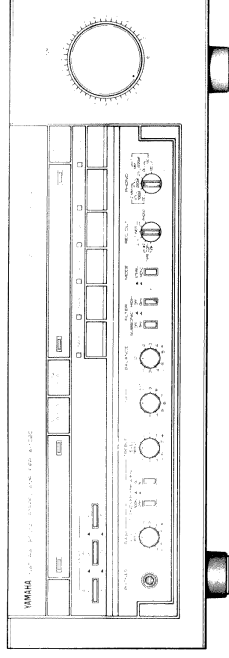


STEREO INTEGRATED AMPLIFIER

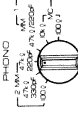
A-1020

SERVICE MANUAL

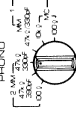
FRONT PANEL



U, C, R model



A, E model



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. For these reasons, we advise all Yamaha product owners that all service work 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, 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 units indicated on the cover. The research, engineering, and service departments of Yamaha are continually improving their products. Modifications are, therefore, inevitable and changes in specification 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 parts replacement. Recheck all work before you apply power to the unit.

CONTENTS

TO SERVICE PERSONNEL	1	ADJUSTMENTS	5
SPECIFICATIONS	1	PRINTED CIRCUIT BOARD (Pattern side)	5 ~ 9
REAR PANELS	2	SCHEMATIC DIAGRAM	10
BLOCK DIAGRAM	3	WIRING	11
INTERNAL VIEW	4	PARTS LIST	12 ~ 18
DISASSEMBLY PROCEDURES	4		

* New Parts (新部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ラック
15	KA 90 70 60	Remote Rotary Switch	リモートロータリースイッチ				
16	LA 00 29 50	Terminal Board	中継端子台			A, E	
17	LB 10 11 10	Plug, Short	ショートプラグ	Accessory Terminal			
18	LB 60 39 20	AC Outlet	A C アウトレット			R, U	
"	LB 60 81 30	"	"			C	
19	MG 00 09 20	Power Cord	電源コード	Interchangeable		A	
"	MG 00 14 90	"	"			A	
"	MG 00 14 50	"	"			U	
"	MG 00 14 60	"	"	Interchangeable		U	
"	MG 00 16 20	"	"			E	
"	MG 00 16 30	"	"			R	
"	MG 00 22 20	"	"			C	
20	AA 62 47 80	Top Cover	トップカバー	Silver			
"	AA 62 47 90	"	"	Black			
21	AA 62 48 10	Bottom Cover	ボトムカバー				
22	AA 60 38 50	Screw	段付ネジ				
23	AA 62 48 40	Rear Panel	リアパネル			R	
"	AA 62 48 50	"	"			U, C	
"	AA 62 48 60	"	"			A	
24	EZ 00 14 00	Ground Terminal Screw	アース端子ネジ			E	
25	EV 90 13 60	Toothed Lock Washer	セムス平座金				
26	EV 20 00 66	Plain Washer	平座金	PACK			
27	AA 62 49 10	Circuit Board Stay	シーステー				
28	AA 62 49 20	TR Pusher	T R プッシャー				
29	BA 08 77 10	Knob	ツマミ	VOLUME Silver			
"	BA 08 77 20	"	"	Black			
30	CB 06 88 80	Plastic Rivet	プラスチックリベット				
31	CB 09 99 10	Rubber Cushion	防振ゴム				
32	CB 60 14 40	Voltage Selector Stopper	V ストップバー			E	
33	CB 62 07 30	Lag	トラッング				
34	NB 62 36 20	Button F Ass'y	ボタン (F) Ass'y	SPEAKERS Silver	T-500		
"	NB 60 92 00	"	"	Black	"		
35	CB 63 79 40	Knob	ツマミ	BLACK TRIBLE LOUDNESS BLANCE	K-1020		
"	CB 62 08 20	"	"	Silver	"		
36	CB 63 42 60	Knob, Switch	S W ツマミ	Black			
"	CB 63 42 70	"	"	Silver	K-720		
37	CB 63 91 80	Plate, Shield	シールド板	Black	"		
38	CB 62 33 90	Dumper	ダンパー				
39	CB 63 29 60	"	"				
40	CB 64 20 10	Plate, Shield	シールドプレート				
41	ED 33 00 66	Binding Head Screw	バインドヘッドネジ	PACK			
42	Ei 33 00 86	Binding Head Tapping Screw	バイントタッピングネジ	PACK			
43	EV 20 30 36	Plain Washer	平座金	PACK			
44	EK 93 50 10	BW Head Tapping Screw	BWヘッドタッピングネジ	PACK			
45	EV 41 30 36	Toothed Lock Washer	歯付座金	PACK			
46	EZ 00 13 10	Cup Tight Screw	カップタイトスクリュー	Silver			
"	EZ 00 13 20	"	"	Black			
CB 06 92 50	Binding Tie	BK-1	インシュロックタイ				

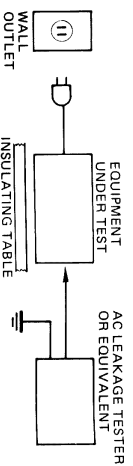
004569

■ TO SERVICE PERSONNEL

1. Critical Components Information.
Components having special characteristics are marked 1 and must be replaced with parts having specifications equal to those originally installed.
 2. Leakage Current Measurement (For 120 V Model Only).
When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.
- Meter impedance should be equivalent to 1500 ohm shunted by 0.15μF.
 - Leakage current must not exceed 0.5mA.
 - Be sure to test for leakage with the AC plug in both polarities.

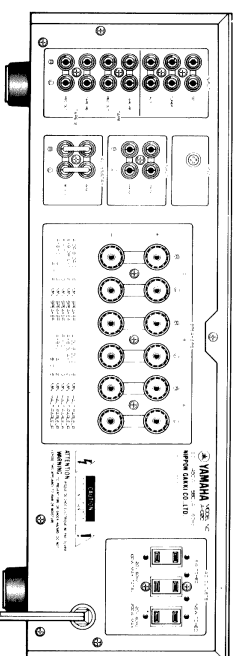
■ SPECIFICATIONS

Continuous Power Per Channel	
20Hz ~ 20kHz, 0.005% THD, 8Ω	125W
0.007% THD, 6Ω	145W
1kHz, 0.01% THD, 8Ω (IEC Rated Power)	130W (A1/E)
DIN Standard Output Power Per Channel	
1kHz, 1% THD, 4Ω	169W (A1/E)
Dynamic Headroom	
8Ω	1.36dB
4Ω	1.73dB
Dynamic Power Per Channel (IHF)	
8Ω	171W
6Ω	216W
4Ω	269W
Power Band Width	
0.003% THD, 62.5W, 8Ω	10Hz ~ 50kHz
Damping Factor	
1kHz, 8Ω (SPEAKER A)	45
Input Sensitivity/Impedance	
Phono 1 MC	160mV/100k, 10kΩ
MM	20mV/47kΩ, 220kΩ
	47kΩ/330kΩ (A) (E)
	2.5mV/47kΩ/220kΩ
Phono 2 MM	47kΩ/330kΩ (A) (E)
	47kΩ/390kΩ (A) (E)
	100kΩ
CD, TUNER, AUX, TAPE	
Input Sensitivity (New IIF)	150mV/47kΩ
Phono MC	15μV
MM	0.22mV
CD, TUNER, AUX, TAPE	13.4mV
Maximum Input Signal	
1kHz, 0.01% THD, Phono MC	10mV
MM	170mV
Output Level/Impedance	
Rec Out	150mV/470Ω
Headphone Jack Rated Output/Impedance	
0.005% THD	0.91V/8Ω
Frequency Response	
20Hz ~ 20kHz, CD/TUNER/AUX/TAPE	+0
(TONE BYPASS ON)	-0.5dB
RIAA Equalization Deviation	
20Hz ~ 20kHz Phono MM	±0.3dB
	±0.2dB
Total Harmonic Distortion	
Phono MC to Rec Out 3V	0.005%
MM to Rec Out 3V	0.003%
CD/TUNER/AUX/TAPE to SP Out	0.005%
62.5W/8Ω	
Intermodulation Distortion	
CD/TUNER/AUX/TAPE Rated Output/8Ω	0.002%
1W/8Ω	0.003%

