Ref.	PART NO.	Description	Remarks
L1	GX609350	COIL	10mH LA0103520
L2	GX609350	COIL	10mH LA0103520
L3	GX609360	COIL	L32054205
Q1	iX636450	TR	2SC3246 H, J, K 2SC3246
Q2	iX636450	TR	2SC3246 H, J, K 2SC3246
Q3	iX636440	TR	2SC1845 F, E 2SC1845
Q4	iX636440	TR	2SC1845 F, E 2SC1845
Q5	iX636430	TR	2SA992 F, E 2SA992
Q6	iA093320	TR	2SA933S Q, R 2SA933S
Q7	iC174070	TR	2SC1740S R, S, Q, E 2SC1740
Q8	VF331200	TR. DGT	DTC124ES DTC124ES
Q9	iC174070	TR	2SC1740S R, S, Q, E 2SC1740
Q10	iC174070	TR	2SC1740S R, S, Q, E 2SC1740
Q11	iC174070	TR	2SC1740S R, S, Q, E 2SC1740
Q12	iC174070	TR	2SC1740S R, S, Q, E 2SC1740
Q13	iX636450	TR	2SC3246 H, J, K 2SC3246
Q14	iX636450	TR	2SC3246 H, J, K 2SC3246
Q15	iA093320	TR	2SA933S Q, R 2SA933S
Q16	iC174070	TR	2SC1740S R, S, Q, E 2SC1740
Q17	VF331200	TR. DGT	DTC124ES DTC124ES
Q18	VF331200	TR. DGT	DTC124ES DTC124ES
Q19	VF331200	TR. DGT	DTC124ES DTC124ES
VR1	VJ693600	VR. TRIM	B10K Ω R12368505
VR2	VJ693800	VR. TRIM	B22K Ω R12368605
VR3	VJ692600	VR. TRIM	B220 Ω R12060505
VR4	VJ692600	VR. TRIM	B220 Ω R12060505
VR5	HX609810	VR	100K Ω R12508605
VR6	HX609810	VR	100K Ω R12508605
VR7	VJ693600	VR. TRIM	B10K Ω R12368505
VR8	VJ693800	VR. TRIM	B22K Ω R12368605
VR9	VJ692700	VR. TRIM	B330 Ω R12060605
VR10	VJ692700	VR. TRIM	B330 Ω R12060605
	HF856100	R. CAR	1K Ω 1/6W RD14BB2C102J
	HF857100	R. CAR	10K Ω 1/6W RD14BB2C103J
	HF858100	R. CAR	100K Ω 1/6W RD14BB2C104J
	HF857110	R. CAR	11K Ω 1/6W RD14BB2C113J
	HX609780	R. CAR	130 Ω 1/6W RD14BB2C131J
	HF457150	R. CAR	15K Ω 1/6W RD14BB2C153J
	HF458150	R. CAR	150K Ω 1/6W RD14BB2C154J
	HX609790	R. CAR	16K Ω 1/6W RD14BB2C163J
	HX609800	R. CAR	20K Ω 1/6W RD14BB2C203J
	HF457220	R. CAR	22K Ω 1/6W RD14BB2C223J
	HF858220	R. CAR	220K Ω 1/6W RD14BB2C224J
	HF457330	R. CAR	33K Ω 1/6W RD14BB2C333J
	HF458330	R. CAR	330K Ω 1/6W RD14BB2C334J
	HF456470	R. CAR	4.7K Ω 1/6W RD14BB2C472J
	HF456560	R. CAR	5.6K Ω 1/6W RD14BB2C562J
	HF454680	R. CAR	68 Ω 1/6W RD14BB2C680J
	HF456680	R. CAR	6.8K Ω 1/6W RD14BB2C682J
	HJ353560	R. CAR	5.6 Ω 1/4W RD14BB2E5R6J

* New Parts

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■ EXPLODED VIEW



MECHANICAL PARTS

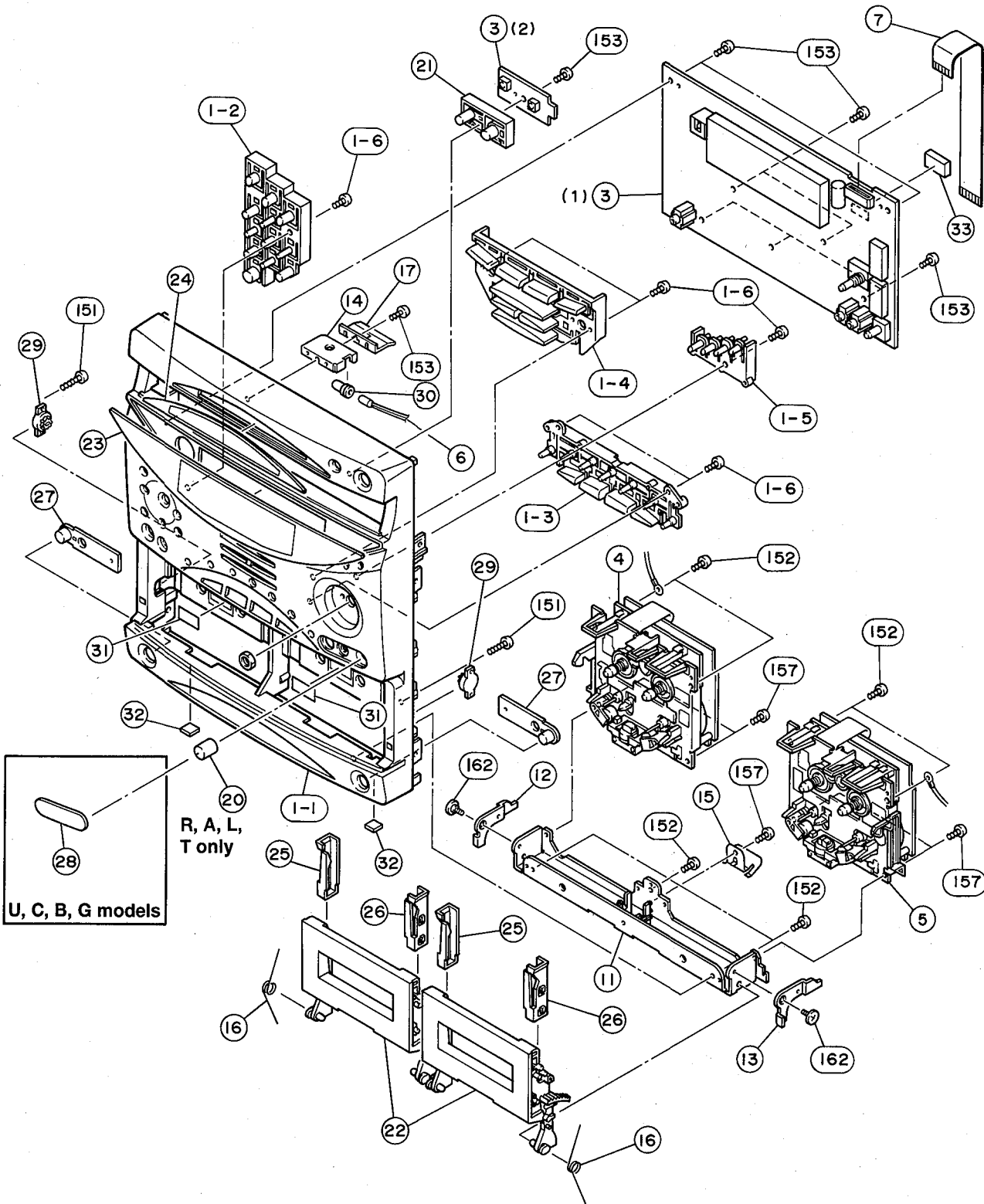
Ref. No.	PART NO.	Description	Remarks	Markets
* 2-1	VV194000	P.C.B. ASS'Y	CD	
2-2	VU638400	CDC MECHANISM UNIT	YMHB310	
2-3	VU353900	FRAME	REAR	
2-4	VU354100	FRAME	F-L	
2-5	VU354200	FRAME	F-R	
* 2-6	VU915700	FRAME	PCB	
2-7	VQ861500	CUSHION	SHEET	
2-8	EX600310	BIND HEAD P-TITE SCREW	3x8 FCRM3-BL	
2-9	VT669300	PW HEAD B-TITE SCREW	3x8-8 MFC2	
* 5	VV180000	P.C.B. ASS'Y	INPUT	(UC)
* 5	VV180100	P.C.B. ASS'Y	INPUT	(R)
* 5	VV180200	P.C.B. ASS'Y	INPUT	(ATL)
* 5	VV180300	P.C.B. ASS'Y	INPUT	(BG)
6	VU690200	P.C.B. ASS'Y	TUNER	(UCR)
6	VU690400	P.C.B. ASS'Y	TUNER	(A)
6	VU690500	P.C.B. ASS'Y	TUNER	(BG)
6	VU690600	P.C.B. ASS'Y	TUNER	(TL)
* 7	VV180500	P.C.B. ASS'Y	MAIN	(R)
* 7	VV180600	P.C.B. ASS'Y	MAIN	(ABGTIL)
* 7	VV312500	P.C.B. ASS'Y	MAIN	(UC)
△ *	XS422A00	POWER TRANSFORMER		(UC)
△ *	XS423A00	POWER TRANSFORMER		(R)
△ *	XS424A00	POWER TRANSFORMER		(A)
△ *	XS425A00	POWER TRANSFORMER		(BGL)
△ *	XS426A00	POWER TRANSFORMER		(T)
△	VQ508500	POWER CORD ASS'Y		(RT)
△	VQ508600	POWER CORD ASS'Y		(A)
△	VS168300	POWER CORD ASS'Y		(UC)
△	VS168400	POWER CORD ASS'Y		(GL)
△	VS680700	POWER CORD ASS'Y		(B)
15	VN158600	CORD STOPPER	No. 2104	
* 16	MF115140	FLEXIBLE FLAT CABLE	15P 140mm	
* 18	MF123140	FLEXIBLE FLAT CABLE	23P 140mm	
* 20	MF120250	FLEXIBLE FLAT CABLE	20P 250mm	
* 21	VV272500	DC FAN MOTOR	2410ML-05W-B20-L00	
23	VU590000	BINDING TIE	CBTD001B	
* 101	VU914800	TOP COVER		
102	VU353000	CHASSIS		
* 103	VU915000	REAR PANEL		(U)
* 103	VU915100	REAR PANEL		(C)
* 103	VU915200	REAR PANEL		(R)
* 103	VU915300	REAR PANEL		(A)
* 103	VU915400	REAR PANEL		(BG)
* 103	VU915500	REAR PANEL		(L)
* 103	VV172900	REAR PANEL		(T)
104	VU352300	HOLDER	REFLECTOR	
105	VU354000	FRAME	SIDE	
* 106	VV194200	FRAME	FAN	
* 111	VU917000	LID	DECK-L	
* 112	VU917100	LID	DECK-R	
* 113	VU917200	LID	CD	
* 114	VU917300	KNOB	D36	
* 116	VU351200	WINDOW PANEL, LID	DECK	

* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
117	VU352400	REFLECTOR	CD	
121	VR264400	SPACER	H8	
122	VS009900	LEG	22x12.5	
123	VS936800	DAMPER	3x5x10	
141	VQ368500	PUSH RIVET	P3545-B	
153	VD887600	BIND HEAD P-TITE SCREW	2.6x10 MFZN2-BL	
* 155	VU081700	PAN W.HEAD TAPPING SCREW	4x6-10 MFZN2-BL	
156	Ei330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL	
158	EN340020	BIND HEAD BONDING TAP. SCREW	3x8 FCRM3-BL	
159	VE529700	PW HEAD B-TITE SCREW	3x6-8 FCRM3-BL	
160	VT669400	PW HEAD B-TITE SCREW	3x15-8 MFC2	
162	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3	
* 163	VV220300	BIND HEAD B-TITE SCREW	3x30 MFZN2-BL	
		ACCESSORIES		
* 200	VU599900	REMOTE CONTROL TRANSMITTER	SBGH20011A	
200-1	CX679050	LID	74x34BLALPS	
	VQ147100	ANTENNA, FM	1P 1.4m	
	VR248500	ANTENNA, AM LOOP	1P 1.0m	
		BATTERY, MANGANESE	SUM-3, AA, R06	

* New Parts

EXPLODED VIEW (Panel Unit)



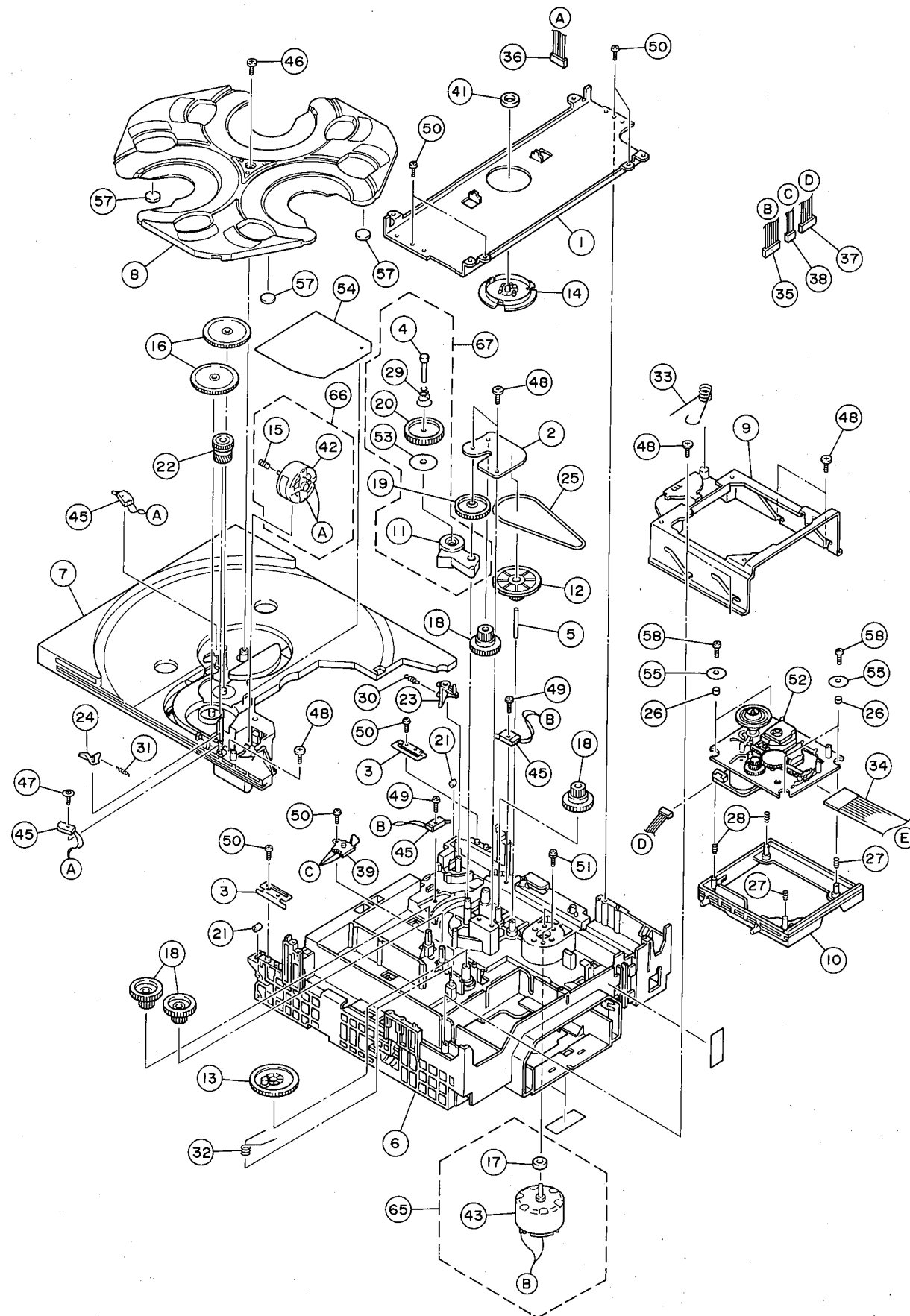
MECHANICAL PARTS (Panel Unit)

Ref. No.	PART NO.	Description	Remarks	Markets
* 1- 1	VU916100	FRONT PANEL		(RALT)
* 1- 1	VU916200	FRONT PANEL		(UC)
* 1- 1	VU916300	FRONT PANEL		(BG)
* 1- 2	VU916400	BUTTON	12P	
* 1- 3	VU916500	BUTTON	11P	
* 1- 4	VU916600	BUTTON	8P	
* 1- 5	VU916700	BUTTON	4P	
1- 6	VD887600	BIND HEAD P-TITE SCREW	2. 6x10 MFZN2-BL	
* 3	VV180700	P.C.B. ASS'Y	OPERATION	(RATL)
* 3	VV180800	P.C.B. ASS'Y	OPERATION	(UCBG)
4	VU638500	CASSETTE DECK MECHANISM	(PB) YHMB2300	
5	VU638600	CASSETTE DECK MECHANISM	(R/P) YHMB2600	
6	VH471600	LAMP	115mA 14. 5V	
7	MF118300	FLEXIBLE FLAT CABLE C&C	18P 300mm	
11	VU352000	HOLDER		
12	VU352100	LEVER	EJ-L	
13	VU360800	LEVER	EJ-R	
14	VU352500	HOLDER	LAMP	
15	VU352200	GROUND PLATE		
16	VS336600	SPRING	D5. 6T	
* 17	VV173900	FRAME	SHIELD	
* 20	VU917400	KNOB	D10	(RATL)
* 21	VU916800	BUTTON	2P	
22	VU351700	HOUSING		
* 23	VV051400	WINDOW PANEL, LID	FL	
24	VU351400	WINDOW PANEL, LID	CD	
25	VU351800	GUIDE, CASSETTE	L	
26	VU351900	GUIDE, CASSETTE	R	
* 27	VU916900	BUTTON	EJ	
28	VU352800	PLATE	MASK	(UCBG)
29	VQ354000	DAMPER, GEAR		
30	VF444500	LAMP CAP	AG-4015	
31	VQ146900	LABEL B.P		
32	VS010000	CUSHION, LEG		
* 33	VV259300	SPACER	FFC	
151	EK093040	BIND HEAD P-TITE SCREW	3x12 ZMC2-Y	
153	VD887600	BIND HEAD P-TITE SCREW	2. 6x10 MFZN2-BL	
157	EP600130	BIND HEAD B-TITE SCREW	3x6 ZMC2-Y	
162	VR020500	SHOULDER SCREW	ST3 D6x4	

* New Parts

GX70

EXPLODED VIEW (CD Mechanical Unit)



