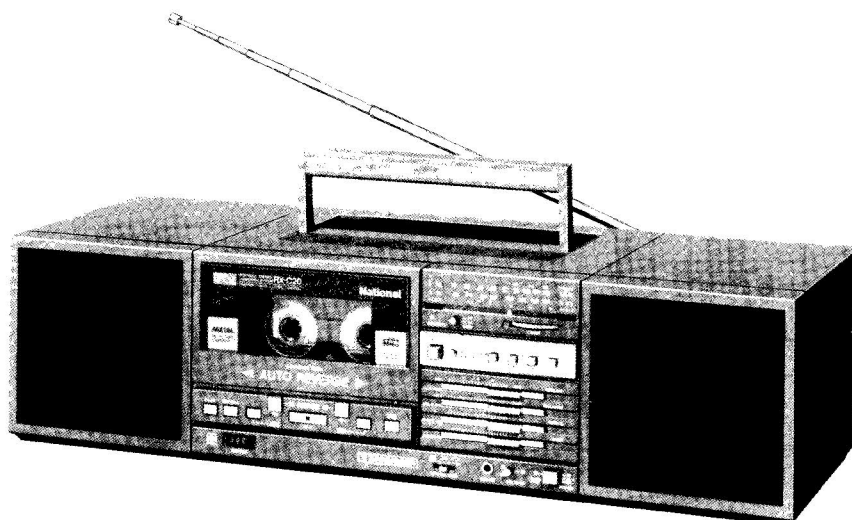


Service Manual

Portable Stereo Component System

Radio Cassette
RX-C20

(Black)



This is the Service Manual for the following areas.

Z ... For all European areas except United Kingdom.

E ... For United Kingdom.

RX-C20 MECHANISM SERIES

■ SPECIFICATIONS

General:

Power Requirement: **Z** ... AC; 220V, 50Hz with AC adaptor
E ... AC; 240V, 50Hz with AC adaptor
 Battery; 12V (Eight "C" Size Flashlight Batteries)
 (Panasonic UM-2 or equivalent)
 Car battery; use only Panasonic car adaptor RP-952

Power Consumption: 19W with AC adaptor

Power Output: 15W ... RMS (max.)
 14W ... MPO

Speaker: 8cm PM Dynamic Speaker (2.7Ω)

Input: MIC; sensitivity 0.25mV/aapplicable
 microphone impedance 200~600Ω (φ3.5)
 Line in; sensitivity 200mV/47kΩ over DC IN; 13.2V

Output: Line out; sensitivity 0.36V/4.7kΩ under
 EXT SP; 2.7Ω~8Ω (φ3.5)
 Headphones; 32Ω (φ3.5)

Dimensions: Total Size;
 417mm(W)×113mm(H)×170mm(D)
 Main Unit;
 212mm(W)×113mm(H)×170mm(D)
 Speaker Box;
 106mm(W)×113mm(H)×152mm(D)

Weight: 3.5kg without batteries

Radio Section:

Radio Frequency Range: FM; 87.5~108MHz
 AM; 520~1610kHz (577~186mm)

Intermediate Frequency: FM; 10.7MHz
 AM; **Z** ... 455kHz
E ... 470kHz

Sensitivity: FM; 1.6μV/50mW output
 (-3dB Limit Sens)
 AM; 63μV/m/50mW output

Tape Deck Section:

Frequency Response: 40~12,000Hz (with Normal tape)
 40~16,000Hz (with Metal tape)

Recording System: AC bias, AC erase

Tape Speed: 4.8cm/s

Track System: 4-track 2-channel stereo recording and playback

* "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
 Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
 Specifications are subject to change without notice.

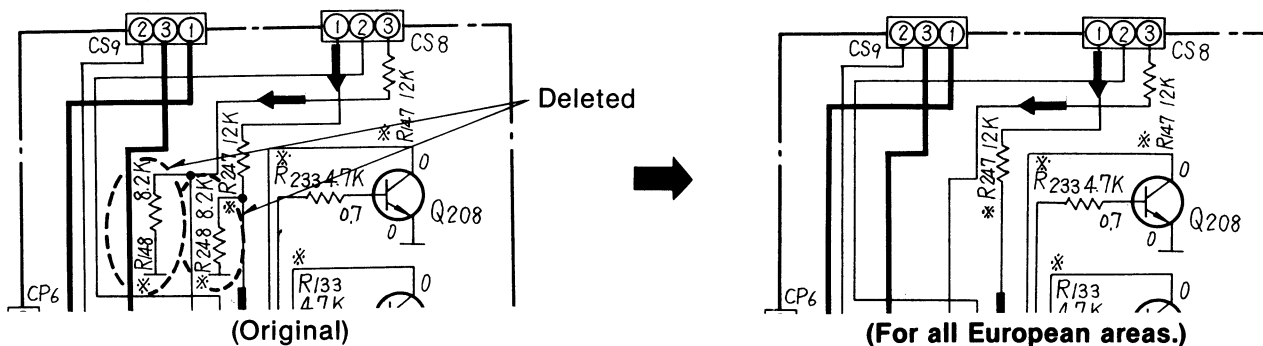
Design and specifications are subject to change without notice.

Panasonic

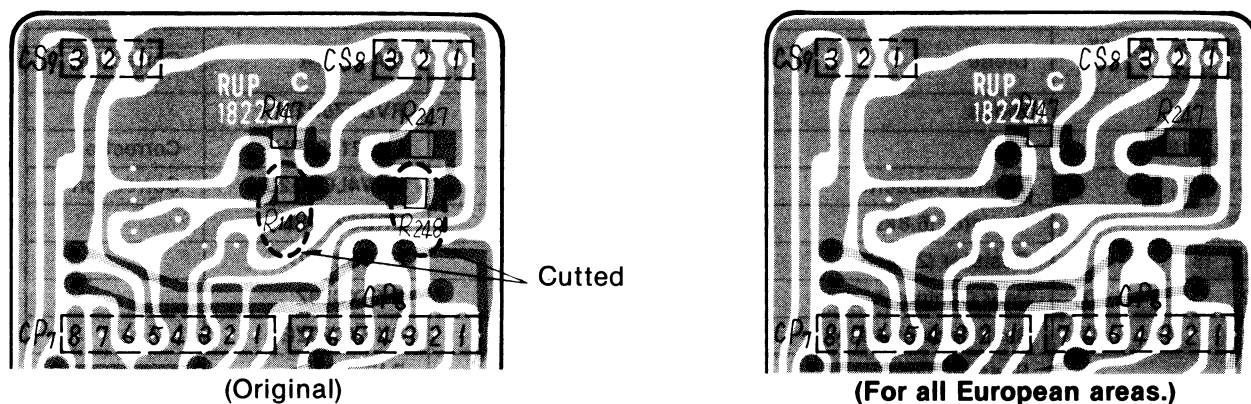
Matsushita Electric Trading Co., Ltd.
 P.O. Box 288, Central Osaka Japan

The modifications to the printed resistor are indicated on this page.