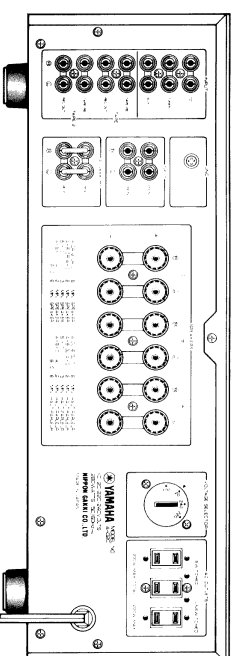


■ REAR PANELS

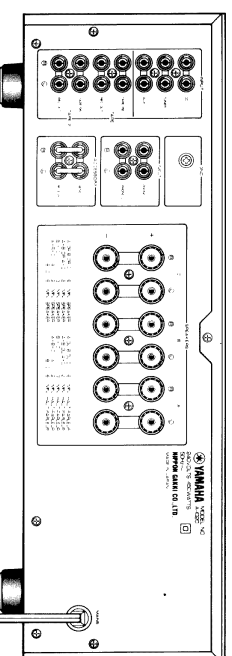
▼ U.S.A. & Canadian models



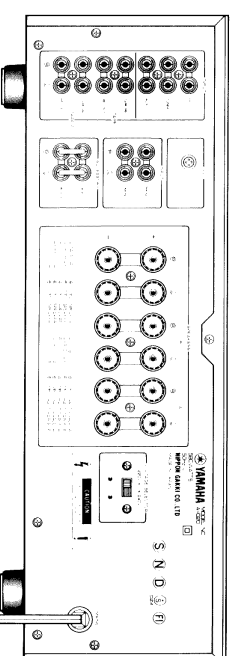
▼ General model



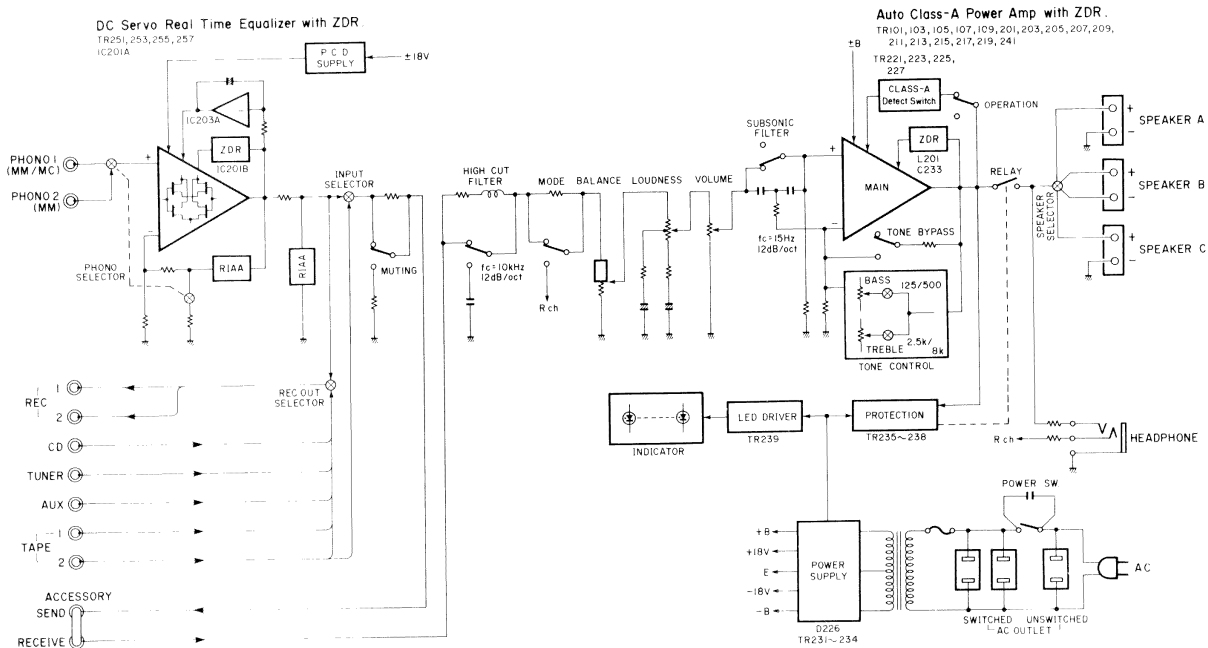
▼ Australian model



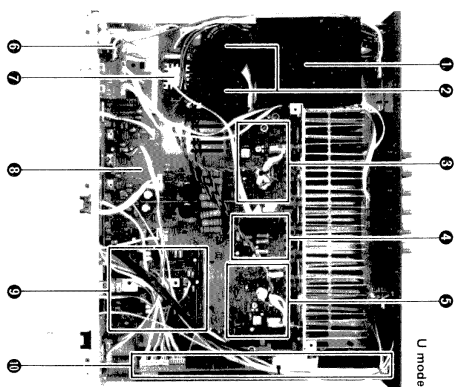
▼ European model



BLOCK DIAGRAM



INTERNAL VIEW



DISASSEMBLY PROCEDURES

(Remove parts in disassembly order as numbered.)

- 1. Removal to Top Cover**
Remove 5 screws (①) in Fig. 1, and slide the Top Cover back.
- 2. Removal of Front Panel**
Remove 6 screws (②) in Fig. 1, and pull the Front Panel forward.
- 3. Removal of Bottom Cover**
Remove 6 screws (③) in Fig. 1.

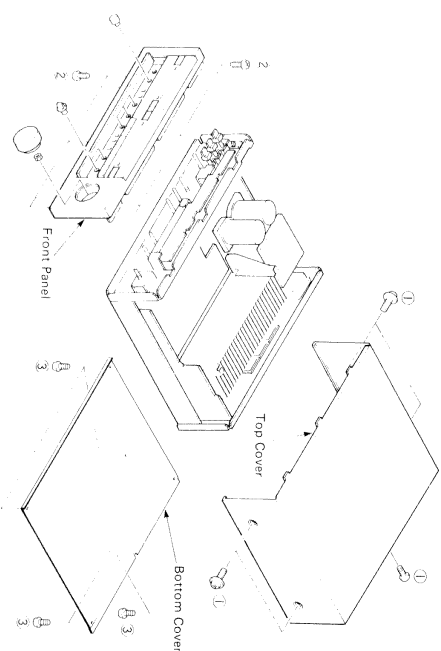


Fig. 1

ADJUSTMENTS

- IDLING CURRENT ADJUSTMENT**
After the power has been turned on, age about 2 minutes in no signal and non-loaded condition.
Switch off the Auto CLASS A switch.
Adjust VR207 (Lch) and VR208 (Rch) so that the voltage across the terminals of R277 (Lch) and R272 (Rch) comes to 8mV $\pm$ 2mV DC.
- CONFIRMATION OF AUTO CLASS A OPERATION**
After the auto class A has been turned on, age about 1 minute in no signal and non-loaded condition.
Confirm that the voltage across the terminals of R277 (Lch) and R272 (Rch) comes to 55mV $\pm$ 25mV DC.