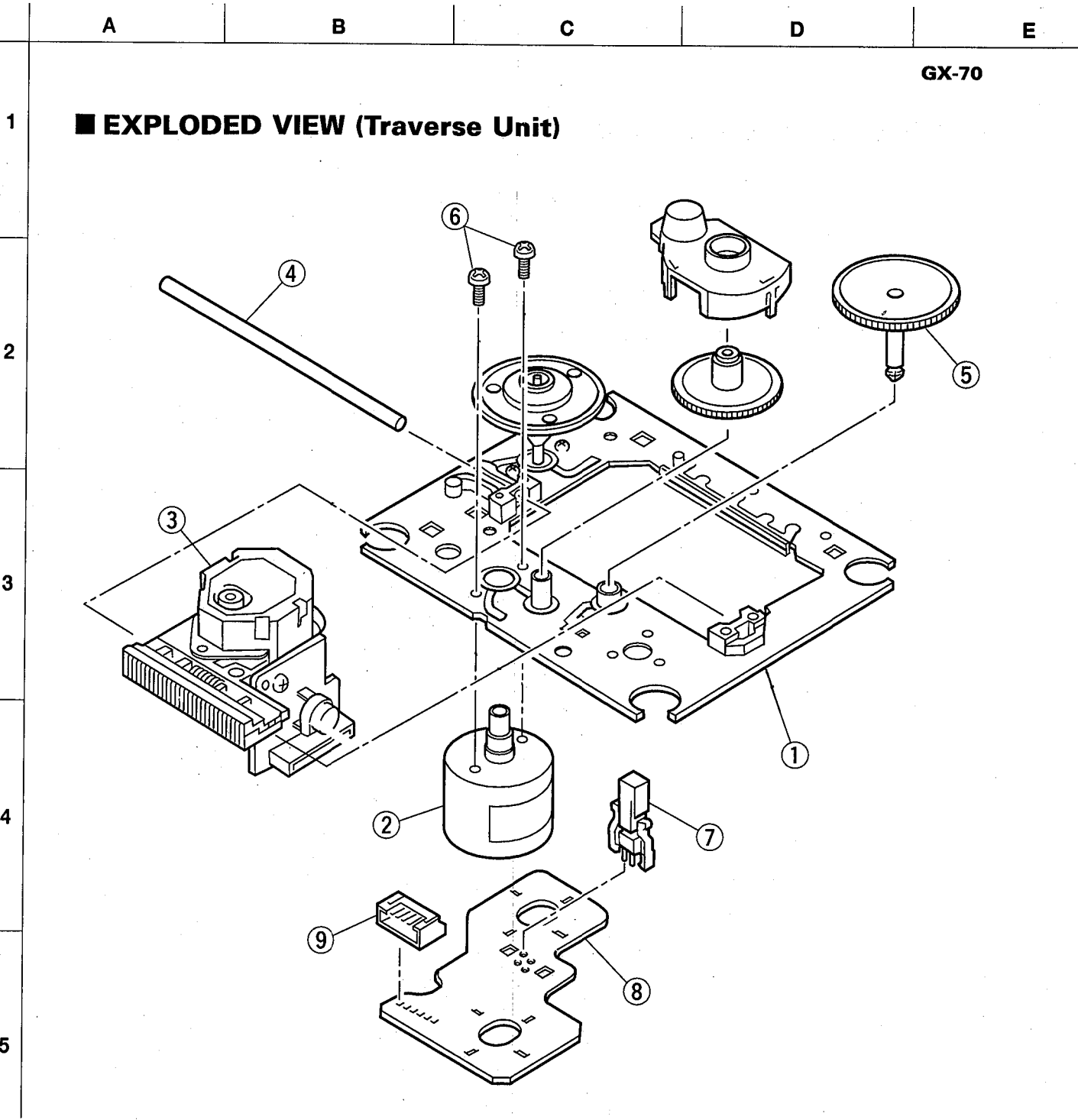
MECHANICAL PARTS (CD Mechanical Unit)

Ref. No.	PART NO.	Description	Remarks	Markets
*	VU638400	CD MECHANISM UNIT	MMHB310	
1	CX679550	BRACKET, CLAMP	C3B1007	
2	CX679540	BRACKET, GEAR	C3D1002	
3	CX679560	BRACKET, TRAY	C3D1003	
4	AX623770	SHAFT, FRICTION-B	C3D8014	
5	AX623780	SHAFT, PULLEY	C3D2002	
6	AX623930	CHASSIS, MAIN	C3A3001	
7	CX679430	TRAY, SLIDE	C3A3002	
8	CX679440	TRAY, ROTARY	C3A3003	
9	CX679410	SLIDER, LIFT	C3B3024	
10	AX623880	FRAME, MD-B	C3B3023	
11	AX623620	ARM, FRICTION	C3C3006	
12	AX623900	PULLEY, LOAD	C3C3010	
13	CX679280	CAM GEAR, UP/DOWN	C3C3014	
14	CX679380	CLAMPER	C3C3028	
15	CX679320	GEAR, WORM	C3D3007	
16	CX679310	GEAR, IDLER	C3D3008	
17	JX601690	MOTOR, PULLEY (B)	PD3039	
18	CX679360	GEAR, LOAD	C3D3011	
19	CX679330	GEAR, CENTER	C3D3012	
20	CX679340	GEAR, FRICTION	C3D3013	
21	AX623940	ROLLER, TRAY	C3D3015	
22	CX679350	GEAR, HELICAL	C3D3017	
23	CX679650	LEVER, LOCK	C3D3018	
24	CX679640	LEVER, BRAKE	C3D3029	
25	CX679460	DRIVE BELT	C3D4001	
26	CX679260	INSULATOR	C3D4003	
27	EX603430	SPRING, MD-G	C3D6011	
28	EX603440	SPRING, MD-H	C3D6012	
29	EX603460	SPRING, FRICTION	C3D6003	
30	EX603490	SPRING, LOCK	C3D6005	
31	EX603470	SPRING, BRAKE	C3D6014	
32	EX603450	SPRING, CAM	C3D6007	
33	EX603480	SPRING, LEFT	C3D6013	
34	LX610060	FFC	C3D9031	16P
35	MX605000	WIRE	C3D9035	6P
36	MX604960	FLAT WIRE	C3D9034	6P
37	MX605010	WIRE	C3D9020	6P
38	MX605020	WIRE	C3D9021	3P
39	CX679670	LEVER SWITCH	S332061	SSCF
41	AX623920	MAGNET	T990544	
42	JX601670	MOTOR	91300130	RF-500TB-12560
43	JX601680	MOTOR	91433136	MNN-6F1LB0K
45	CX679660	LEVER SWITCH	C3C9032	JPS1220-0201
46	EX603600	SCREW (F)	C3D8010	
47	EX603570	SCREW (B)	C3D8004	
48	EX603580	SCREW (C)	C3D8005	
49	EX603630	BIND HEAD TAPPING SCREW	8114512012	2x12
50	EX603640	BIND HEAD TAPPING SCREW	8114512608	2.6x8
51	EX603590	SCREW (E)	C3D8009	
52	NX635360	TRAVERSE UNIT	90438002	KSM-213BCM
53	CX679510	FELT, FRICTION	C3D8001	
54	CX679270	NEW COVER	C3D8019	

* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
55	EX603810	WASHER	C3D8018	
57	CX679400	SHEET, TRAY-B	C3D8015	
58	EX603620	BIND HEAD TAPPING SCREW	8114512008	
65	JX601720	MOTOR ASS'Y, PULLEY	C3D9008	
66	JX601700	MOTOR ASS'Y, WORM	C3D9007	
67	AX623870	FRICTION ARM ASS'Y	C3D3022	

* New Parts



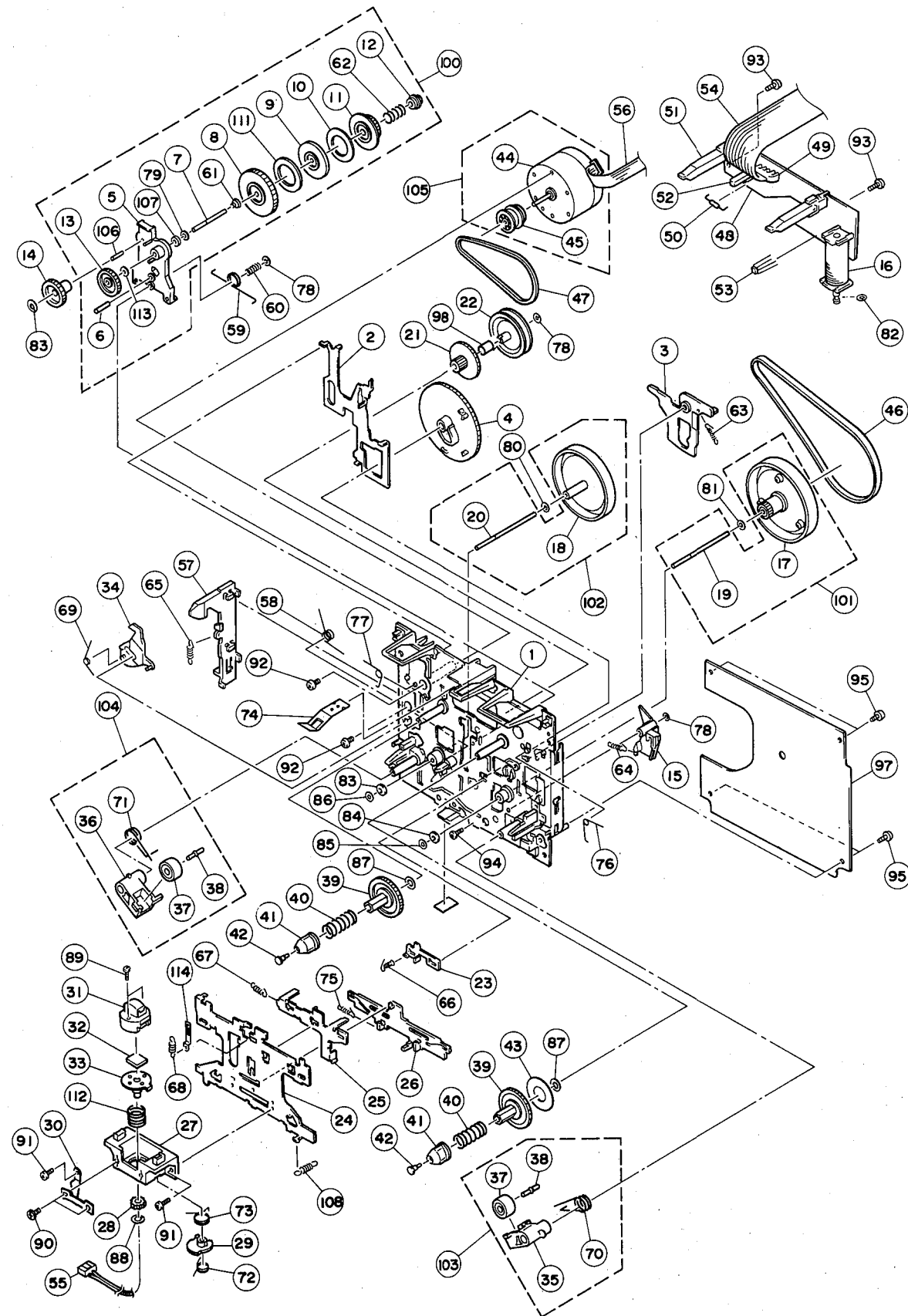
Ref. No.	PART NO.	Description	Remarks	Markets
*	NX635360	TRAVERSE UNIT	KSM-213BCM	90438002
*	1	NX635420	MOTOR CHASSIS ASS'Y (MB)	X26258771
*	2	CX679710	MOTOR GEAR ASS'Y	X26257691
*	3	PX601970	OPTICAL DEVICE	884836711
*	4	AX623980	SLED SHAFT	262690801
*	5	CX679720	GEAR, A	262690701
*	6	EA020036	PAN HEAD SCREW	762125515
*	7	KX604660	LEAF SWITCH	157208511
*	8	NX613040	PWB, MOTOR	163967813
*	9	LX610120	CONNECTOR PIN	156472211