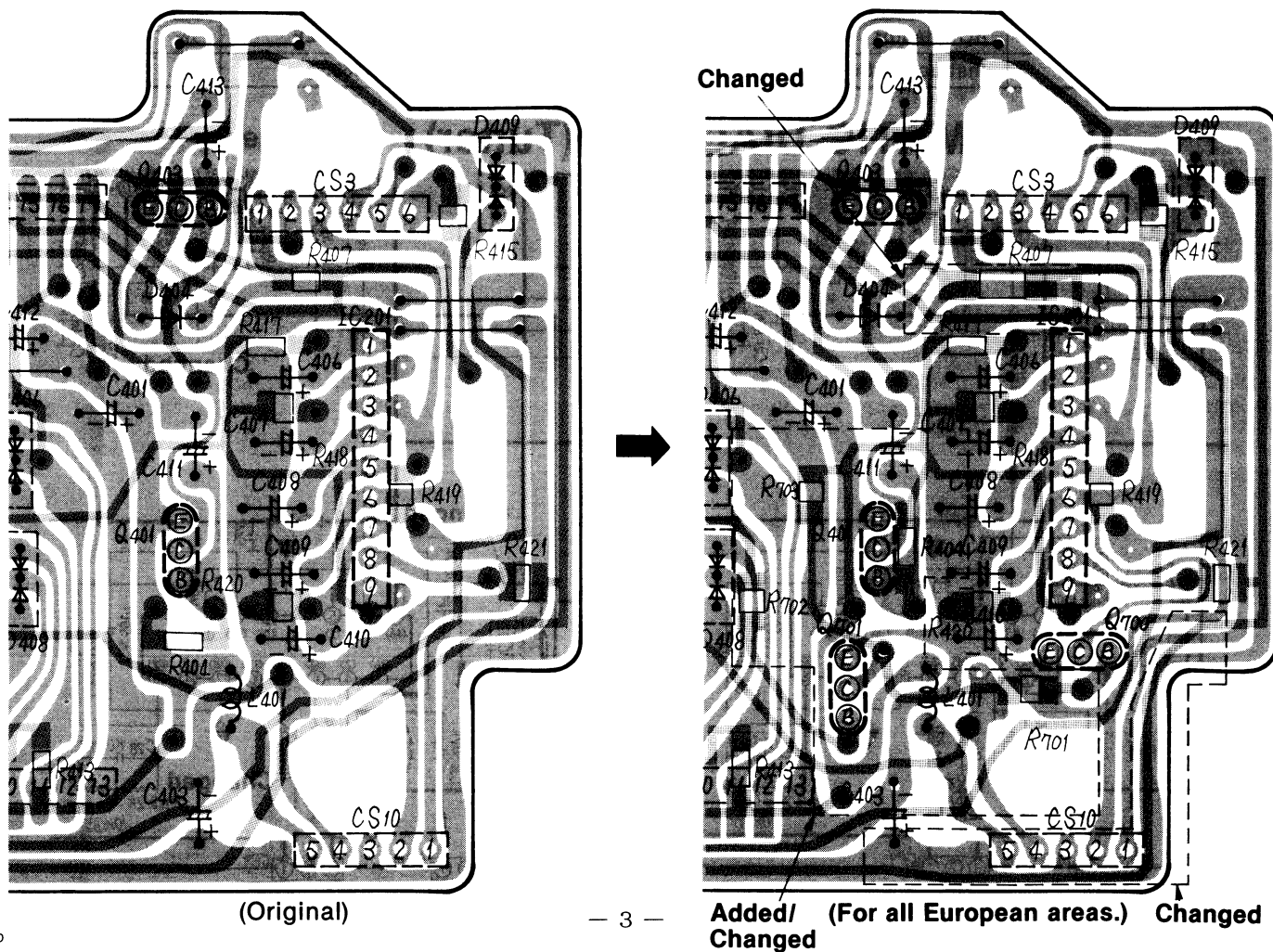
SCHEMATIC DIAGRAM (Main) — on page 16 —



CIRCUIT BOARD DIAGRAM (Main) — on page 19 —



CIRCUIT BOARD DIAGRAM (Logic) — on page 13 —



Service Manual

Radio Cassette
Portable Stereo Component System
RX-C20

This is the Service Manual
for the following areas.

M ...For U.S.A.



RX-C20 MECHANISM SERIES

■ SPECIFICATIONS

General:

Power Requirement: AC; 120V, 60Hz with AC adaptor
Battery; 12V (Six "C" Size
Flashlight Batteries)
(Panasonic UM-2 or equivalent)
Car battery; use only Panasonic car
adaptor RP-952

Power Consumption: 15W with AC adaptor

Power Output: 12W (6W×2)---RMS (max.)

Speaker: 8cm (3") PM Dynamic Speaker (2.7Ω)

Input: MIC; sensitivity 0.25mV/applicable
microphone impedance 200~600Ω
Line in; sensitivity 200mV/47kΩ over
Line out; sensitivity 0.36V/4.7kΩ
under
DC IN; 13.2V

Output: Ext SP; 2.7Ω~8Ω
Headphones; 32Ω

Dimensions: 417mm(W)×113mm(H)×170mm(D)
(16⁷/₁₆×4⁷/₁₆×6¹¹/₁₆)"

Weight: 3.5kg (7 lb. 11 oz.) without batteries

Radio Section:

Radio Frequency Range: FM; 88~108MHz
AM; 525~1610kHz

Intermediate Frequency: FM; 10.7MHz
AM; 455kHz

Sensitivity: FM; 1.3μV/50mW output
(-3dB Limit Sens)
AM; 70μV/m/50mW output

Tape Deck Section:

Frequency Response: 40~12,000 Hz (with normal tape)
40~16,000 Hz (with Metal tape)

Recording System: AC bias, AC erase

Tape Speed: 4.8cm/s, (1⁷/₈ ips)

Fast Forward and
Rewind Time: Approx 90 seconds with C-60
cassette tape

Program Time: 1 hour with C-60 cassette tape

Track System: 4-track 2 channel stereo recording
and playback

***"Dolby" and the double-D symbol are trademarks of Dolby
Laboratories Licensing Corporation.
Noise reduction system manufactured under license from
Dolby Laboratories Licensing Corporation.
Specifications are subject to change without notice.

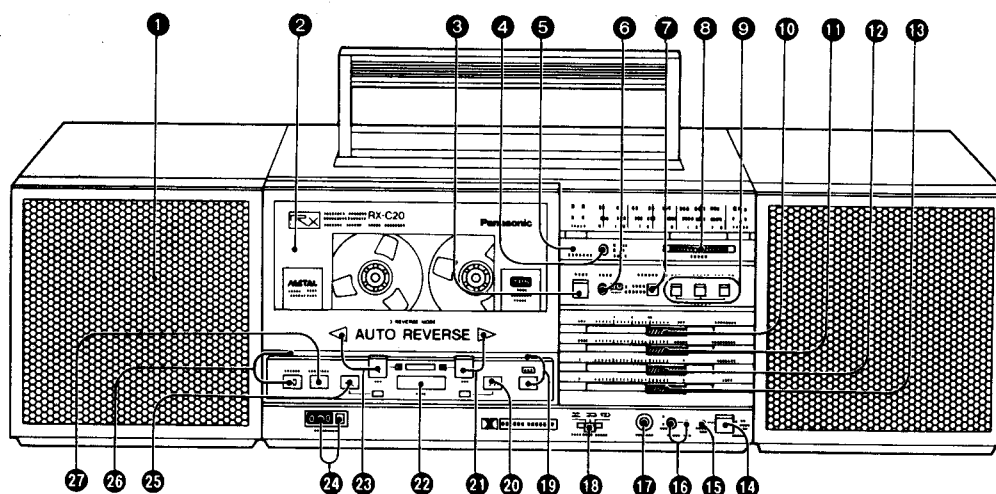
Panasonic®

Matsushita Engineering and
Service Company
50 Meadowland Parkway,
Secaucus, New Jersey 07094

Panasonic Hawaii Inc.
91-238 Kauhū St. Ewa Beach
P.O. Box 774
Honolulu, Hawaii 96808-0774

Panasonic Sales Company,
Division of Matsushita Electric
of Puerto Rico, Inc.
Ave. 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

LOCATION OF CONTROLS AND COMPONENTS

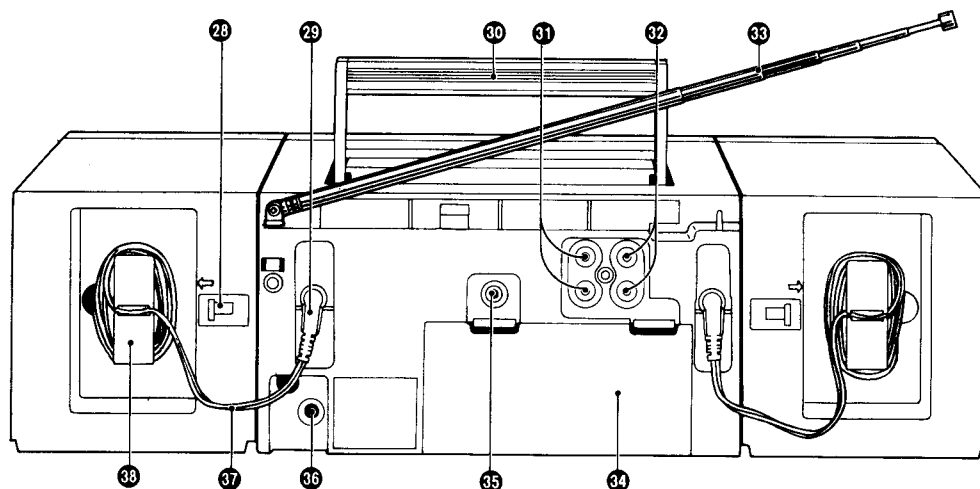


- ① Speakers
- ② Cassette Compartment
- ③ Eject Button (▲ EJECT)
- ④ Band Selector (BAND)
- ⑤ FM Stereo Indicator (FM STEREO)
- ⑥ Tape Selector (TAPE)
- ⑦ FM Mode Selector/Beat Proof Switch (FM MODE/B.P)
- ⑧ Tuning Control (TUNING)
- ⑨ Function Selector (SELECTOR)
- ⑩ Volume Control (VOLUME)
- ⑪ Balance Control (BALANCE)
- ⑫ Treble Control (TREBLE)
- ⑬ Bass Control (BASS)
- ⑭ Power Switch (POWER)
- ⑮ Power/Battery Check Indicator (POWER/BATT)
- ⑯ Dolby Noise Reduction Switch/Indicator (DOLBY NR)

⑰ Headphones Jack (PHONES)

When using the headphones, avoid listening to sound for a long period of time at excessive volume levels, which may injure your ears.