Item to be Adjusted	Test Points	Adjustment Points	Rating
Idling Current		VR207 (Lch) VR208 (Rch)	8mV $\pm$ 2mV DC.
AUTO CLASS A OPERATION	Lch: Across the terminals of R277 Rch: Across the terminals of R272	—	55mV $\pm$ 25mV DC.

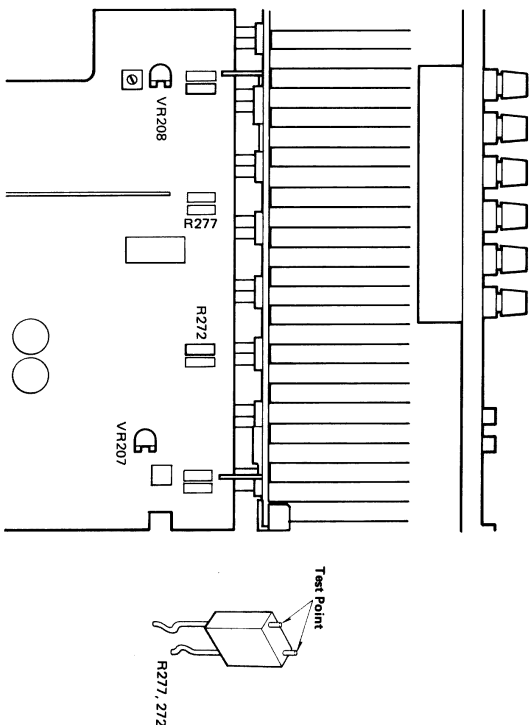


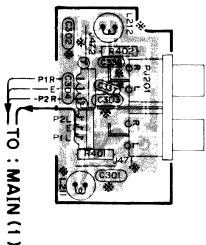
Fig. 2

PRINTED CIRCUIT BOARD(Pattern side)

Main Circuit Board (4)

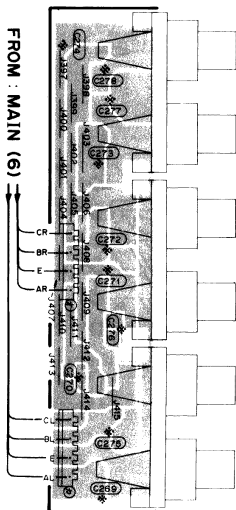
Main Circuit Board (7)

INPUT
PHONO 2 PHONO 1

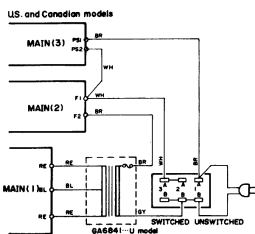
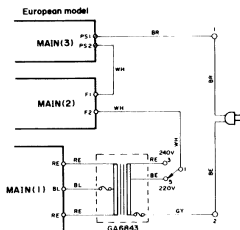
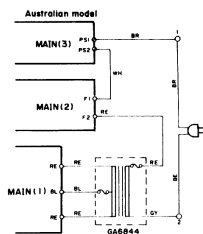


SPEAKERS

C L R L R A L

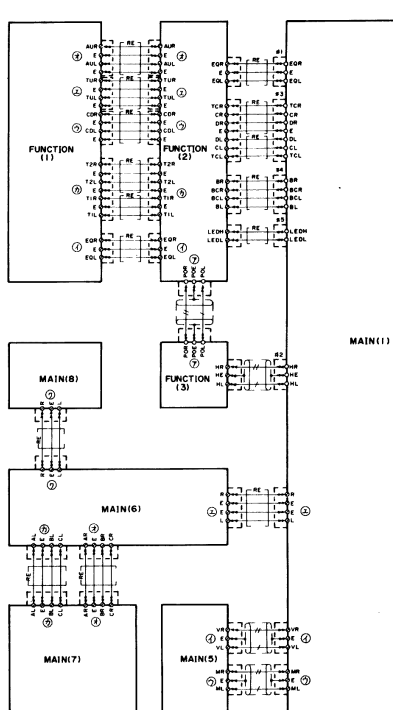
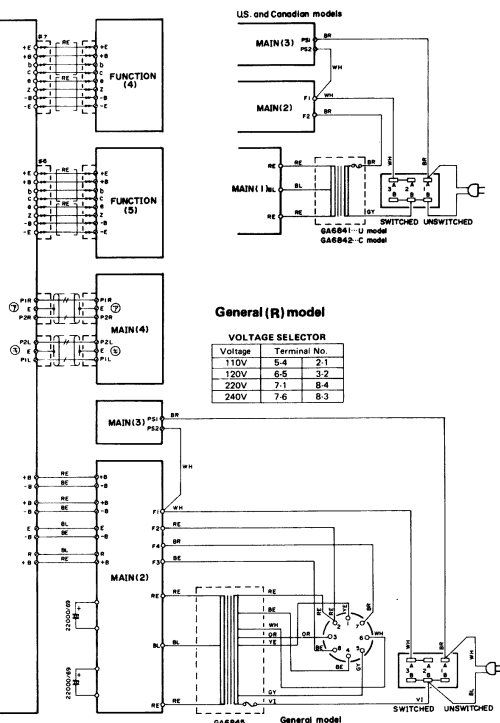


WIRING



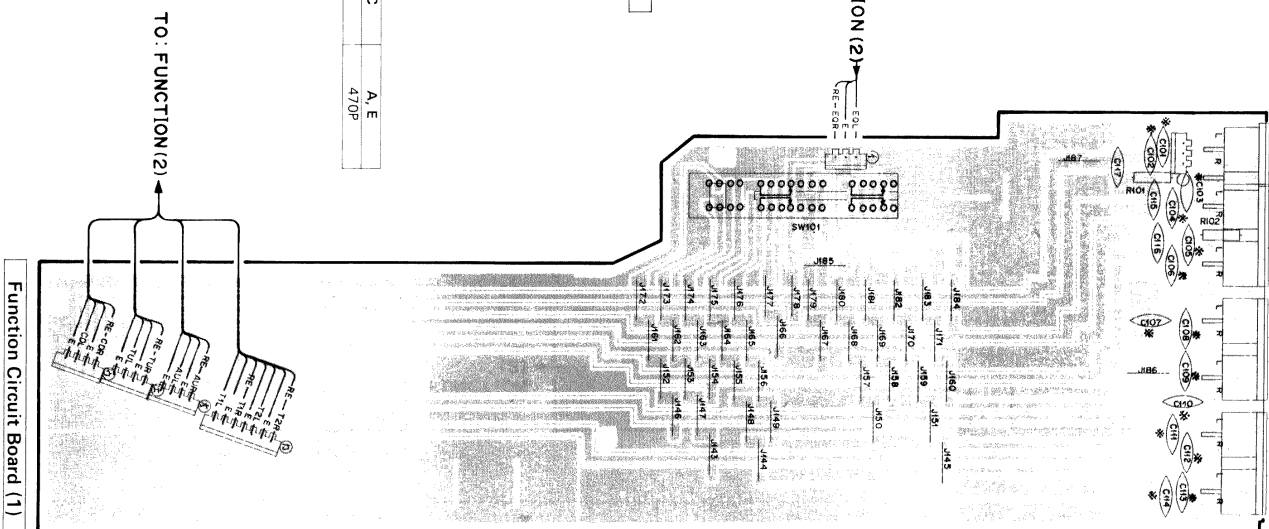
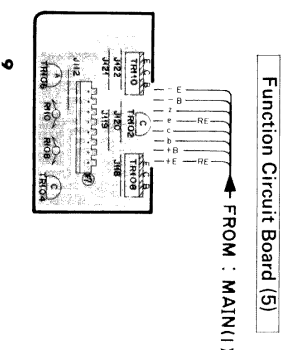
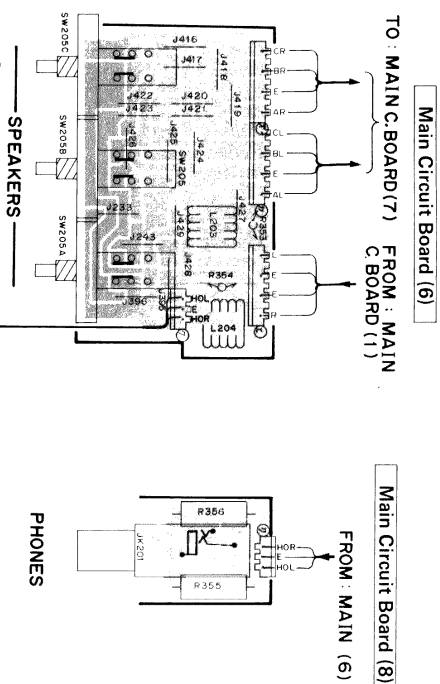
General (R) model