*New Parts

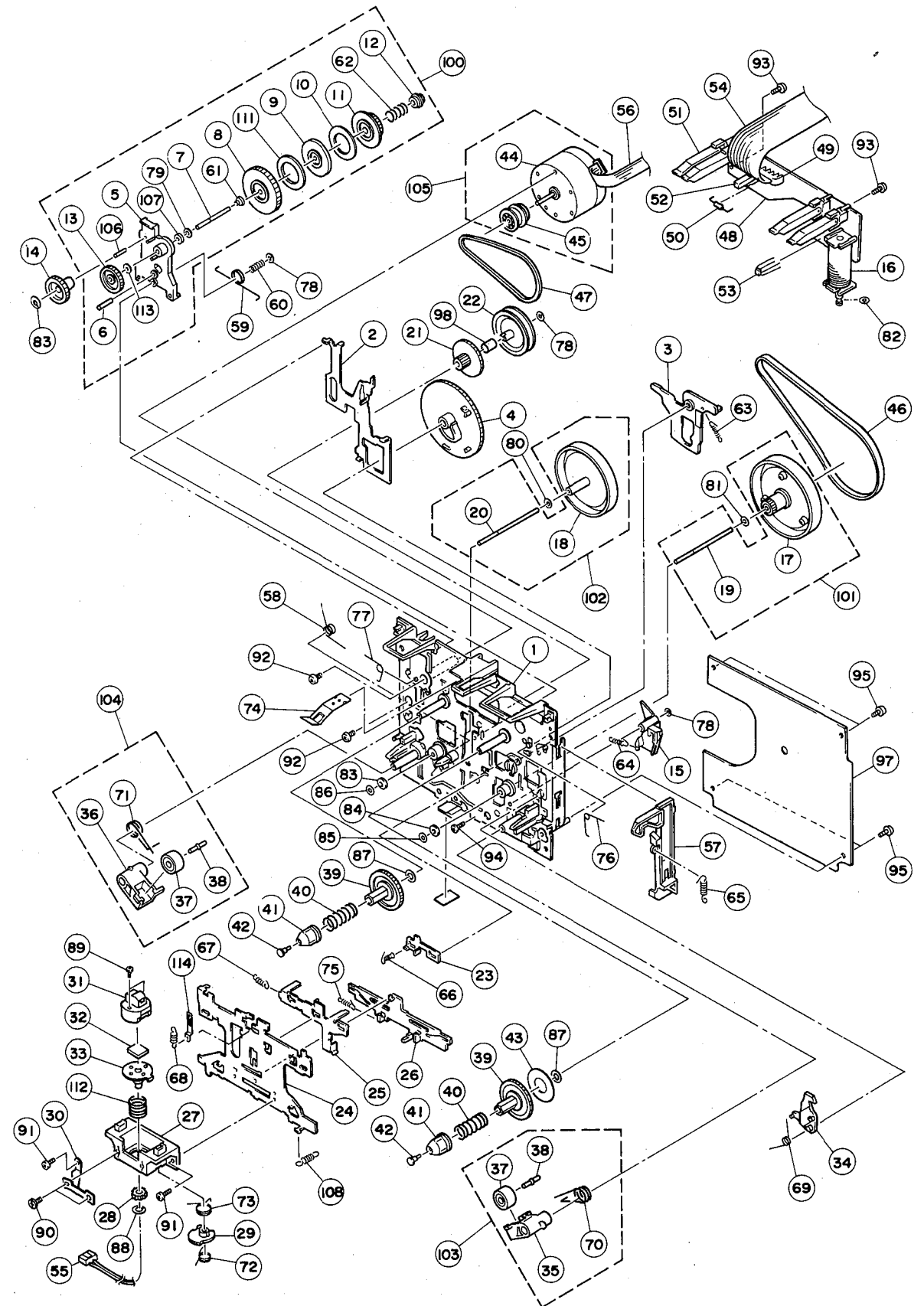
GX-70

EXPLODED VIEW (Deck Mechanism)

Deck 1 (PB)



Deck 2 (R/P)



■ MECHANICAL PARTS (Deck 1 & 2)

Ref. No.	PART NO.	Description	Remarks	Markets
* VU638500	CASSETTE DECK MECHANISM	(PB) YMH2300		
* VU638500	CASSETTE DECK MECHANISM	(R/P) YMH2600		
1	AX623760	CHASSIS OS ASS'Y (B)	MOC3034	
2	AX623720	SHIFT LEVER	MOC1003	
3	AX623800	TRIGGER ARM	MOC3004	
4	CX679290	CAM GEAR	MOB3002	
5	AX623680	CLUTCH ARM	MOC3069	
6	AX623690	CLUTCH PIN	MOD2005	
7	AX623710	CLUTCH SHAFT	MOD2003	
8	CX679570	PLAY GEAR	MOD3012	
9	CX679500	FELT TABLE	MOD3010	
10	CX679520	FELT (B)	MOD8007	
11	CX679200	F/R GEAR	MOD3011	
12	CX679220	SP STOPPER	MOD3013	
13	CX679450	DRIVE GEAR	MOD3009	
14	CX679210	REW GEAR	MOD3014	
15	AX623950	HEAD CHANGE ARM	MOC3006	
16	NX635350	SOLENOID ASS'Y	MOD9002	
17	AX623860	FLYWHEEL (R)	MOC3007	
18	AX623850	FLYWHEEL (L)	MOD3021	
19	AX623670	CAPSTAN SHAFT (R)	MOD2009	
20	AX623660	CAPSTAN SHAFT (L)	MOD2010	
21	CX679230	IDLER GEAR	MOD3015	
22	AX623630	IDLER PULLEY	MOD3016	
23	CX679190	C/R LEVER	MOD1005	
24	AX623740	HEAD CHASSIS	MOB1002	
25	CX679690	SELECT LEVER	MOC1004	
26	AX623960	HEAD RETURN PLATE	MOC3005	
27	AX623910	HEAD BASE	MOB3036	
28	CX679680	ROTATION GEAR	PD3034	
29	CX679630	RETURN GEAR	MOD3019	
30	EX603360	AZIMUTH SPR (B)	MOD1014	
31	PX601950	ROTATION HEAD	92070222	(R/P) YK56R-AA405
31	PX601960	ROTATION HEAD	92070223	(PB) MK10P-AB215
32	CX679580	HEAD WIRE CLAMP	PD8011	
33	NX635410	HEAD PLATE ASS'Y	MOD1036	
34	AX623640	INTER LOCK ARM (L)	MOC3025	
34	AX623650	INTER LOCK ARM (R)	MOC3024	
35	AX623830	PINCH ARM (R)	MOC3022	
36	AX623820	PINCH ARM (L)	MOC3023	
37	AX623840	PINCH ROLLER (B)	MOD4018	
38	AX623600	P ROLLER SHAFT (B)	MOD8013	
39	CX679610	REEL GEAR	MOD3017	
40	EX603300	B.T SPRING	MOD6015	
41	CX679600	REEL CAP (A)	FC3037	
42	CX679620	REEL BUSH	FDS3029	
43	CX679700	REFLECT SEAL	GKD8002	
44	JX601660	MOTOR	91133135	MS15U2LWA
45	AX623890	MOTOR PULLEY	MOD2016	
46	CX679470	DRIVE BELT	MOD4001	
47	CX679370	CLUTCH BELT	MOD4002	
48	NX635330	P.C.B., MECH.	MOC9001	
49	CX679390	CABLE HOLDER	FC3054	