- ⑱ Reverse Mode Selector (REVERSE MODE)
- ⑲ Record Button/Indicator (● REC)
- ⑳ Fast Forward [Rewind] Button (≫)
- ㉑ Forward Button/Indicator (> FWD)
- ㉒ Stop Button (■ STOP)
- ㉓ Reverse Button/Indicator (REV <)
- ㉔ Tape Counter and Reset Button (COUNTER)
- ㉕ Rewind [Fast Forward] Button (≪)
- ㉖ Pause Button/Indicator (|| PAUSE)
- ㉗ Record Muting Button (○ REC MUTE)



- ②⑧ Speaker Release Levers (RELEASE)
- ②⑨ Speaker Jacks (IMP 2.7-8Ω SPEAKER)
- ③① Handle
- ③② Line Input Jacks (LINE IN)
- ③③ Line Output Jacks (LINE OUT)
- ③④ Telescopic Antenna
- ③⑤ Battery Compartment
- ③⑥ Microphone Jack (MIC)
- ③⑦ DC Input Jack (DC IN 13.2 V ⊖ ⊕)

- ③⑦ Speaker Cables
- ③⑧ Speaker Cable Compartments

BATTERY SERVICE LIFE

UM-2 (C-size) Batteries

Approx. 4.5 hours of recording (EIAJ)

Approx. 2 hours of playback (EIAJ) with volume set at center position

The above battery service life is measured according to the conditions set forth by EIAJ (Electronic Industries Association of Japan). As the battery service life varies with the method of operation and environmental conditions, use these values as reference.