Voltage	Terminal No.
110V	5-4 2-1
120V	6-5 3-2
220V	7-1 8-4
240V	7-6 8-3





	R	U, C	A, E
C266	0.1/250	0.1/250	OPEN
C267 268	OPEN	OPEN	0.1/250
C269 ~ 274	OPEN	OPEN	P 4700P/100
C275 ~ 278	OPEN	OPEN	0.01
C289	OPEN	OPEN	0.01
C301 ~ 304	OPEN	OPEN	P 120P/100
C313, 314	P 220P/100	P 220P/100	OPEN
C337, 338	OPEN	OPEN	P 220P/100
343, 344	SHORT	SHORT	56
R403, 404	220	220	4.7K
R407 ~ 410	220	220	OPEN
J471, 472	SHORT	SHORT	OPEN
L211, 212	OPEN	OPEN	15uH
F201	10A 250V	10A 250V	T4.0A 250V
F202	T5.0A 250V	OPEN	OPEN



PARTS LIST

ELECTRICAL PARTS

●Components having special characteristics are marked Δ, and must be replaced with parts having specifications equal to those originally installed.
●Carbon resistors of this stereo amplifier are 1/4W.
There are no descriptions about them in this parts list.
Use the "Parts No." HJ3500001(4W) or equivalent.

Ref. No.	Part No.	Description	品名	Remarks	Common Model	Markets
※	MA 08 71 00	Main Circuit Board	イ イ シ ー ト			マニ
※	MA 08 71 10	"	"	Silver		R
※	MA 08 71 20	"	"	Silver		R
※	MA 08 71 30	"	"	Silver		U.C
※	MA 08 71 40	"	"	Silver		U.C
※	MA 08 71 50	"	"	Silver		A.E
※	FC 36 51 00	Mylar Cap.	0.1μF 50V	イ イ ー コ		A.E
※	FC 34 31 20	"	1200pF 50V	イ イ ー コ		
※	FC 34 31 80	"	1800pF 50V	イ イ ー コ		
※	FC 34 32 20	"	2200pF 50V	イ イ ー コ		
※	FC 34 33 90	"	5800pF 50V	イ イ ー コ		
※	FC 34 38 20	"	8200pF 50V	イ イ ー コ		
※	FC 34 41 00	"	0.01μF 50V	イ イ ー コ		
※	FC 34 41 80	"	0.01μF 50V	イ イ ー コ		
※	FC 34 42 20	"	0.02μF 50V	イ イ ー コ		
※	FC 34 43 90	"	0.03μF 50V	イ イ ー コ		
※	UA 55 51 20	"	0.12μF 50V	イ イ ー コ		
※	UA 55 53 30	"	0.33μF 50V	イ イ ー コ		
※	FI 38 41 00	Ceramic Cap.	0.01μF	イ イ ー コ		
※	FU 35 03 00	Mica Cap.	3pF 800V	イ イ ー コ		
※	FU 35 05 00	"	5pF 800V	イ イ ー コ		
※	FU 35 14 70	"	47pF 500V	イ イ ー コ		
※	FV 44 91 00	Electrolytic Cap.	1000μF 25V	イ イ ー コ		
※	FZ 100 46 60	Metalized Mylar Cap.	0.1μF 250V	イ イ ー コ		
※	FZ 100 46 80	"	0.1μF 250V	イ イ ー コ		
※	FZ 100 47 00	Electrolytic Cap.	22μF 16V	イ イ ー コ		
※	FZ 100 72 00	"	220μF 80V	イ イ ー コ		
※	FZ 100 82 70	"	1000μF 6.3V	イ イ ー コ		
※	FZ 100 74 20	"	47μF 16V	イ イ ー コ		
※	UT 46 14 30	Polypropylene Film Cap.	0.01μF 100V	イ イ ー コ		
※	UT 46 14 70	"	0.04μF 100V	イ イ ー コ		
※	UT 46 21 00	"	100pF 100V	イ イ ー コ		
※	UT 46 22 20	"	220pF 100V	イ イ ー コ		
※	UT 46 21 20	"	120pF 100V	イ イ ー コ		
※	UT 45 22 20	"	220pF 100V	イ イ ー コ		
※	UT 45 22 20	"	220pF 100V	イ イ ー コ		
※	UT 45 23 30	"	330pF 100V	イ イ ー コ		
※	UT 45 26 80	"	680pF 100V	イ イ ー コ		
※	UT 45 34 70	"	4700pF 100V	イ イ ー コ		
※	UT 45 34 70	"	4700pF 100V	イ イ ー コ		
※	UT 45 44 70	"	0.04μF 100V	イ イ ー コ		
※	UW 81 81 00	Electrolytic Cap.	100μF 6.3V	イ イ ー コ		
※	UW 85 74 70	"	47μF 35V	イ イ ー コ		
※	UW 96 54 70	"	0.47μF 50V	イ イ ー コ		
※	UW 96 64 70	"	4.7μF 50V	イ イ ー コ		
※	UJ 16 53 30	"	0.33μF 50V	イ イ ー コ		
※	GO 90 06 80	Coil	0.74μH	イ イ ー コ		
※	GE 90 08 40	"	15μH	イ イ ー コ		

*New Parts (新部品)

Ref. No.	Part No.	Description	品名	Remarks	Common Model	Markets
----------	----------	-------------	----	---------	--------------	---------