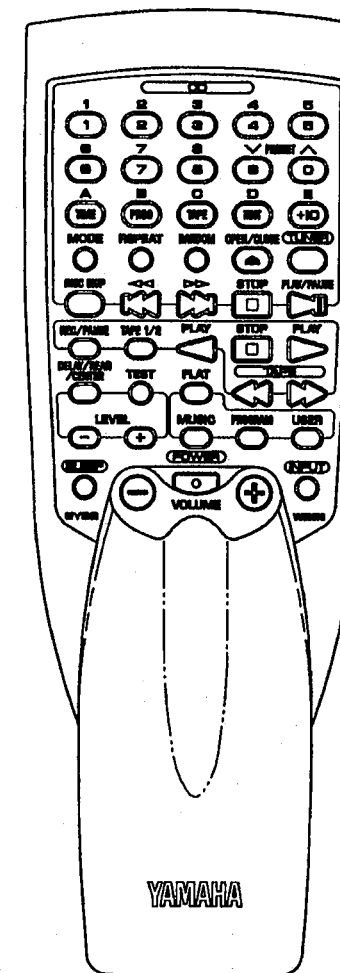
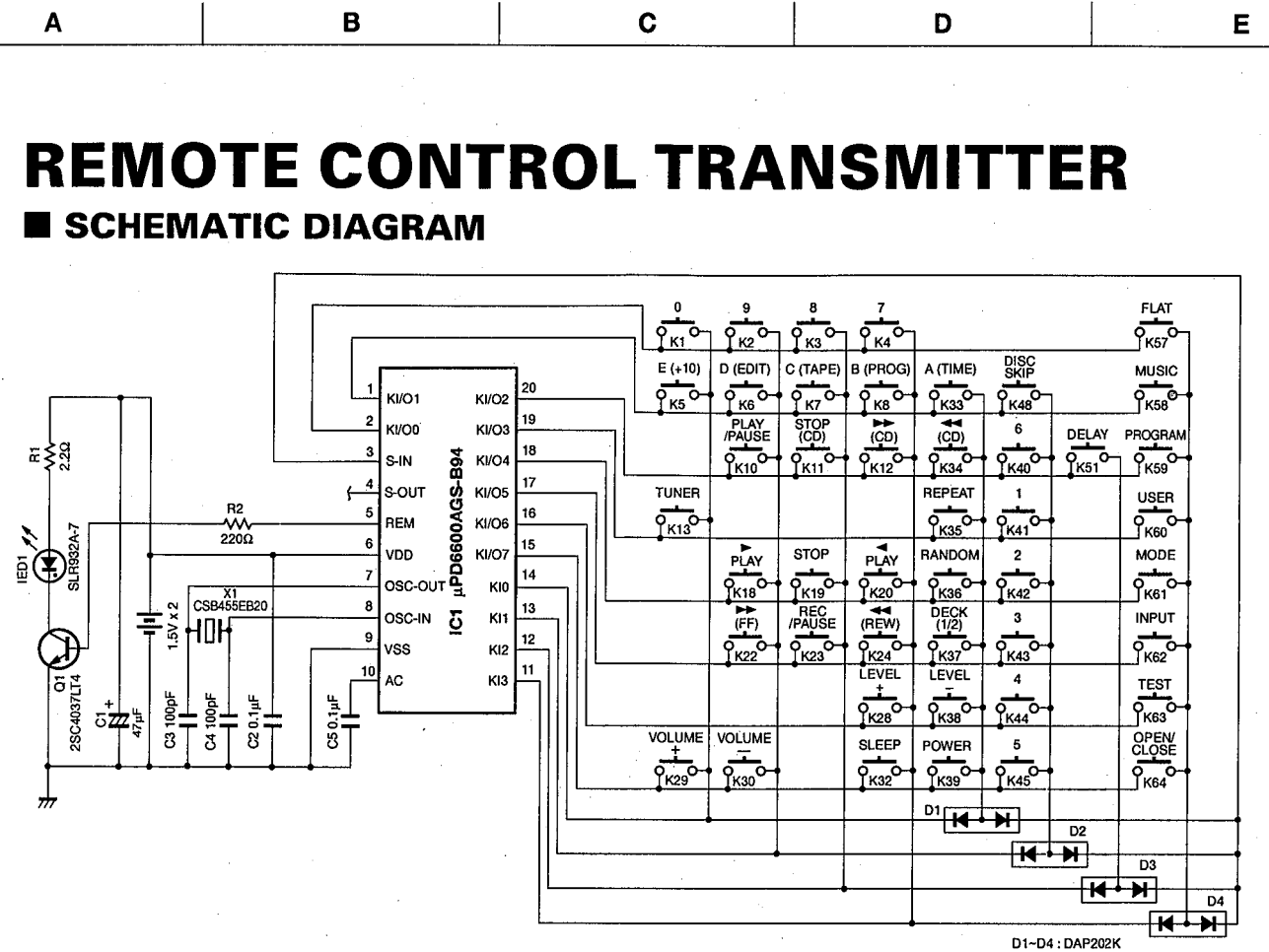
* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
50	HX609820	RESISTOR	1.5K/RD16C15	99177073
51	KX604640	REC SWITCH		MOC9003
52	KX604650	PLAY SWITCH		MOC9004
53	IX636460	PHOTO INTERRUPTER	SG107LF	GKD9012
54	MX604950	FLAT RIBBON WIRE	15P	FD9025
55	MX604970	HEAD WIRE ASS'Y	3P	MOD9005
55	MX604980	HEAD WIRE ASS'Y	5P	MOD9006
56	MX604990	MOTOR WIRE		MOD9009
57	CX679240	EJECT LEVER (L)		MOC3027
57	CX679250	EJECT LEVER (R)		MOC3026
58	AX623730	SHIFT LEVER SP		MOD6002
59	EX603830	CLUTCH ARM SPRING (B)		MOD6022
60	EX603410	CLUTCH SP		MOD6035
61	EX603540	TORQUE SP (PLAY) C		MOD6031
62	EX603530	TORQUE SP (F/R)		MOD6014
63	AX623810	TRIGGER ARM SP		MOD6005
64	EX603800	HEAD CHANGE ARM SP		MOD6006
65	EX603370	EJECT SP		MOD6017
66	EX603310	C/R LEVER SP		MOD6007
67	EX603820	SELECT SP		MOD6003
68	EX603420	SHIFT SP		MOD6001
69	EX603380	INTER LOCK SP (L)		MOD6018
69	EX603390	INTER LOCK SP (R)		MOD6019
70	EX603680	PINCH SP (R)		MOD6009
71	EX603670	PINCH SP (L)		MOD6010
72	EX603790	RETURN SPR		MOD6008
73	EX603320	FWD SPR		MOD6016
74	EX603400	SPRING, CASSETTE		PD1009
75	AX623970	HEAD RETURN PLATE SP		MOD6004
76	EX603700	BRAKE SP (R)		MOD6020
77	EX603690	BRAKE SP (L)		MOD6021
78	EX603710	POLY WASHER	1.57x4x05	8341115998
79	EX603710	POLY WASHER	1.57x4x05	8341115998
80	EX603780	POLY WASHER	2.1x5.0x0.25	8342121030
81	EX603750	POLY WASHER	2.3x5.0x0.25	8341123103
82	EX603720	POLY WASHER	1.65x5.0x0.13	8341116104
83	EX603730	POLY WASHER	1.65x5.0x0.5	8341116591
84	EX603740	POLY WASHER	1.8x6.0x0.5	8341118065
85	EX603560	NYLON WASHER	2.19x5.5x0.5	8340421023
86	EX603550	NYLON WASHER	1.9x5.0x0.5	8340419002
87	EX603520	TEFRON WASHER	4.1x5.5x0.25	8340504111
88	EX603760	POLY WASHER	3.4x6.0x0.5	8541335018
89	EX603330	HEAD SCREW (RVS)		ZD8725
90	EX603350	AZIMUTH SCREW		MOD8005
91	EX603510	TAP TITE SCREW	2x5	8113112005
92	EX603660	BIND HEAD SCREW	2.6x4	8115512604
93	EX603500	TAPPING SCREW	2x6	8114112006
94	EX603650	BIND HEAD TAP TITE SCREW		8113512004
95	EX603610	BIND HEAD TAPPING SCREW		8114512006
97	NX635310	P.C.B. ASS'Y		P28262000
98	CX679420	TUBE		MOD9016
100	NX635340	CLUTCH ARM ASS'Y		MOC3083
101	NX635390	FLYWHEEL (R) ASS'Y		MOD3031

* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
102	NX635400	FLYWHEEL (L) ASS'Y	MOD3032	
103	NX635370	PINCH ARM (R) ASS'Y	MOD3040	
104	NX635380	PINCH ARM (L) ASS'Y	MOD3041	
105	JX601710	MOTOR ASS'Y	MOD9041	
106	AX623610	REW SHAFT	MOD8017	
107	AX623700	CLUTCH METAL	MOD7003	
108	AX623750	HEAD CHASSIS SP	MOD6025	
111	CX679530	FELT (C)	MOD8008	
112	EX603340	EARTH SPRING (B)	MOD6027	
113	EX603770	POLY WASHER	8342121013	
114	CX679300	SHIFT SP GUIDE	MOD1018	