DISASSEMBLY INSTRUCTIONS

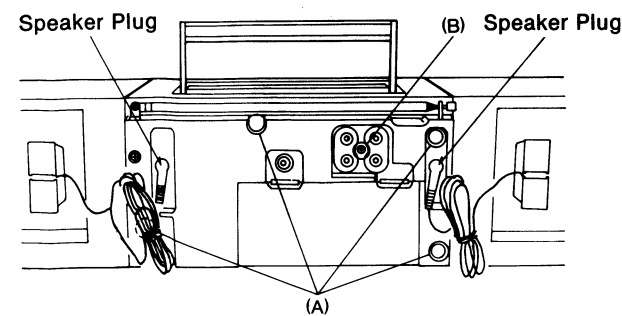


Fig. 1

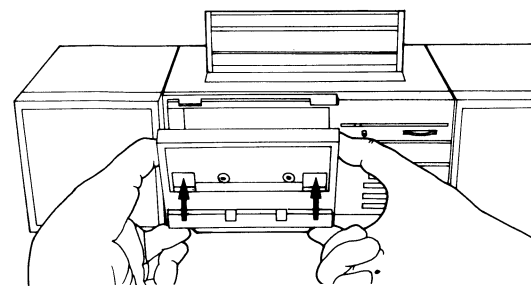


Fig. 2

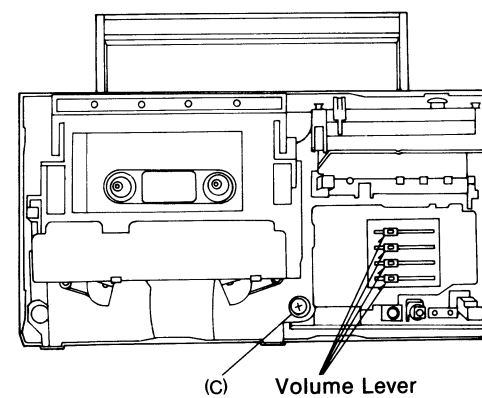


Fig. 3

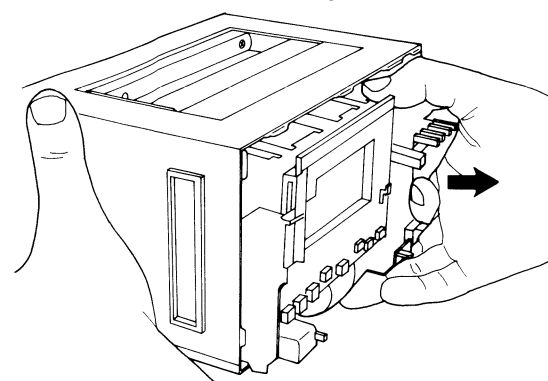


Fig. 4

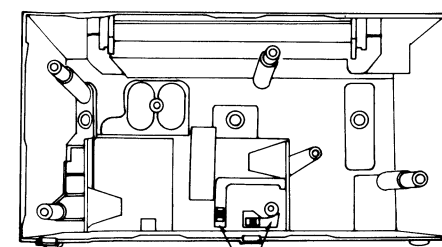


Fig. 5

Fig. 5

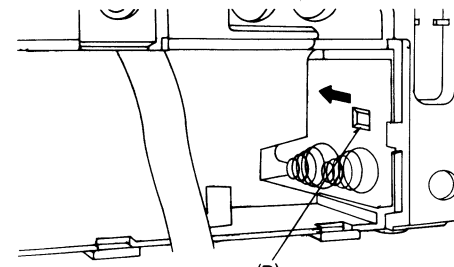


Fig. 6

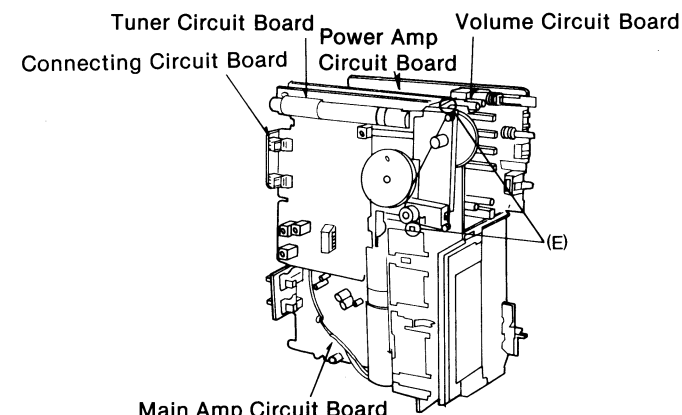


Fig. 7

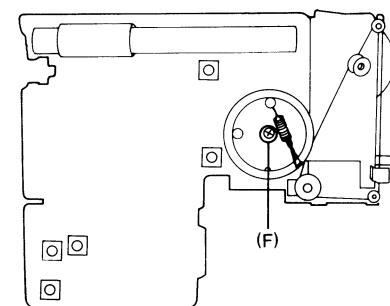


Fig. 8

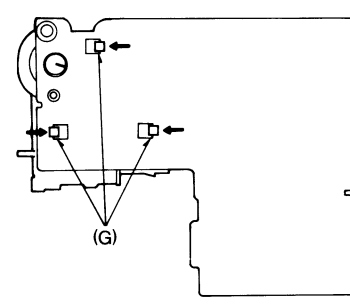


Fig. 9

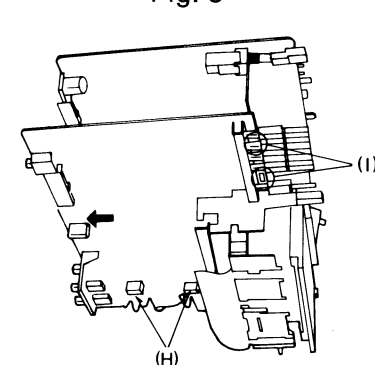


Fig. 10

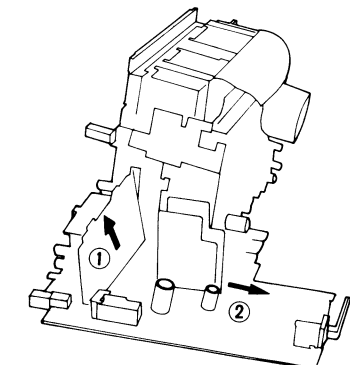


Fig. 11

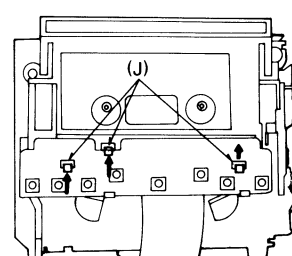


Fig. 12

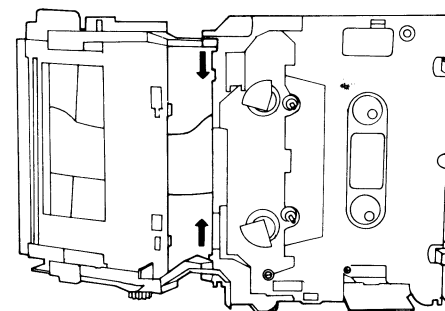


Fig. 13

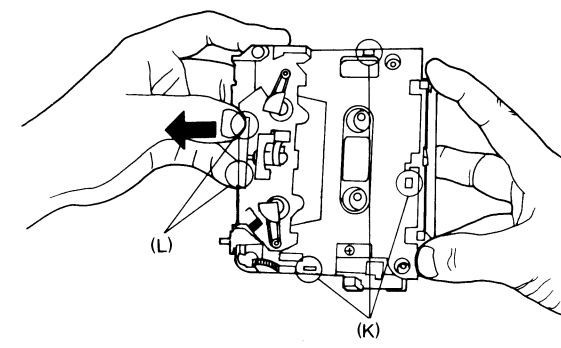


Fig. 14

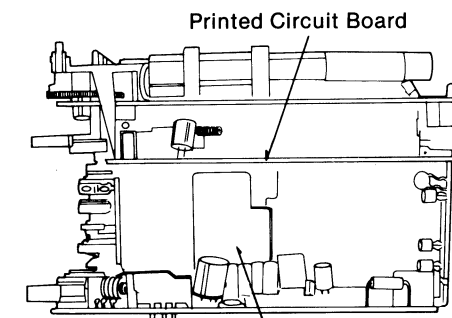


Fig. 15

Fig. 15

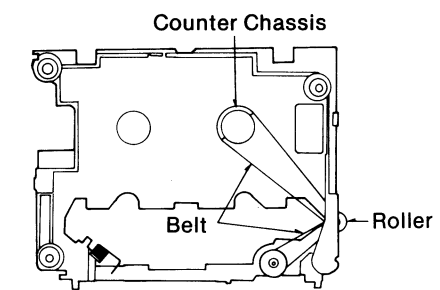
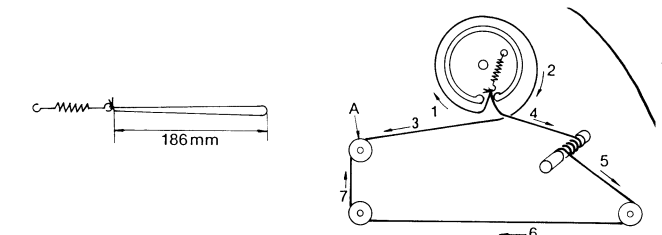


Fig. 16

DIAL THREADING



Notes:

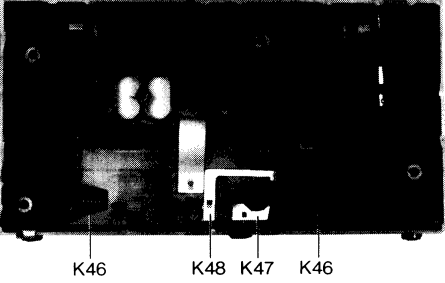
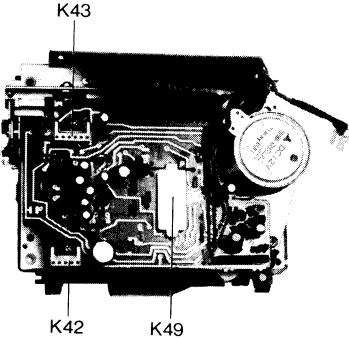
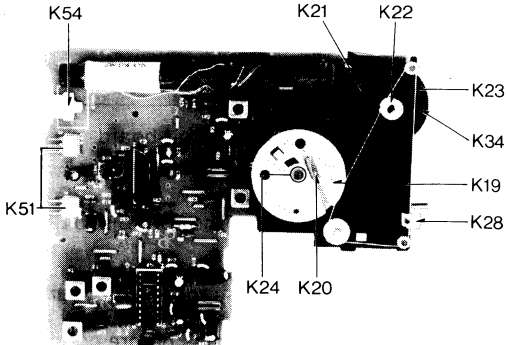
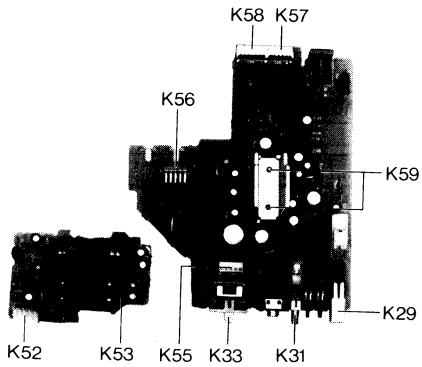
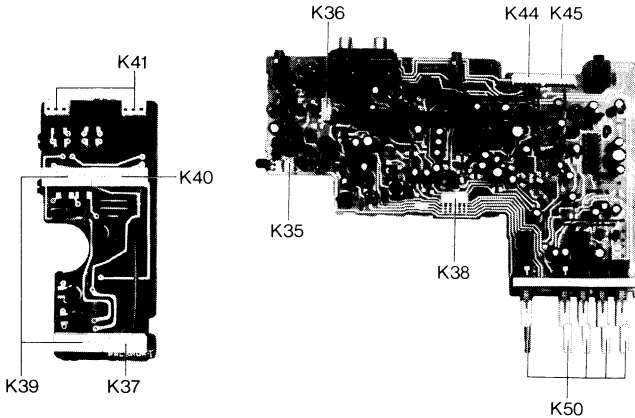
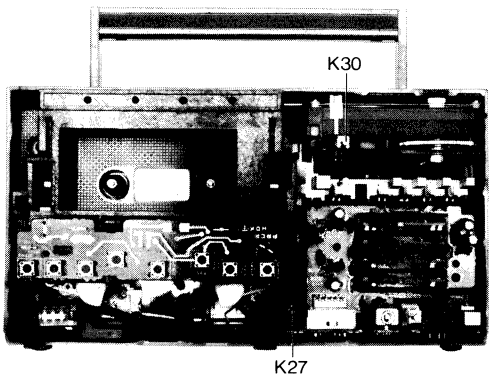
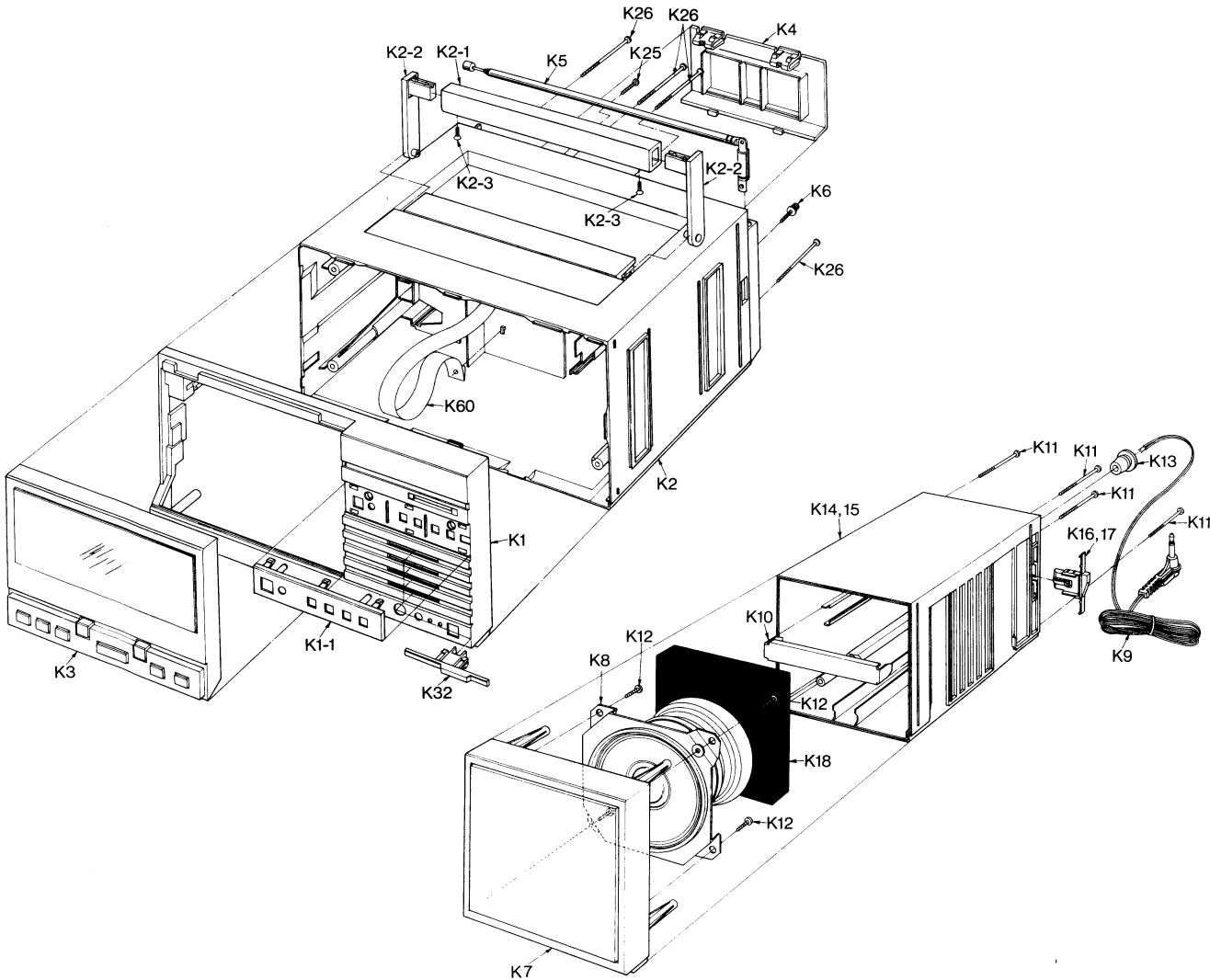
1. Stretch cords 1 through 3 in their numbered order and temporarily fix them on pulley A.
2. Next, stretch cords 4 through 7 in their numbered order and fix them on pulley A.