※	GO 90 07 10	ZOR Transformer	20H	L201.202		
※	GO 90 07 20	"	20H	L205.206		
※	GO 90 08 00	Choke Coil	イ イ ー コ	L207-210		
※	GE 90 03 30	"	220μH			
※	HL 82 34 70	Metal Oxide Film Resistor	47Ω 2W	R313.314		
※	HL 72 52 70	"	270Ω 2W	R355.356		
※	HL 72 61 20	"	12kΩ 2W	R342		
※	HL 33 61 80	"	18kΩ 3W	R346.348.349.351		
※	HL 33 62 20	"	2.2kΩ 3W	R345.347.350.352		
※	HU 57 37 50	Metal Film Resistor	75Ω 1/4W	R431.432		
※	HU 57 56 80	"	68kΩ 1/4W	R435.436		
※	HU 57 73 90	"	39kΩ 1/4W	R439.440		
※	HU 57 76 80	"	68kΩ 1/4W	R437.438		
※	HV 45 34 70	Flame Proof Carbon Resistor	4.7kΩ 500mW	R267-270.315-318		
※	HV 45 41 00	"	100Ω	R319.353.354		
※	HV 45 42 20	"	22Ω	R481.482		
※	HV 45 44 70	"	47Ω	R253.254.361.362		
※	HV 45 51 00	"	100Ω	R255.256		
※	HV 45 51 20	"	120Ω	R259.260		
※	HV 45 56 60	"	560Ω	R255.256		
※	HV 45 58 20	"	820Ω	R303.304		
※	HV 45 61 20	"	1.2kΩ	R309-312		
※	HV 45 61 80	"	1.8kΩ	R320		
※	HV 45 62 20	"	2.2kΩ	R251.252.257.258		
※	HV 45 65 60	"	5.6kΩ	R307.308		
※	HZ 00 30 50	Metal Film Resistor	0.22Ω 3W	R271-278		
※	HS 31 25 00	Potentiometer	40kΩ 17x2	VR204		
※	HS 41 23 70	"	40kΩ 17x2	VR205		
※	HS 31 25 10	"	100kΩ 17x2	VR206		
※	HS 41 23 80	"	100kΩ 17x2	VR207		
※	HS 31 25 20	"	300kΩ 17x2	VR208		
※	HS 41 25 00	"	300kΩ 17x2	VR209		
※	HS 31 25 30	"	300kΩ 17x2	VR210		
※	HS 41 24 80	"	300kΩ 17x2	VR211		
※	HS 32 07 00	"	60kΩ 17x2	VR212		
※	HT 37 00 10	Pre-Set Potentiometer	10kΩ	VR207.208		
※	IA 09 70 00	Transistor	2SA197 (6R8)	TR201-202.241.242		
※	IA 10 15 20	"	2SA1015 (V)	TR211.212		
※	IA 11 45 00	"	2SA1145 (O.V)	TR215.258		
※	IC 18 15 20	"	2SC1815 (V)	TR216.217		
※	IC 22 40 00	"	2SC2240 (6R8)	TR209.210		
※	IC 27 05 00	"	2SC2705 (O.V)	TR209.210		
※	IE 10 22 00	FET	2SK148 (BLV)	TR251-254		
※	IE 10 34 10	"	2SK117 (P12)	TR201.202.241.242		
※	IF 00 06 70	Diode	1S2473	D201-210.215		
※	IF 00 00 40	"	1S1555	D211-214.227		
※	IF 00 14 00	"	1S582			

*New Parts (新部品)

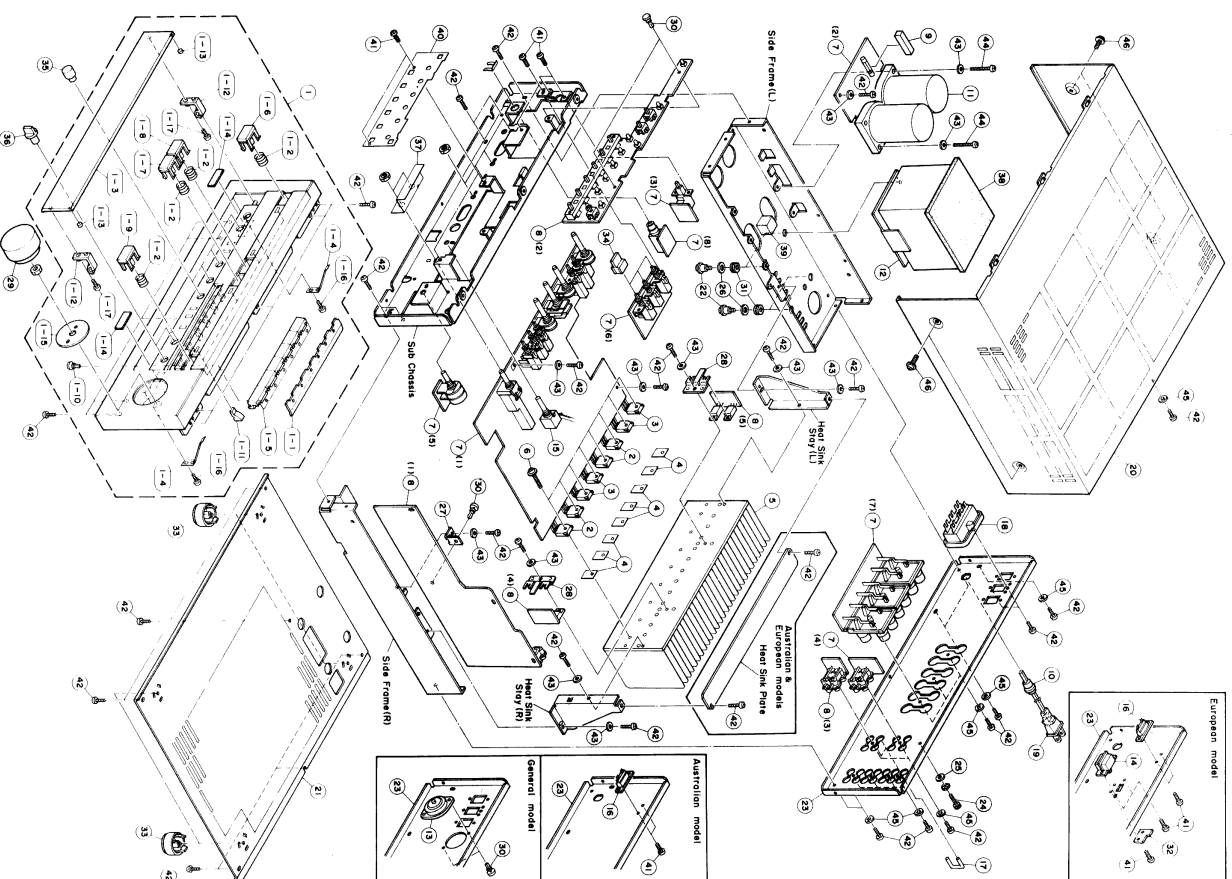
Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ラック
	IF 00 19 40	Zener Diode	HZ24-2	ツエーザーダイオード	D225		
	IF 00 15 10	"	HZ6C-1L	"	D217~224,229,230		
	IF 00 11 30	Diode	D5FB20	ダイオードブリッジ	D226		
	IG 08 57 00	IC	M5218L(V)	I	IC203		
	IG 09 21 00	"	M5219L	"	IC201,202		
	IG 07 69 00	"	NJM2041S	"	inter-chargeable		
	KA 50 20 30	Rotary Switch	SR2-V 6-6S	ロータリースイッチ	SW201		
	KA 80 35 20	Push Switch	TV-5	プッシュスイッチ	SW206		
	KA 80 50 00	"	2-2 NS	"	SW205		
	KA 80 50 10	"	2-2 NS	"	SW203		
	KA 80 50 20	"	2-2 NS	"	SW202		
	KA 80 50 30	"	4-2 NS	"	SW204		
	KB 00 04 00	Fuse	T5-0A 250V	ヒューズ	F202	R	
	KB 00 13 90	"	10A 250V	"	F201	U.C	
	KB 00 14 90	"	10A 250V	"	"	R	
	KB 00 07 90	Fuse Miniature	T4-0A 250V	ミニチュアヒューズ	"	A.E	
	KC 00 19 40	Relay	DH2TU 24VDC	リレー	RV201		
	KC 00 20 00	"	JR2a-DC 24V	"	inter-chargeable		
	LB 30 17 10	Jack Head Phone	Gray	ホンジャック	JK201 Silver		
	LB 30 17 20	"	Black	"	Black		
	LB 40 13 30	Pin Jack	4P	ピンジャック	PJ201		
	CB 08 52 60	Cover For Capacitor	SB-0833	コンデンサカバー		A.E	
	LA 00 21 40	Lapping Terminal	P=10,2P-H-Type	1型ラッピング端子板		R	
	LA 00 21 50	"	P=10,3P-H-Type	"			
	LA 00 25 80	"	P=10,2P-H-Type	"			
	LA 00 54 10	Speaker Terminal	YSH403T	スピーカターミナル	4P	A.E	
	LB 20 10 60	Pin Fuse Holder	23165081	ヒューズホルダーピン		RUC	
	LB 20 19 70	"	"	"			
	LB 91 80 20	Base Pin	I-Type 2P	XHベースピンI型			
	LB 91 80 30	"	I-Type 3P	"			
	LB 91 80 40	"	I-Type 4P	"			
	LB 91 80 70	"	I-Type 7P	"			
	LB 91 80 80	"	I-Type 8P	"			
	BB 06 83 70	Metal Ground	"	ブラス金具			
	BB 07 04 40	Bus Bar	I=55	バスバー	A-1000		
	BB 07 04 10	"	I=100	"	A-700		
	BB 07 04 20	"	I=145	"	"		
	BB 07 04 30	"	"	"	"		
	MA 08 70 80	Function Circuit Board	"	ファンクションシート	A-720	RUC	
	MA 08 70 90	"	"	"	"	A.E	
	FG 21 24 70	Ceramic Cap	470pF 50V	セラミックコンデンサ	C101~114	A.E	
	FZ 00 41 30	"	0.1μF 25V	半導体セラコン	C115~117		
	HV 45 61 20	Flame Proof Carbon Resistor	1.2kΩ BR025V	不燃化カーボン抵抗	RV07~110		