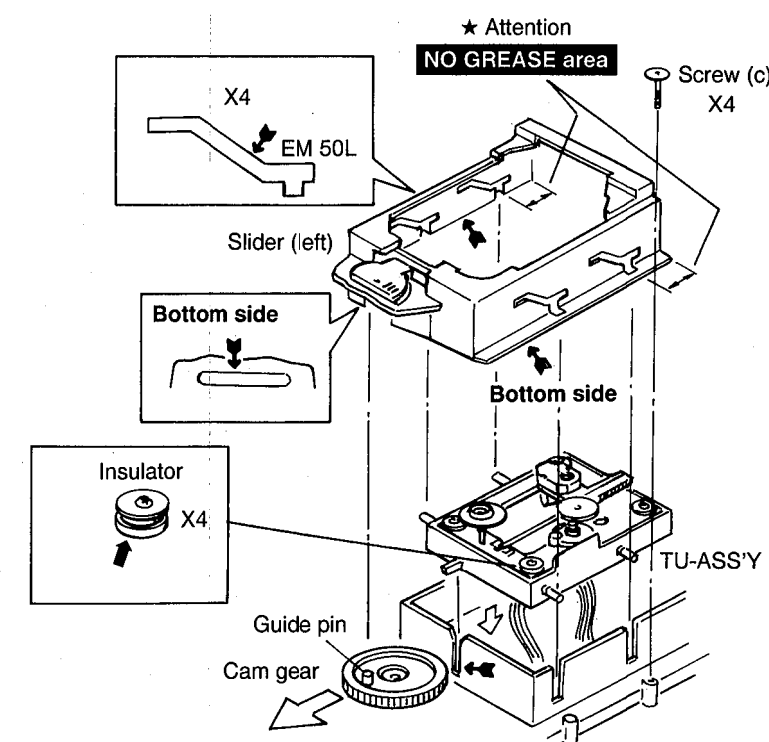
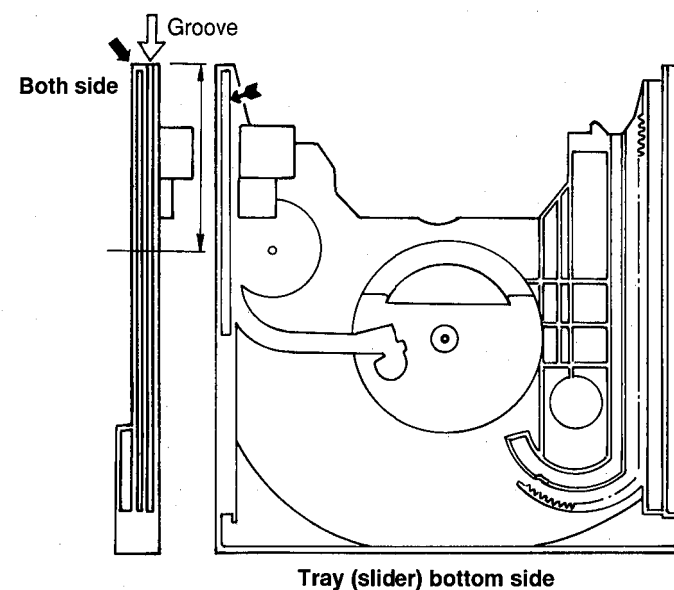
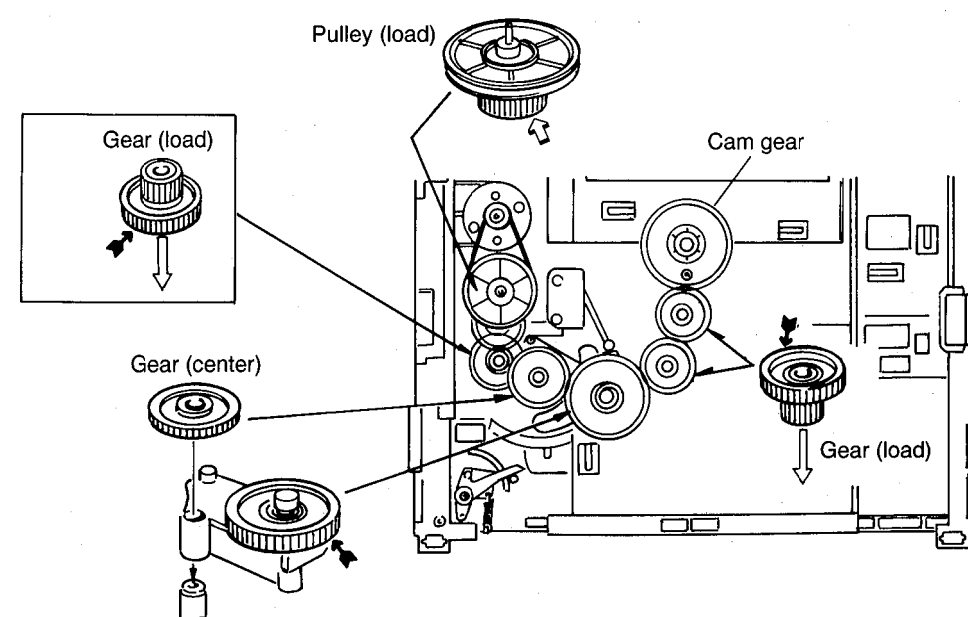
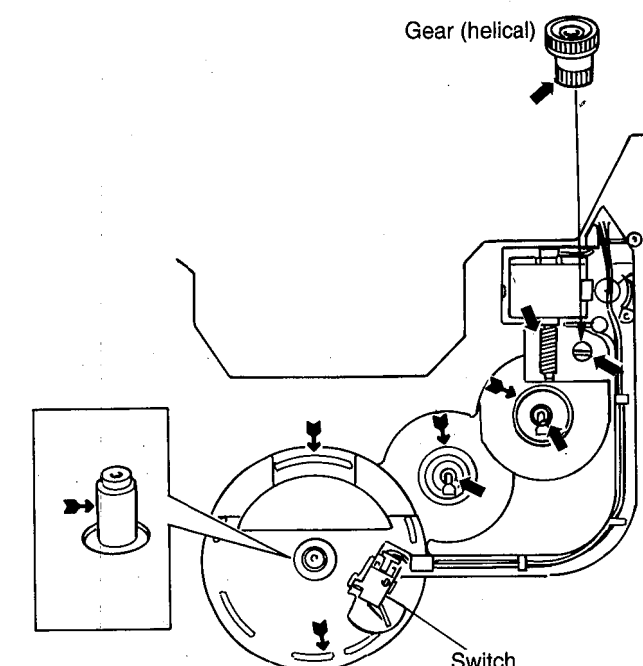
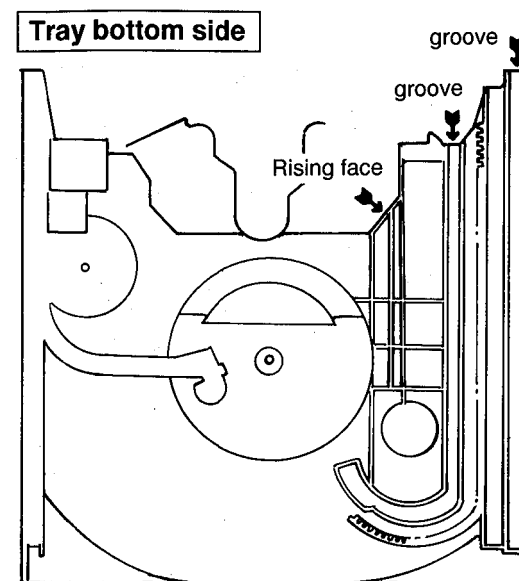
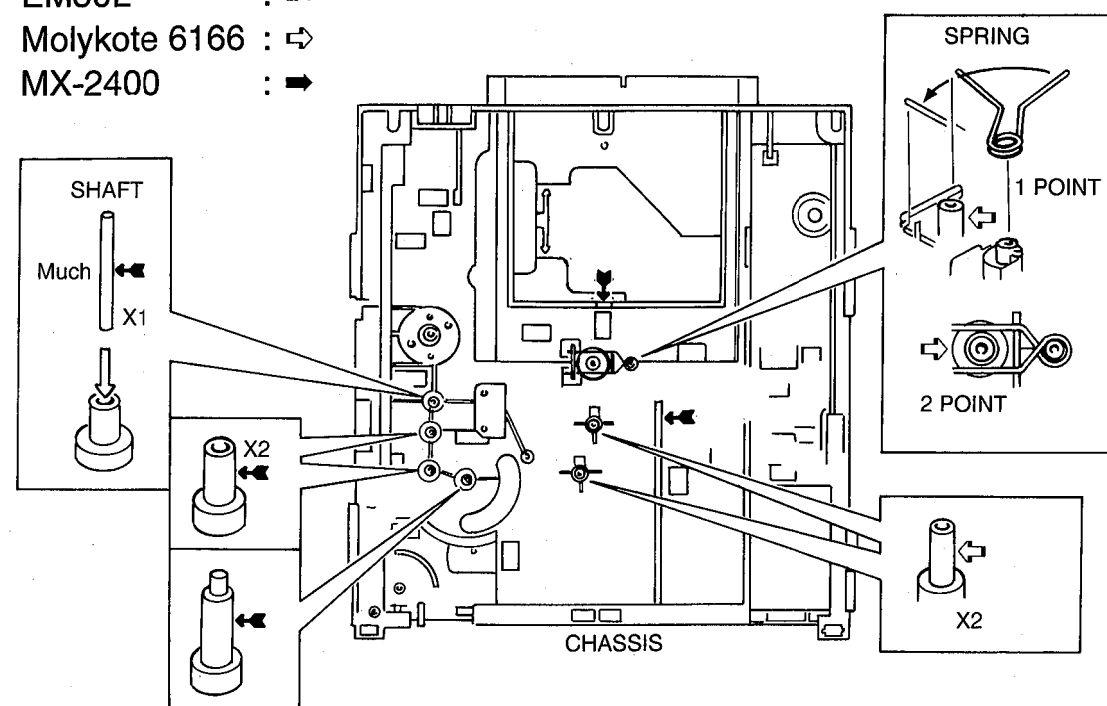
* New Parts



KEY No.	FUNCTION	CUSTOM CODE (HEX)	SUB CUSTOM CODE (HEX)	DATA CODE (HEX)
1	0 (TUNER PRESET UP)	78	87	10
2	9 (TUNER PRESET DOWN)	78	87	19
3	8	78	87	18
4	7	78	87	17
5	TUNER PAGE E (+10)	78	87	1A
6	TUNER PAGE D (CD EDIT)	78	87	09
7	TUNER PAGE C (CD TAPE)	78	87	08
8	TUNER PAGE B (CD PROG)	78	87	0B
10	CD PLAY/PAUSE	78	87	02
11	CD STOP	78	87	01
12	CD REPEAT	78	87	03
13	TUNER	78	87	4B
18	TAPE PLAY	78	87	42
19	TAPE STOP	78	87	41
20	TAPE PLAY	78	87	43
22	TAPE (FF)	78	87	44
23	TAPE REC/PAUSE	78	87	46
24	TAPE (REW)	78	87	45
28	EFFECT LEVEL +	78	87	53
29	VOLUME +	78	87	1E
30	VOLUME -	78	87	1F
32	SLEEP	78	87	4F
33	TUNER PAGE A (TIME)	78	87	0A
34	CD REPEAT	78	87	04
35	CD REPEAT	78	87	0C
36	CD RANDOM	78	87	07
37	TAPE DECK (1/2)	78	87	47
38	EFFECT LEVEL -	78	87	54
39	POWER	78	87	0F
40	6	78	87	16
41	1	78	87	11
42	2	78	87	12
43	3	78	87	13
44	4	78	87	14
45	5	78	87	15
48	CD DISC SKIP	78	87	0D
51	DELAY/REAR/CENTER	78	87	48
57	FLAT	78	87	59
58	MUSIC	78	87	5A
59	PROGRAM	78	87	5B
60	USER	78	87	5C
61	CD MODE	78	87	5D
62	INPUT	78	87	5E
63	TEST	78	87	5F
64	OPEN/CLOSE	78	87	00

APPLY GREASE PICTURE (CD Mechanism)

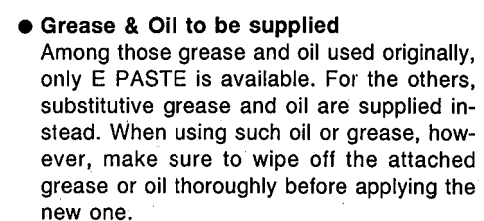
EM50L : ➡➡
 Molykote 6166 : ➡
 MX-2400 : ➡