Ref. No.	Shown in Fig. —	To remove —	Remove —
1	1	Front Cabinet ※1	Pull out the speaker plugs and remove the speaker box.
2	1		Screw (3×50mm) (A)×4
3	2		Remove the cassette panel in the direction of arrows.
4	—		Remove the front cabinet.
5	1	Chassis	Screw (3×16mm) (B)×1
6	3		Screw (3×25mm) (C)×1
7	4		Remove the chassis in the direction of arrow. Note: Be careful that the battery terminals, shown in fig. 5, do not come off.
8	5	Battery circuit board	To remove the battery terminals, pull them toward you with a pair of small pliers.
9	6		Push the tooth and remove the battery circuit board in the direction of arrow. (D)×1
10	7	Tuner circuit board ※3	Remove the connecting circuit board.
11	7		Free the interlock and remove the tuner circuit board. (E)×2
12	8	Dial chassis	Screw (1.7×3mm) (F)×1
13	9		Push the tooth and remove the dial chassis in the direction of the arrow. (G)×3
14	10	Main amp circuit board ※3	Remove the socket (H)×2
15	10		Free the interlock and remove the main amp circuit board. (I)×2
16	11	Volume circuit board ※3	Remove the volume circuit board in the direction of arrow ①.
17	11	Power amp circuit board ※4	Remove the power amp circuit board in the direction of arrow ②.
18	12	Cassette slot	Push the tooth and remove the switch circuit board in the direction of the arrow. (J)×3
19	13		Remove the cassette slot in the direction of arrow.
20	14	Counter chassis ※2	Free the tooth (K)×3
21	14		Push the tooth and remove the cassette slot. (L)×2
22	16	Logic circuit board	Screw (2.6×6mm) (M)×2
23	16		Unsolder (N)×1

Notes:

- ※1. To attach the front cabinet, turn all the controls to their zero "0" positions as shown in Fig. 3, and then after pressing the eject lever, attach the front cabinet.
- ※2. When attaching the counter chassis, fix the belt on the counter chassis as shown in Fig. 15, and after attaching the counter chassis to the mechanism, turn the roller with your hand and the belt will move into place on the reel table.
- ※3. When replacing or removing the connector (CP1~11), apply contact oil (Electrolube PLUS2X) to the connector pins and insert and remove the connector a few times before connecting it.
- ※4. After attaching the printed circuit board, make sure that it is not in contact with the heat sink shown in Fig. 17.

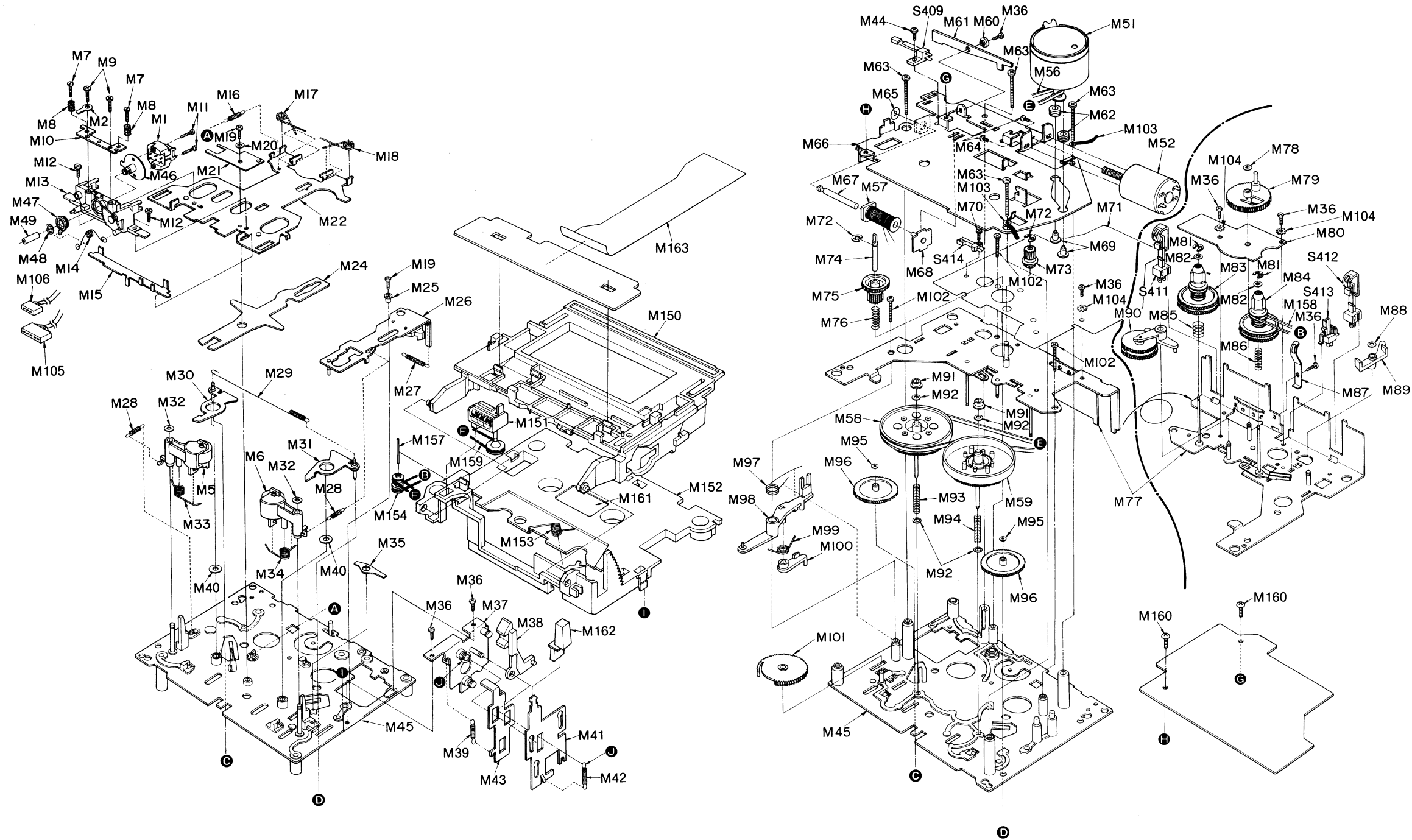
CABINET PARTS LOCATION



REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
CABINET PARTS					
K 1	RYM1XC20M	Front Cabinet Ass'y	K 28	RDP265Z	Dial Pointer
K 1-1	RGK1192Y	Indication Panel	K 29	RBC629Y	Button, Power
K 2	RYFXC20M	Rear Cabinet Ass'y	K 30	RBC630Y	Button, Band
K 2-1	RKX314Z3	Handle	K 31	RBC634Y	Button, Dolby
K 2-2	RYHXC20M3	Arm, Handle Ass'y	K 32	RBD278Y	Knob, Volume
K 2-3	XTS26 + 8CFZ	Screw	K 33	RBD279Y	Knob, Reverse Mode
K 3	RYPCX20M3	Cassette Panel Ass'y	K 34	RBT212Y	Knob, Tuning
K 4	RKK278Z	Battery Cover	K 35	RJP3G10Z	Plug (3P)
K 5	XEARR175FAK	Telescopic Ant.	K 36	RJP5G10Z	Plug (5P)
K 6	XYN3 + F12FN	Screw	K 37	RJP6G11Z	Plug (6P)
K 7	RYM2XC29M	Speaker Grille Ass'y	K 38	RJP6G22Z	Plug (6P)
K 8	EAS8P116SB	Speaker	K 39	RJP7G11Z	Plug (7P)
K 9	RJP0F2ZC	Speaker Cord	K 40	RJP8G11Z	Plug (8P)
K 10	RUL717Z	Bracket	K 41	RJS3M2Z	Socket (3P)
K 11	XTN3 + 40G	Screw	K 42	RJS5M2Z	Socket (5P)
K 12	XTV3 + 8G	Screw	K 43	RJS6M2Z	Socket (6P)
K 13	RHG3011Z	Bushing, SP. Cord	K 44	RJS7M3Z	Socket (7P)
K 14	RKF720Z	Speaker Box (L)	K 45	RJS8M3Z	Socket (8P)
K 15	RKF720Y	Speaker Box (R)	K 46	RJC60003Z	Battery Spring
K 16	RGE76Y	Stopper (L)	K 47	RJT883Z	Terminal
K 17	RGE76Z	Stopper (R)	K 48	RJT884Z	Terminal
K 18	RHS717Z	Buffer	K 49	RMC955Z	Shield
K 19	RDD334Z	Dial Drum	K 50	RBC9044Y	Button, Function
K 20	RDS3060A	Spring	K 51	RJP3G2Z	Plug (3P)
K 21	RZAXC20J	Chassis, Dial	K 52	RJS5M1Z	Socket (5P)
K 22	RD8091Z	Tuning Shaft	K 53	RUA599Z	Holder
K 23	RZZ030Z	Dial Cord	K 54	RJT876Z	Terminal
K 24	XSHR17 + 3	Screw	K 55	RJP5G1Z	Plug (5P)
K 25	XTB3 + 16CFN	Screw	K 56	RJP5G2Z	Plug (5P)
K 26	XTN3 + 50G	Screw	K 57	RJS6M3Z	Socket
K 27	XTV3 + 25G	Screw	K 58	RJS7M3Z	Socket
			K 59	XTV3 + 8F	Screw
			K 60	OKI0005	Battery Spacer