* New Parts (新部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ラック
	IA 09 70 00	Transistor	2SA970 (GR BL)	トランジスタ	TR105,106		
	IC 22 40 00	"	2SC2240 (GR BL)	"	TR101~104		
	IX 60 16 50	"	2SA1306A	"	TR109,110		
	IX 60 16 60	"	2SC3298A	"	TR107,108		
	IF 00 42 70	LED	SLR 55URC3H	L E D	D101~110		
	KA 80 48 30	Push Switch	4-2NS SEA	プッシュスイッチ	SW102		
	KA 80 48 50	"	"	"	SW103~105		
	KA 90 10 70	Remote Switch	"	リモートスイッチ	SW101		
	LB 20 22 60	Pin Jack	2P	ピンジャック	PJ101		
	LB 40 10 30	"	4P	"	PJ102~105		
	BB 07 04 20	Bus Bar	I=100	バスバー			

* New Parts (新部品)

■EXPLODED VIEW



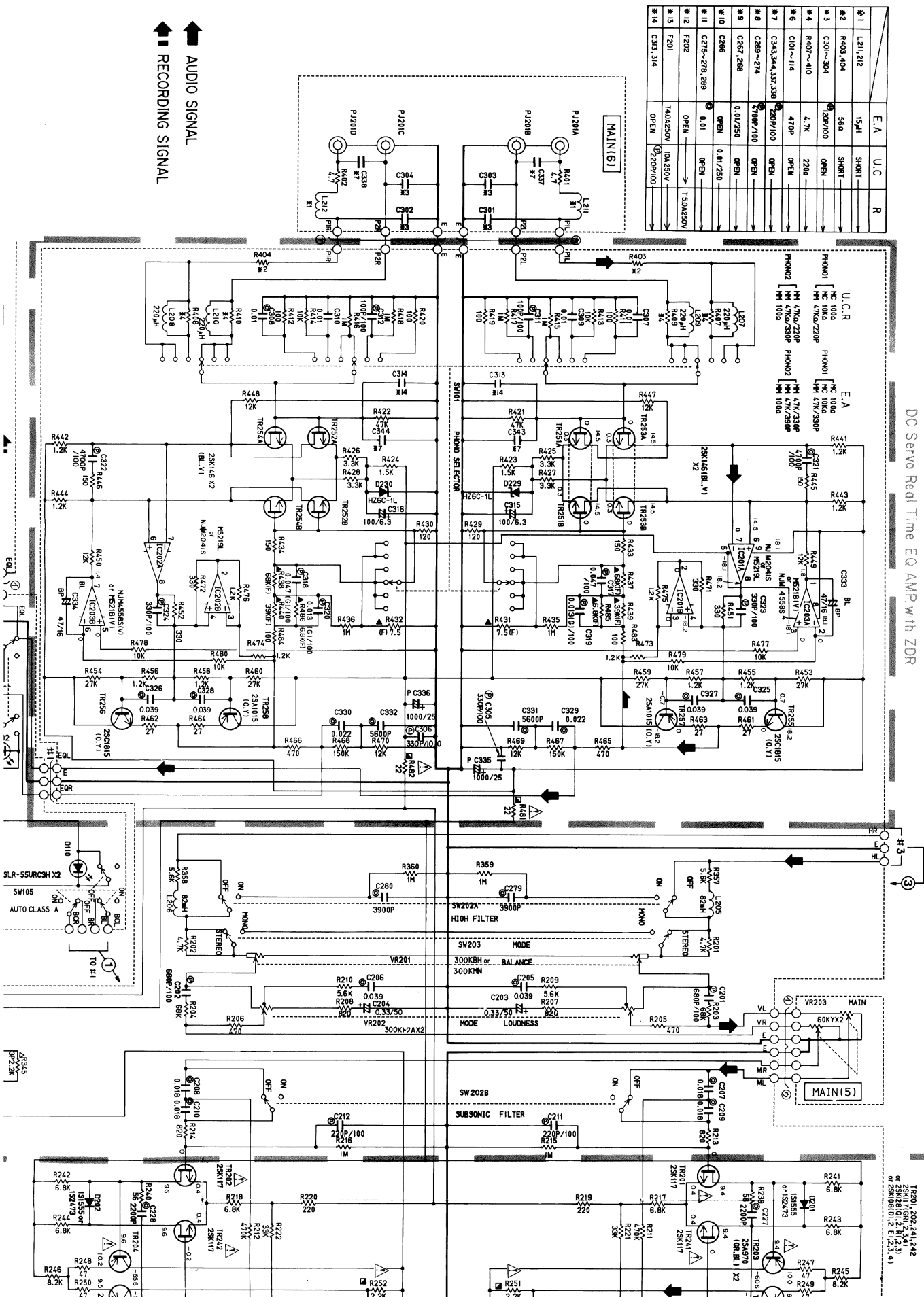
■MECHANISM PARTS

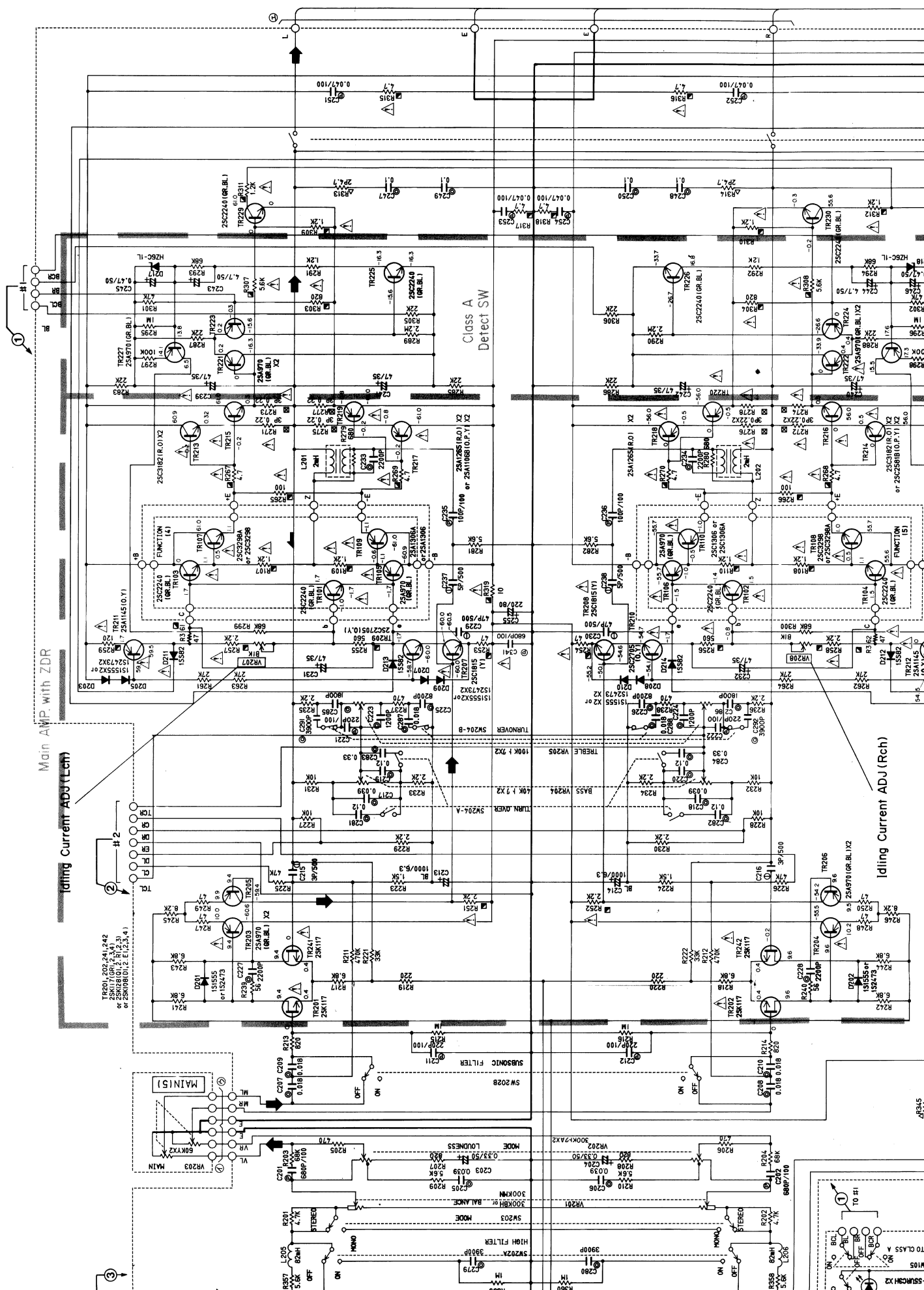
Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets
1	NB 62.58.30	Panel Unit	パネルユニット	Silver		R.U.C
"	NB 62.58.40	"	"	Black		R.U.C
"	NB 62.67.70	"	"	Silver		A.E
"	NB 62.67.80	"	"	Black		A.E
1-1	AA 61.78.70	Cover	カバー			
1-2	AA 61.78.80	Spring	スプリング			
1-3	BA 08.67.30	Shielding Panel	シールドパネル	Silver		
"	BA 08.67.40	"	"	Black		
1-4	BB 07.04.50	Holder, Hinge	ヒンジ押え			
1-5	NB 62.27.90	Knob Assy	ツマミ Assy	Silver	A-520	
"	NB 62.28.00	"	"	Black		
1-6	CB 63.51.20	Button, P	ボタ 夕	POWER Silver		
"	CB 63.51.30	"	"	Black		
1-7	CB 63.51.40	Button, T	ボタン T	Black		
"	CB 63.51.50	"	"	tone brass Silver		
1-8	CB 63.51.60	Button, A	"	Black		
"	CB 63.51.70	"	"	AUS-A Silver		