● Grease to be supplied

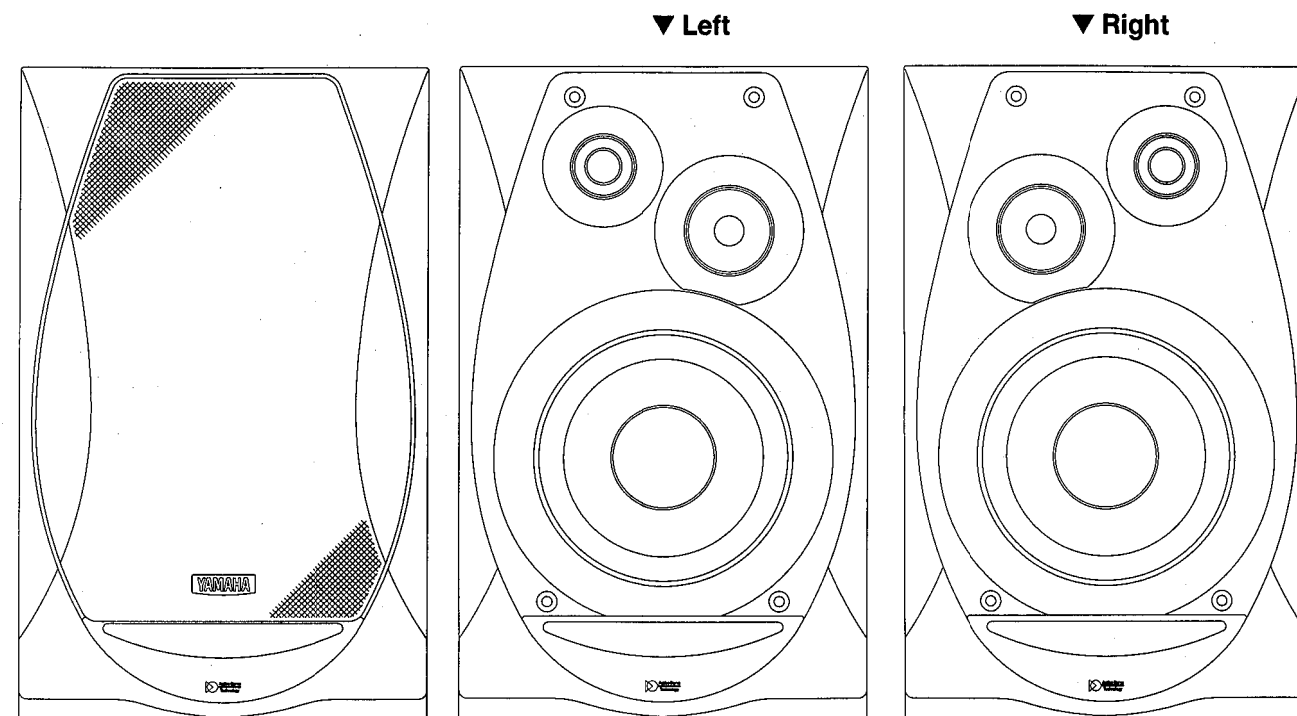
The same grease as that originally used is not available but a substitutive grease is supplied instead. When using this grease, however, make sure to wipe off the attached grease thoroughly before applying the new one.

Grease originally used	Grease to be supplied	
EM50L	FLOIL G-351	P/NO. TX913160
Molykote 6166	FLOIL G-351	P/NO. TX913160
MX-2400	FLOIL G-351	P/NO. TX913160



Grease & Oil originally used	Grease & Oil to be supplied	
E PASETE	E PASETE	P/NO. TX913420
EM-30L	FLOIL G-351	P/NO. TX913160
HYDRO-FLUTE	Diamond Fluid Oil (EP-56)	P/NO. TX910160
PSL-14	Diamond Fluid Oil (EP-56)	P/NO. TX910160
SPLASH DRY-SURF	FLOIL G-351	P/NO. TX913160

NX-GX70 SPEAKER

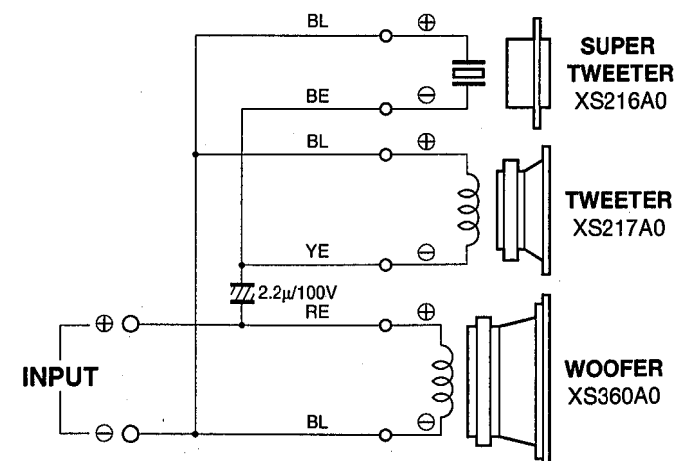
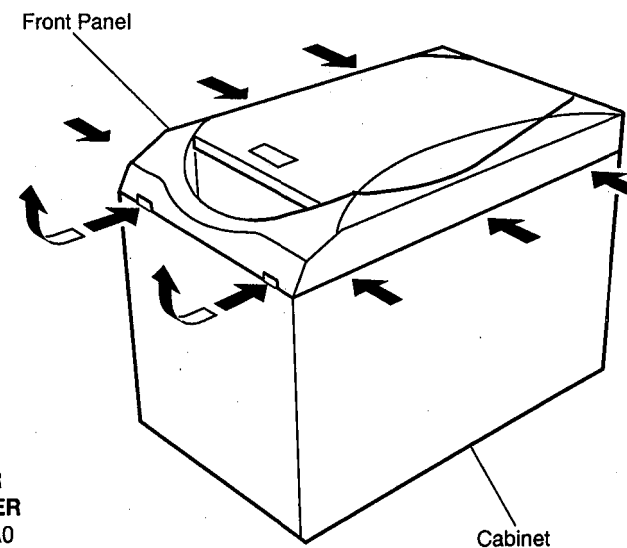


Removal of Front Panel

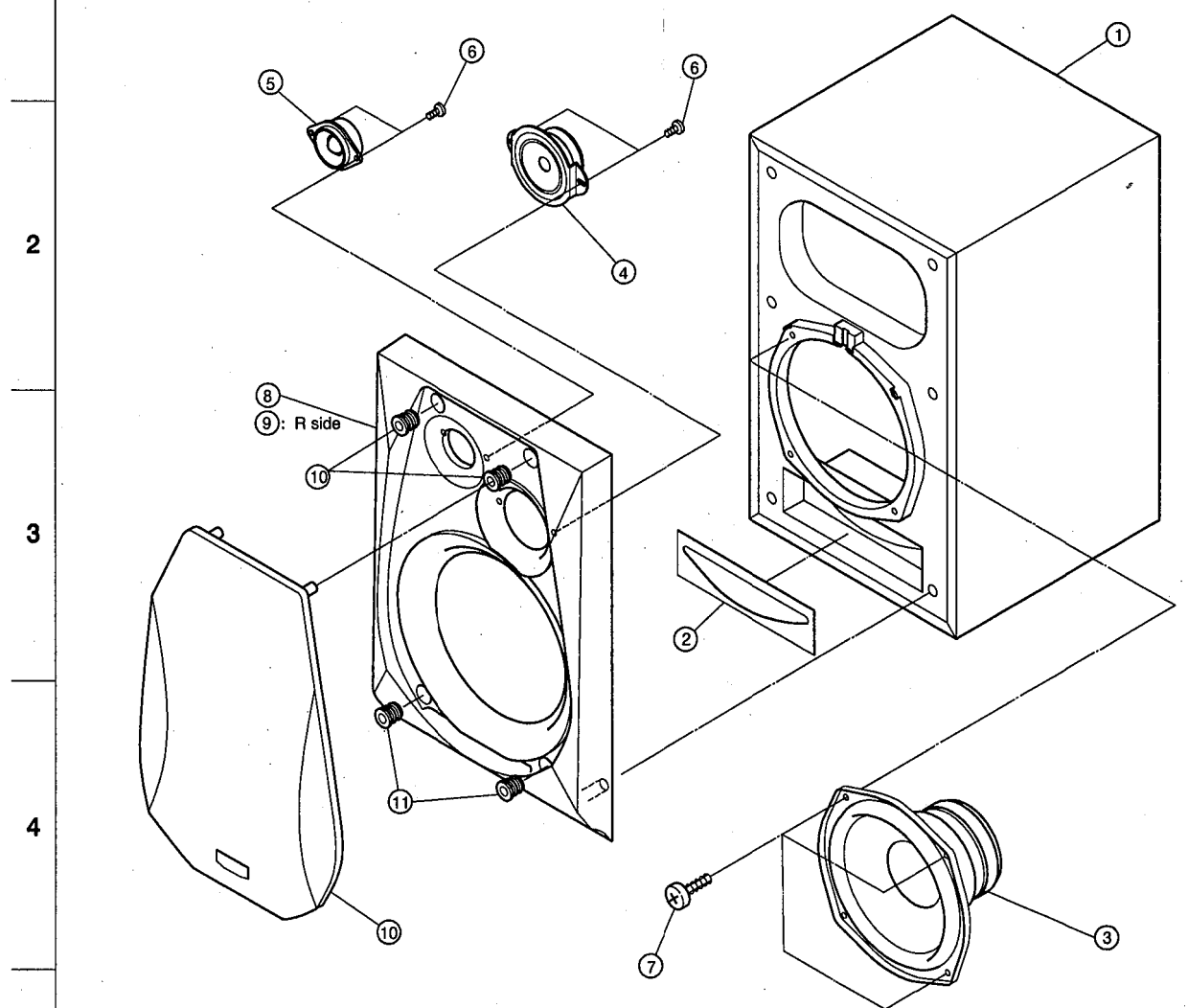
The front panel is fixed to the cabinet with dowels at 6 locations.