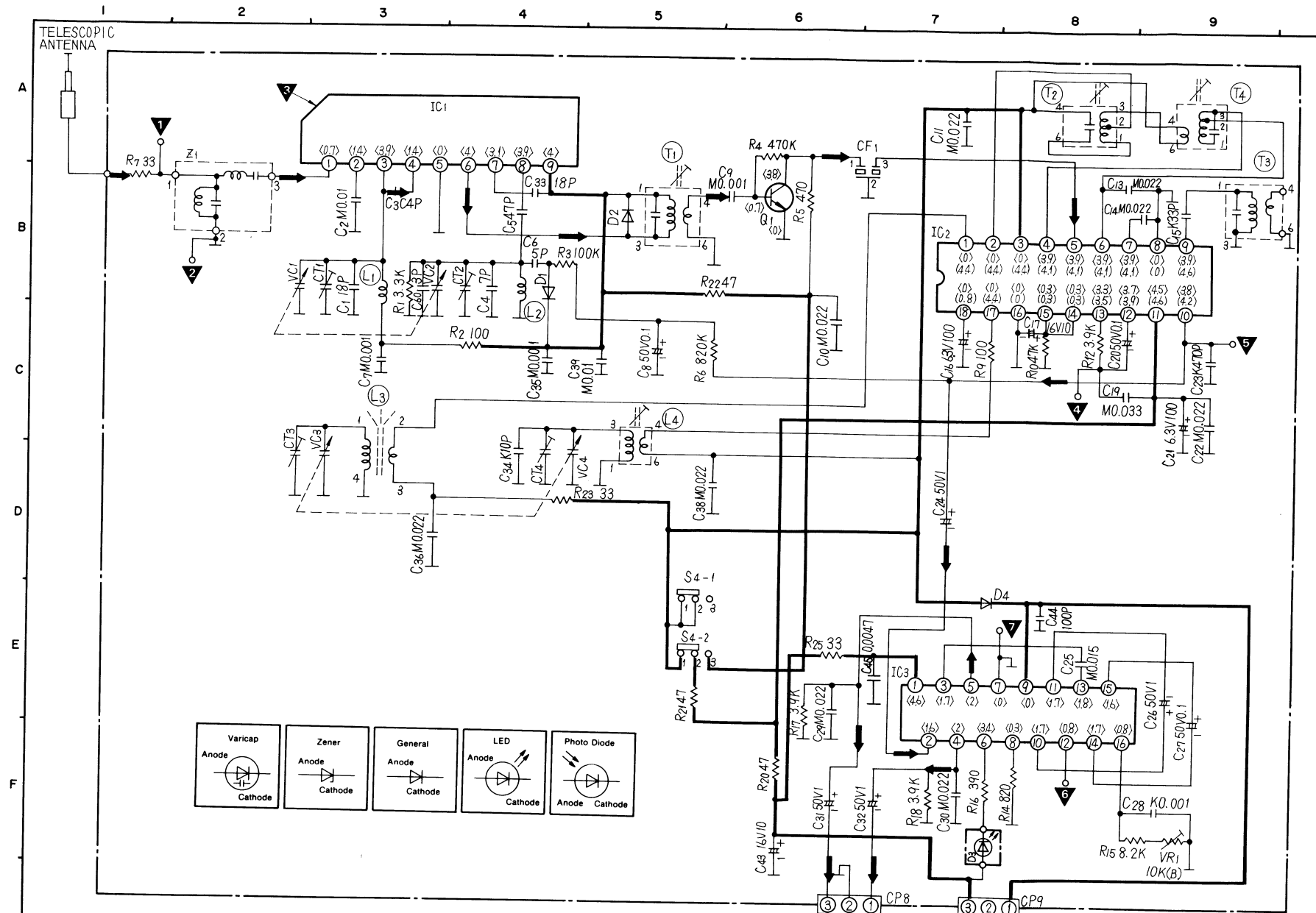
MECHANISM PARTS LOCATION



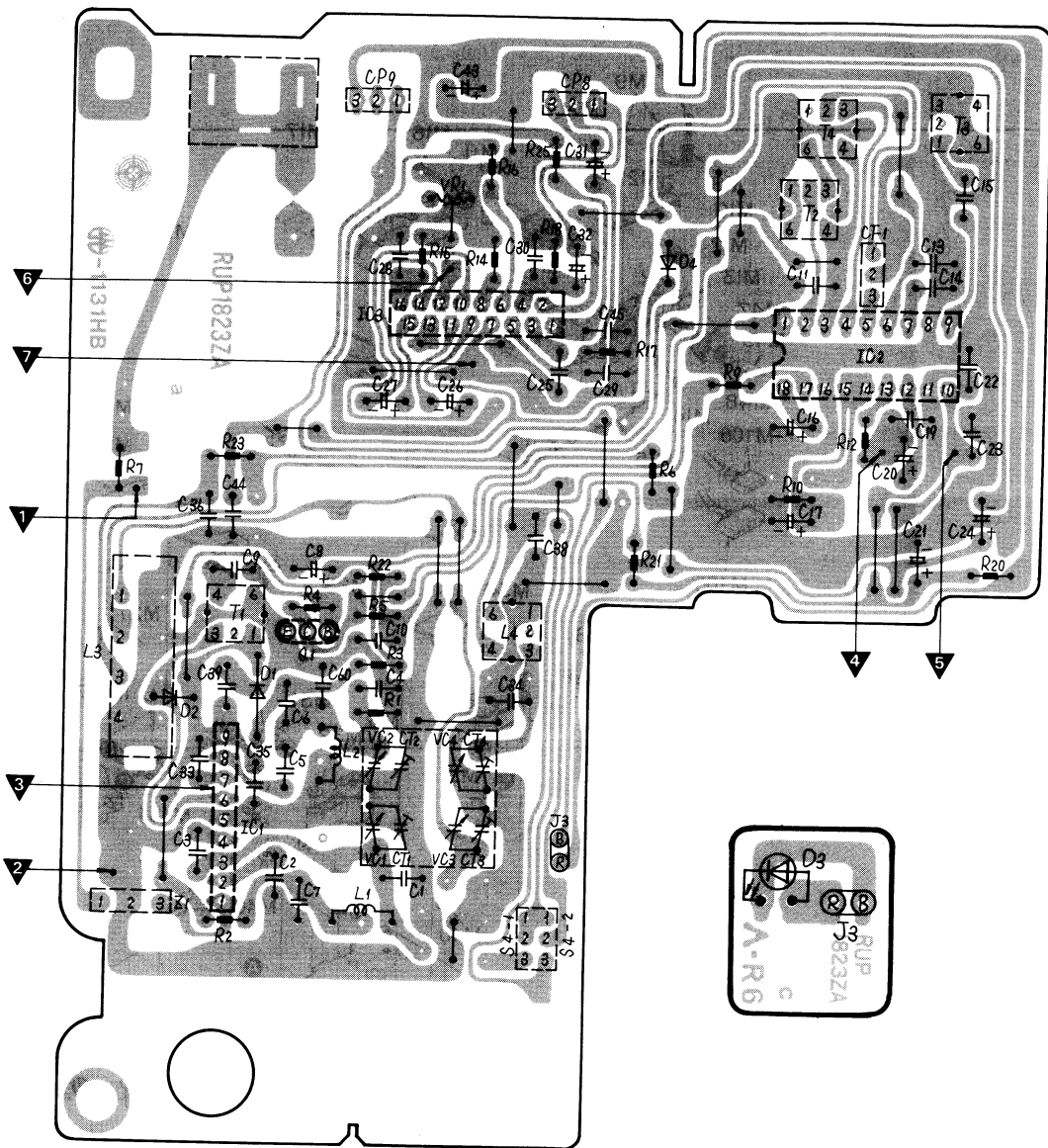
REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
MECHANICAL PARTS			M 20	XWG2	Washer	M 39	RFS472Z	Spring	M 62	RFI24Z	Rubber Cushion	M 81	XUC15FT	Stop Ring	M 100	RFY366Z	Trigger Arm (B)
M 1	RJH37T1Z	R/P Erase Head	M 21	RFS386Z	Spring	M 40	RFX105Z	Washer	M 63	XS26 + 25	Screw	M 82	RFN114Z	Washer	M 101	RFG59Z	Cam Gear
M 2	RFE171Z	Terminal	M 22	RFU30Z	Head Base Ass'y	M 41	RFY435Z	Rod	M 64	XSN2 + 2	Screw	M 83	RFJ35Z	Reel Table (L)	M 102	XS2 + 14	Screw
M 5	RFR19Z	Pinch Roller (L)	M 24	RFY354Z	Reverse Lever	M 42	RFS473Z	Spring	M 65	RFN112R	Washer	M 84	RFJ36Z	Reel Table (R)	M 103	RFD189Z	Luc, Terminal
M 6	RFR20Z	Pinch Roller (R)	M 25	RFX86Z	Collar	M 43	RFX106Z	Stopper	M 66	RFD174Z	Bracket	M 85	RFS394Z	Spring (L)	M 104	RFD190Z	Washer
M 7	RFE138Z	Screw	M 26	RFY355Z	FF/Rew Lever	M 44	XSN26 + 5	Screw	M 67	RFE136Z	Bracket Ass'y	M 86	RFS395Z	Spring (R)	M 105	RWN1XC20J	Lead Wire, Head
M 8	RFS381Z	Spring	M 27	RFS387Z	Spring	M 45	RFU31Z	Chassis Plate Ass'y	M 68	RFD175Z	Bracket	M 87	RFS396Z	Spring	M 106	RWN2XC20J	Lead Wire, Head
M 9	RFE140Z	Screw	M 28	RFS388Z	Spring	M 46	RFD176Z	Bracket	M 69	RFE142Z	Screw	M 88	RFN115Z	Washer	M 150	RYQXC20J	Cassette Slot Ass'y
M 10	RFD171Z	Head Plate	M 29	RFS389Z	Spring	M 47	RFG60Z	Gear, Head Reverse	M 70	XSN17 + 6	Screw	M 89	RFY363Z	FF/REW Arm	M 151	RSE113Z	Counter
M 11	RFE139Z	Screw	M 30	RFY356Z	Playback Arm Ass'y (L)	M 48	RFN118Z	Washer	M 71	RUP1825Z	Printed Circuit Board	M 90	RFY364Z	Drive Arm Ass'y	M 152	RUA597Z	Chassis
M 12	RFE141Z	Screw	M 31	RFY357Z	Playback Arm Ass'y (R)	M 49	RFE143Z	Tude, Lead Wire	M 72	XUC15FT	Stop Ring	M 91	RFV4Z	Flywheel Metal	M 153	RUS578Z	Spring
M 13	RFE135Z	Head Base Ass'y	M 32	RFN110Z	Washer	M 51	RFM42Z	DC Motor	M 73	RFG55Z	Gear (A)	M 92	RFN116Z	Washer	M 154	RDR53Z	Pulley
M 14	RFS382Z	Spring	M 33	RFS390Z	Spring (L)	M 52	RFM29Z	Assist Motor Ass'y (2W)	M 74	RFE137Z	Shaft, Gear (B)	M 93	RFS397Z	Spring	M 157	RDY59Z	Roller Shaft
M 15	RFD172Z	Slinder	M 34	RFS391Z	Spring (R)	M 56	RFB41Z	Main Belt (Flat)	M 75	RFG56Z	Gear (B)	M 94	RFS398Z	Spring	M 158	RDV21Z	Belt
M 16	RFS383Z	Spring	M 35	RFY358Z	Cue Arm	M 57	RFP11Z	Solenoid	M 76	RFS393Z	Spring	M 95	RFN117Z	Washer	M 159	RDV22Z	Belt
M 17	RFS384Z	Spring	M 36	XSN2 + 5	Screw	M 58	RFF27Z	Flywheel Ass'y (A)	M 77	RFU32Z	Reel Table Chassis Ass'y	M 96	RFG58Z	Gear (C)	M 160	XTV26 + 6F	Screw
M 18	RFS385Z	Spring	M 37	RFD188Z	Bracket	M 59	RFF28Z	Flywheel Ass'y (B)	M 78	RFN113Z	Washer	M 97	RFS399Z	Spring	M 161	RHP110Y	Paper Sheet
M 19	XSN2 + 6	Screw	M 38	RFY434Z	Arm	M 60	RFX87Z	Collar	M 79	RFG57Z	Assist Gear	M 98	RFY365Z	Trigger Arm (A)	M 162	RBC635Y	Button, Eject
						M 61	RFY362Z	Cassette Eject Lever	M 80	RFT9Z	Printed Circuit Board	M 99	RFS400Z	Spring	M 163	RUP1826Z	Printed Circuit Board