1-9	CB 63.51.80	Button, M	"	Black		
"	CB 63.51.90	"	"	MUTING Silver		
1-10	CB 06.88.80	Plastic Rivet	プラスチックリベット	Black		
1-11	CB 62.28.70	Lens	レンズ			
1-12	CB 62.07.70	Hinge	ヒンジ	Silver		
"	CB 62.07.80	"	夕	Black		
1-13	CB 62.08.90	Damper	ダンプバ	Silver		
"	CB 62.19.30	"	"	Black		
1-14	CB 62.34.40	Damper, Panel	パネルダンパー			
1-15	CB 62.17.50	Plate Shield	シールド板			
1-16	EI 33.00.86	Binding Head Tapping Screw	バインドヘッドタップスクリュー	PACK		
1-17	EO 33.00.66	Binding Head Screw	バインドヘッドネジ	PACK		
2	IX 60.32.40	Transistor	トランジスタ	TR217-220		
3	IX 60.32.50	"	"	TR213-216		
4	IL 1.00.05.70	Insulation Base	インシュレーションベース			
5	BA 09.17.70	Heat Sink	放熱板			
6	EZ 00.13.50	Cup Screw	カップスクリュー (B341)			
7	NA 08.71.00	Main Circuit Board	メイン回路基板	Silver		R
"	NA 08.71.10	"	"	Black		R
"	NA 08.71.20	"	"	Silver		U.C
"	NA 08.71.30	"	"	Black		U.C
"	NA 08.71.40	"	"	Silver		A.E
"	NA 08.71.50	"	"	Black		
8	NA 08.70.80	Function Circuit Board	ファンクションボード		A-720	R.U.C
"	NA 08.70.90	"	"		A-720	A.E
9	CB 09.95.80	Fuse Holder, Cover	ヒューズホルダーカバー		LA	
10	CB 62.01.90	Cord Stopper	コードストッパー		R.A.E	
"	CB 62.02.00	"	CM-22C		U.C	
11	FZ 00.70.20	Electrolic Cap. Set	ケミコンセット			
12	GA 68.41.00	Power Transformer	電源トランス		U	
"	GA 68.42.00	"	"		C	
"	GA 68.43.00	"	"		E	
"	GA 68.44.00	"	"		A	
"	GA 68.45.00	"	"		R	
13	LB 120.14.80	Voltage Selector	電圧切換器		R	
14	KA 40.12.60	Slide Switch	スライダスイッチ		E	