* As a screwdriver (for slotted head screw) is used for removal, use special care not to cause damage to the cabinet.

- Using the screwdriver inserted in the gap between the front panel and the cabinet (bottom side first), push up the front panel.
- Remove the front panel by lifting it up.

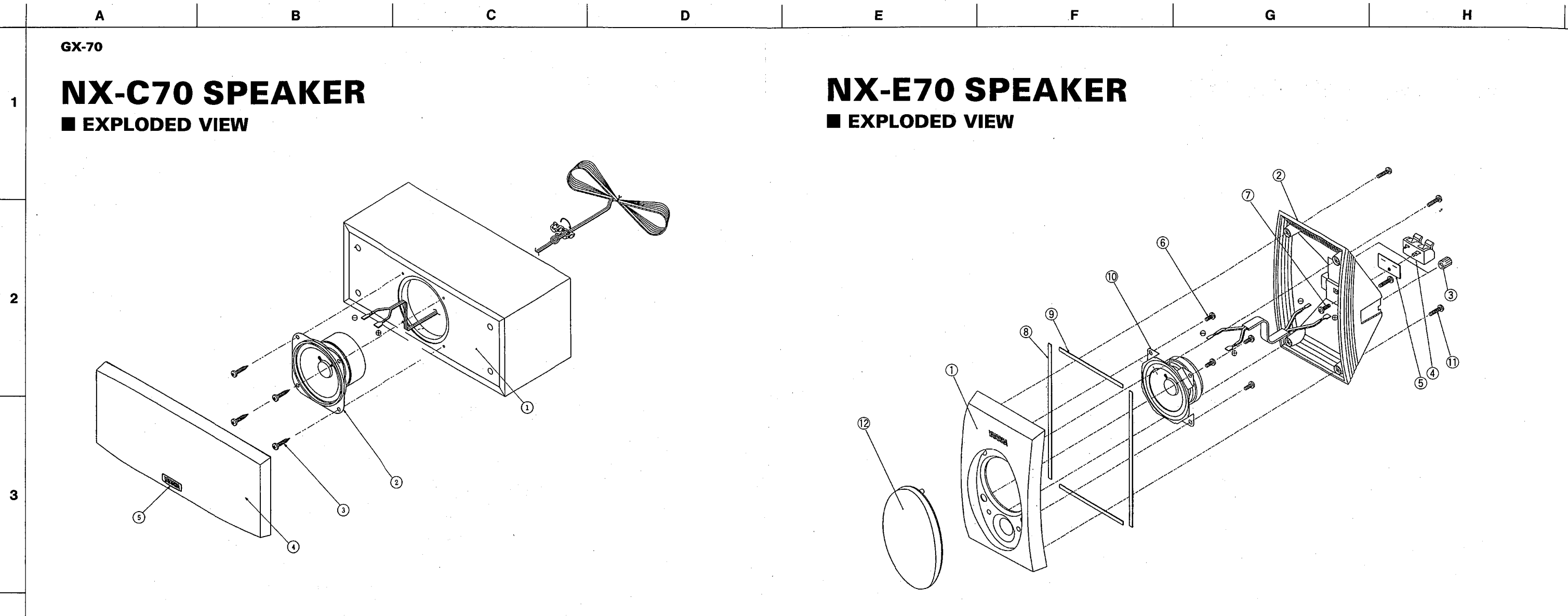


EXPLODED VIEW



Ref. No.	PART NO.	Description	Remarks	Markets
		SPEAKER SYSTEM	MAIN/NX-GX70	
* 1	DX603640	ENCLOSURE	053819502	UCRA
* 1	DX603650	ENCLOSURE	053819503	G
* 2	CX679830	SEAL	4291320353	
* 3	XS360A00	SPEAKER	C130R02N1510	
* 4	XS217A00	SPEAKER	C050N09N1514	
* 5	XS216A00	SPEAKER	E020P03N1510	
* 6	EX603870	SCREW	307B1300800	
* 7	EX603880	SCREW	307B1401200	
* 8	CX679870	FRONT PANEL L	401LNXXG70	
* 9	CX679880	FRONT PANEL R	401RNXXG70	
* 10	NX635580	GRILLE ASS'Y	903NXXG70	
* 11	CX679810	GRILLE CATCH	495173301	
		ACCESSORIES		
	MX605040	SPEAKER CABLES	2.0m	617NXXG50

* New Parts



Ref. No.	PART NO.	Description	Remarks	Markets
		SPEAKER SYSTEM	CENTER/NX-C70	
* 1	DX603660	ENCLOSURE	053819800	UCRA
* 1	DX603670	ENCLOSURE	053819801	G
* 2	XS361A00	SPEAKER	C085P02N1510	
* 3	EX603860	SCREW	300B2401600	
* 4	NX635560	GRILLE ASS'Y	903NXC70	
* 5	VT136600	EMBLEM	400NXGX50	
			YAMAHA	

* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
		SPEAKER SYSTEM	EFFECT/NX-E70	
* 1	CX679860	FRONT PANEL	401FNXE70	
* 2	CX679890	REAR CASE	401BNXE70	
* 3	EX603850	NUT	310SLM482	
* 4	LX610130	TERMINAL	213TPTC32	
* 5	CX679850	SEAL	4290360191	
* 6	EX603900	SCREW	307B8401600	
* 7	EX603880	SCREW	307B1401200	
* 8	CX679840	SEAL	4291970051	
* 9	CX679820	SEAL	4291100051	
* 10	XS362A00	SPEAKER	C080K07N1510	
* 11	EX603890	SCREW	307B2401000	
* 12	NX635570	GRILLE ASS'Y	903NXE70	
		ACCESSORIES		
* MX605050		SPEAKER CABLES	10.0m	617NXGX70
* NX635600		ACCESSORY ASS'Y	BRACKET	618NXGX70A
* NX635590		ACCESSORY ASS'Y	LEG, SCREWS	180NXGX70B

* New Parts

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 k Ω	HF45 7100	HF45 7100
1.8 Ω	HJ35 3180	*	11 k Ω	HF45 7110	HF45 7110
2.2 Ω	HJ35 3220	HF85 3220	12 k Ω	HJ35 7120	HF85 7120
3.3 Ω	HJ35 3330	HF85 3330	13 k Ω	HF45 7130	HF45 7130
4.7 Ω	HJ35 3470	HF85 3470	15 k Ω	HF45 7150	HF45 7150
5.6 Ω	HJ35 3560	HF85 3560	18 k Ω	HF45 7180	HF45 7180
10 Ω	HF45 4100	HF45 4100	22 k Ω	HF45 7220	HF45 7220
15 Ω	HJ35 4150	HF85 4150	24 k Ω	HF45 7240	HF45 7240
22 Ω	HF45 4220	HF45 4220	27 k Ω	HJ35 7270	HF85 7270
27 Ω	HJ35 4270	HF85 4270	30 k Ω	HF45 7300	HF45 7300
33 Ω	HF45 4330	HF45 4330	33 k Ω	HF45 7330	HF45 7330
39 Ω	HJ35 4470	HF85 4390	36 k Ω	HF45 7360	HF45 7360
47 Ω	HF45 4470	HF45 4470	39 k Ω	HF45 7390	HF45 7390
56 Ω	HF45 4560	HF45 4560	47 k Ω	HF45 7470	HF45 7470
68 Ω	HF45 4680	HF45 4680	51 k Ω	HF45 7510	HF45 7510
75 Ω	HF45 4750	HF45 4750	56 k Ω	HF45 7560	HF45 7560
82 Ω	HF45 4820	HF45 4820	62 k Ω	HF45 7620	HF45 7620
91 Ω	HF45 4910	HF45 4910	68 k Ω	HF45 7680	HF45 7680
100 Ω	HF45 5100	HF45 5100	82 k Ω	HF45 7820	HF45 7820
110 Ω	HJ35 5110	HF85 5110	91 k Ω	HF45 7910	HF45 7910
120 Ω	HF45 5120	HF45 5120	100 k Ω	HF45 8100	HF45 8100
150 Ω	HF45 5150	HF45 5150	110 k Ω	HF45 8110	HF45 8110
160 Ω	HJ35 5160	*	120 k Ω	HF45 8120	HF45 8120
180 Ω	HF45 5180	HF45 5180	150 k Ω	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 k Ω	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 k Ω	HJ35 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 k Ω	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 k Ω	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 k Ω	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 k Ω	HJ35 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 k Ω	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 k Ω	HJ35 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 k Ω	HJ35 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 k Ω	HJ35 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 M Ω	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 M Ω	HJ35 9120	*
1.0 k Ω	HF45 6100	HF45 6100	1.5 M Ω	HJ35 9150	HF85 9150
1.2 k Ω	HF45 6120	HF45 6120	1.8 M Ω	HJ35 9180	HF85 9180
1.5 k Ω	HF45 6150	HF45 6150	2.2 M Ω	HJ35 9220	HF85 9220
1.8 k Ω	HF45 6180	HF45 6180	3.3 M Ω	HJ35 9330	HF85 9330
2.0 k Ω	HJ35 6200	HF85 6200	3.9 M Ω	HJ35 9390	*
2.2 k Ω	HF45 6220	HF45 6220	4.7 M Ω	HJ35 9470	HF85 9470
2.4 k Ω	HJ35 6240	HF85 6240			
2.7 k Ω	HF45 6270	HF45 6270			
3.0 k Ω	HF45 6300	HF45 6300			
3.3 k Ω	HF45 6330	HF45 6330			
3.6 k Ω	HJ35 6360	HF85 6360			
3.9 k Ω	HF45 6390	HF45 6390			
4.7 k Ω	HF45 6470	HF45 6470			
5.1 k Ω	HF45 6510	HF45 6510			
5.6 k Ω	HF45 6560	HF45 6560			
6.8 k Ω	HF45 6680	HF45 6680			
8.2 k Ω	HF45 6820	HF45 6820			
9.1 k Ω	HF45 6910	HF45 6910			

1/4W Type

10mm

1/4W Type

HF45 ○○○○

1/6W Type

HF85 ○○○○

5mm

GX-70

YAMAHA

GX-70