SCHEMATIC DIAGRAM (Tuner) MODEL RX-C20



CIRCUIT BOARD (Tuner) MODEL RX-C20

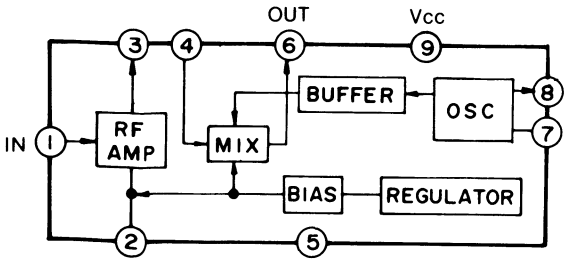


⊕ Voltage Line
→ FM Signal

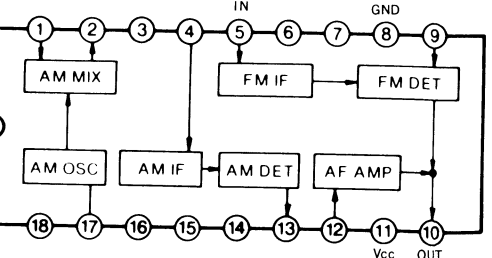
Ref. No.	Zone	Parts No.	Function	Ref. No.	Zone	Parts No.	Function
IC1	A · 3	RVITA7358P	FM FRONT END	D1	B · 4	RVDS113	AFC
IC2	B · 8	AN7220A	FM/AM IF AMP/DET, AM OSC MIX	D2	B · 5	RVD1SS133	AGC
IC3	E · 8	RVIBA1332L	MPX	D3	F · 7	LN253RPLF	FM STEREO IND
Q1	B · 6	2SC829	FM IF AMP	D4	E · 8	RVD1SS133	SWITCHING

Notes:
1. S4-1, S4-2: Band switch in "AM" position.
2. VR1: VCO Adjustment.
3. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
< >...FM, ()...AM

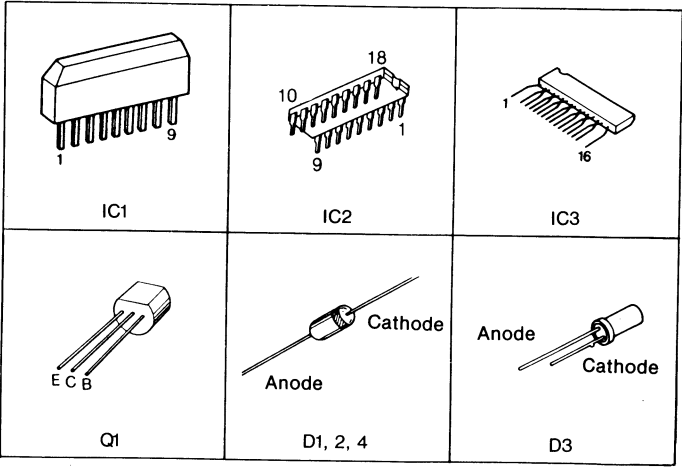
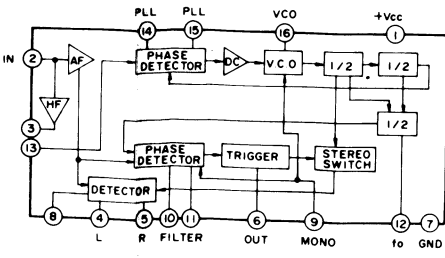
IC1 RVITA7358P