SCHEMATIC DIAGRAM

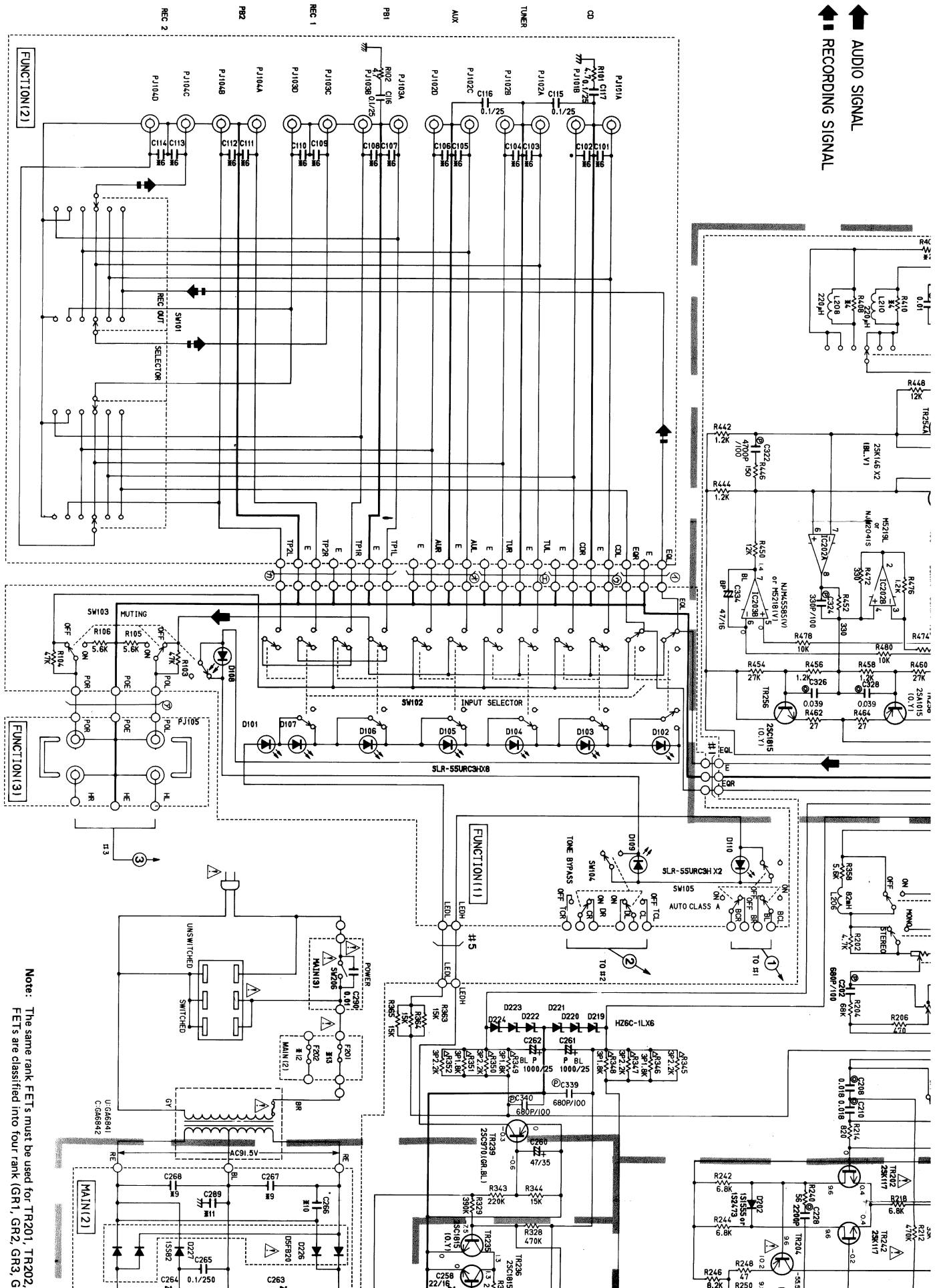
DC Servo Real Time EQ AMP with ZDR

	E.A	U.C	R
*1	L211, 212	SHORT	
*2	R403, 404	56Ω	SHORT
*3	C301~304	100p/100	OPEN
*4	R407~410	4.7K	220Ω
*5	C101~114	470p	OPEN
*6	C3A3, 3A4, 3A3, 3A8	220p/100	OPEN
*7	C3B9~274	100p/100	OPEN
*8	C3B7, 268	0.01/250	OPEN
*9	C275~278, 289	0.01	OPEN
*10	C265	0.01/250	OPEN
*11	F201	150A250V	
*12	F202	10A250V	
*13	C313, 314	100Ω	
*14			



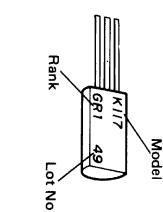


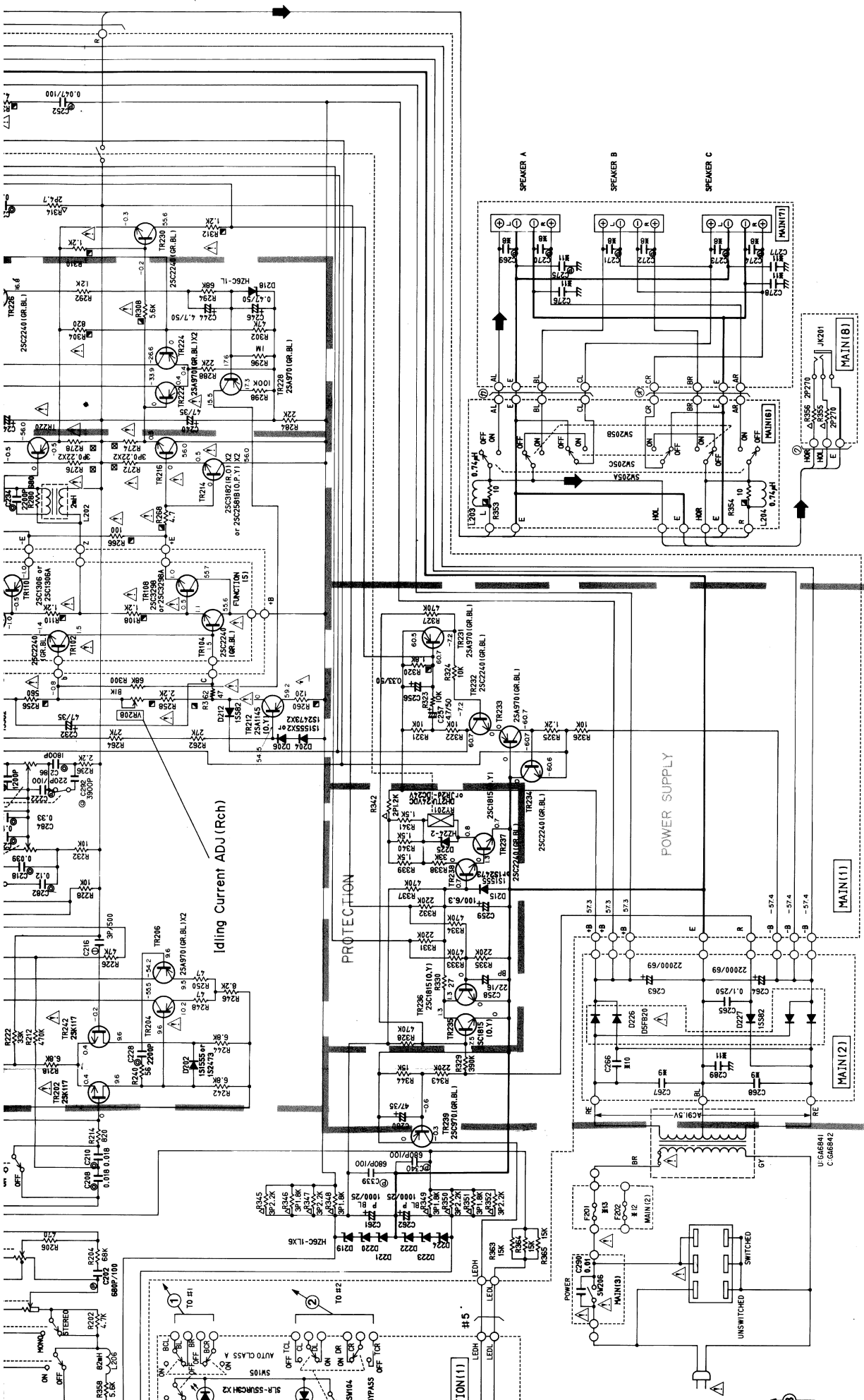
 AUDIO SIGNAL
 RECORDING SIGNAL



Note: The same rank FETs must be used for TR201, TR202, TR203, G
 FETs are classified into four rank (GR1, GR2, GR3, GR4)

2SC2581B (O, P, Y)	2SA1306A	2SK146 (BL, V)	2SK117 (GR1, 2, 3, 4)	2SA970 (GR, BL)	H224-2	D57B20	M5718L
2SC3182 (R, O)	2SC3298A			2SA1015 (Y)	1S4573		NJ4558S (F)
2SA1106B (O, P, Y)	2SA1306			2SC1815 (Y)	1S4573		NJ4558S (F)
2SA1265 (R, O)	2SC3298B			2SC2240 (GR, BL)	1S582		NJ4558S (F)
				2SC2705 (O, Y)			



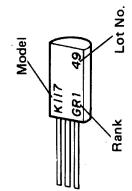


Idling Current ADJ (Rch)

PROTECTION

POWER SUPPLY

Note: The same rank FETs must be used for TR201, TR202, TR241, TR242. FETs are classified into four rank (GR1, GR2, GR3, GR4).



- All voltages are measured with a 10MΩ DC electric volt meter.
- AUTO CLASS A → OFF Lch
- AUTO CLASS A → ON Rch
- 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.