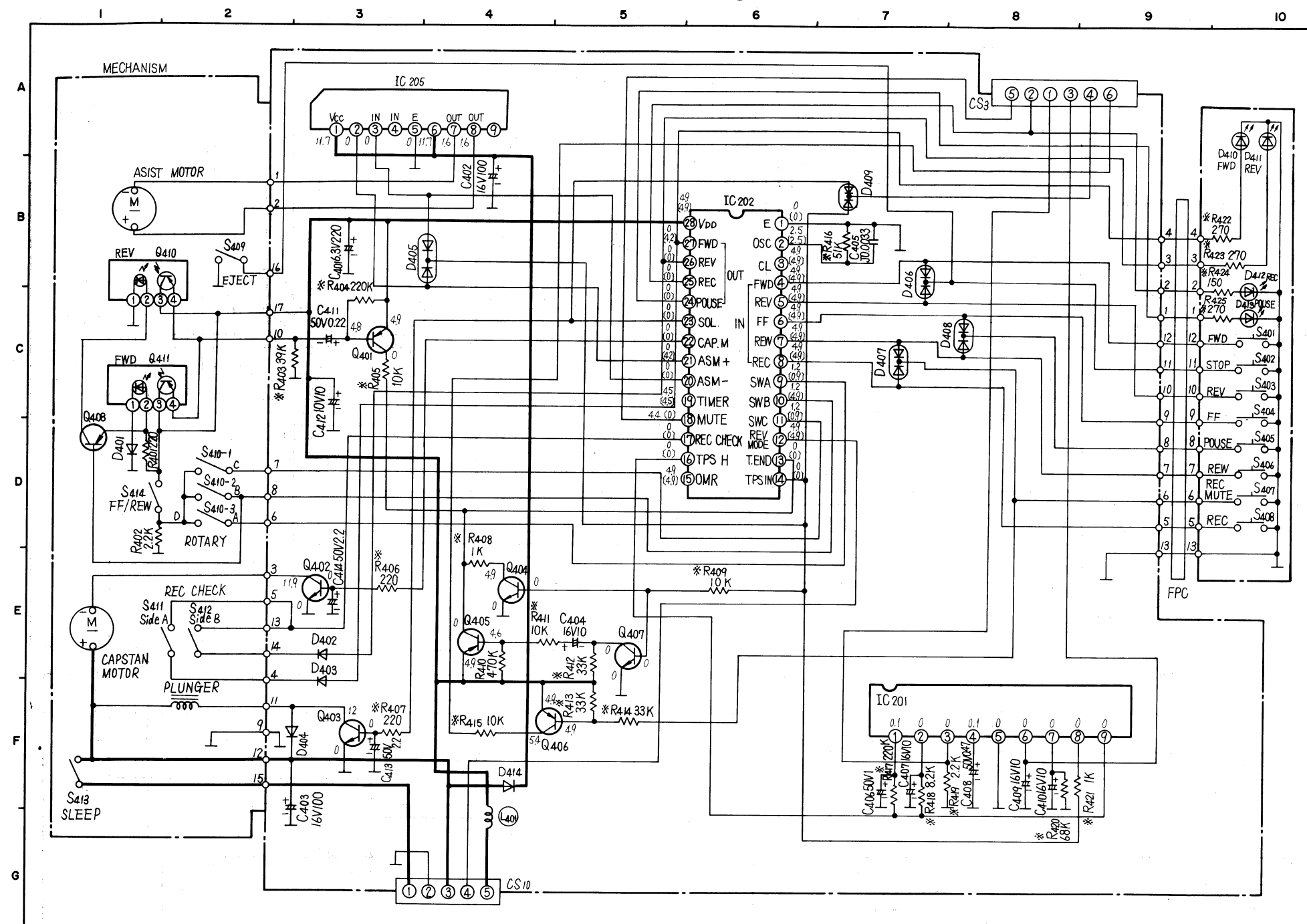
IC2 AN7220A



IC3 RVIBA1332L

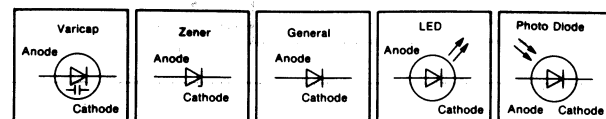


SCHEMATIC DIAGRAM (Logic) MODEL RX-C20

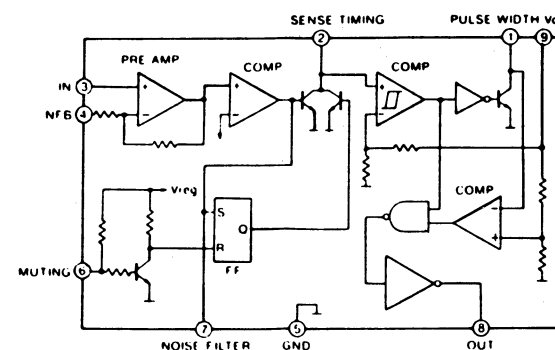


Notes:

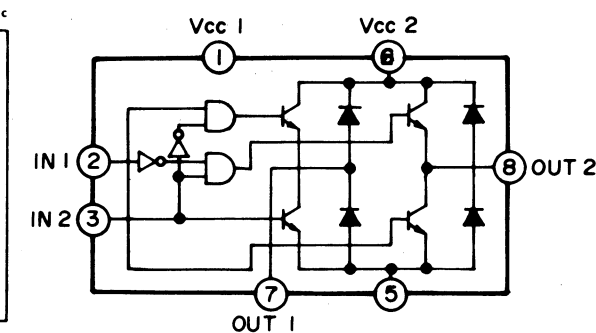
1. S401: Forward switch.
2. S402: Stop switch.
3. S403: Reverse switch.
4. S404: FF (REW)/TPS switch.
5. S405: Pause switch.
6. S406: TPS/REW (FF) switch.
7. S407: Rec mute switch.
8. S408: Record switch.
9. S409: Eject switch.
10. S410-1~S410-3: Rotary switch.
11. S411, S412: Rec check switch.
12. S413: Sleep switch.
13. S414: FF/REW switch.
14. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
15. * mark...printed resistor.



IC201 RVIBA338



IC205 RVITA7354P



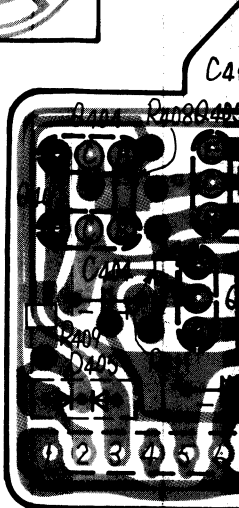
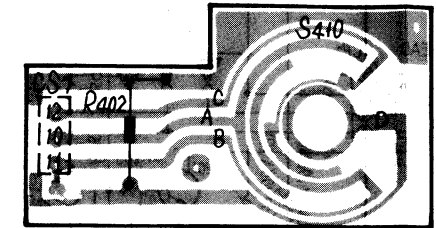
CIRCU

Ref. No.	Zone	Parts No.	Function
IC201	F - 8	RVIBA338	TPS AMP
IC202	C - 6	RVITA7354P	LOGIC
IC205	A - 3	RVITA7354P	MOTOR DRIVE
Q401	C - 3	2SA722-S [2SA564]	TAPE END SWITCHING
Q402	E - 3	2SC2001	MOTOR SWITCHING
Q403	F - 3	2SC2001	PLUNGER DRIVE
Q404	E - 4	2SC1685-Q [2SC1684-R]	TPS SWITCHING
Q405	E - 4	2SA722-S [2SA564]	TPS SWITCHING
Q406	F - 4	2SA722-S [2SA564]	REC MUTING
Q407	E - 5	2SC1685-Q [2SC1684-R]	TPS SWITCHING
Q408	D - 1	2SA722-S [2SA564]	DRIVER
Q410	B - 1	0N2160Q	PHOTO COUPLER
Q411	C - 1	0N2160Q	PHOTO COUPLER
D401	D - 1	MA161 [MA150]	SWITCHING
D402	E - 3	RVD1SS133	SWITCHING
D403	E - 3	RVD1SS133	SWITCHING
D404	F - 3	RVD1SR35	PROTECTOR
D405	B - 3	MA175WK	SWITCHING
D406	B - 7	MA175WK	SWITCHING
D407	C - 7	MA175WK	SWITCHING
D408	C - 8	MA175WK	SWITCHING
D409	B - 7	MA175WK	SWITCHING
D410	A - 10	RVDPY2222SB1	FWD IND
D411	A - 10	RVDPY2222SB1	REV IND
D412	B - 10	RVDAR2222SB1	REC IND
D413	C - 10	RVDAA2202SB1	PAUSE IND
D414	G - 4	RVD1SS133	SWITCHING

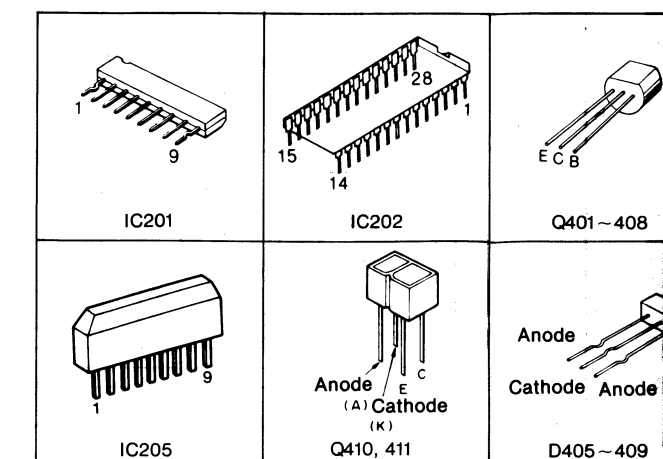
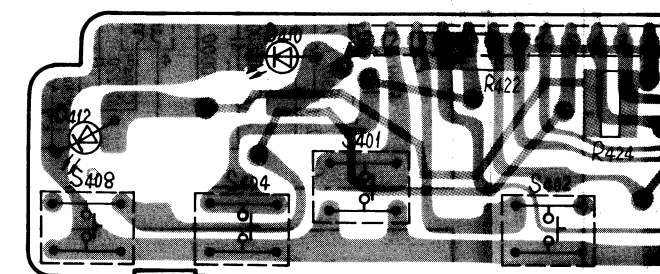
[] Production parts number.

Notes:

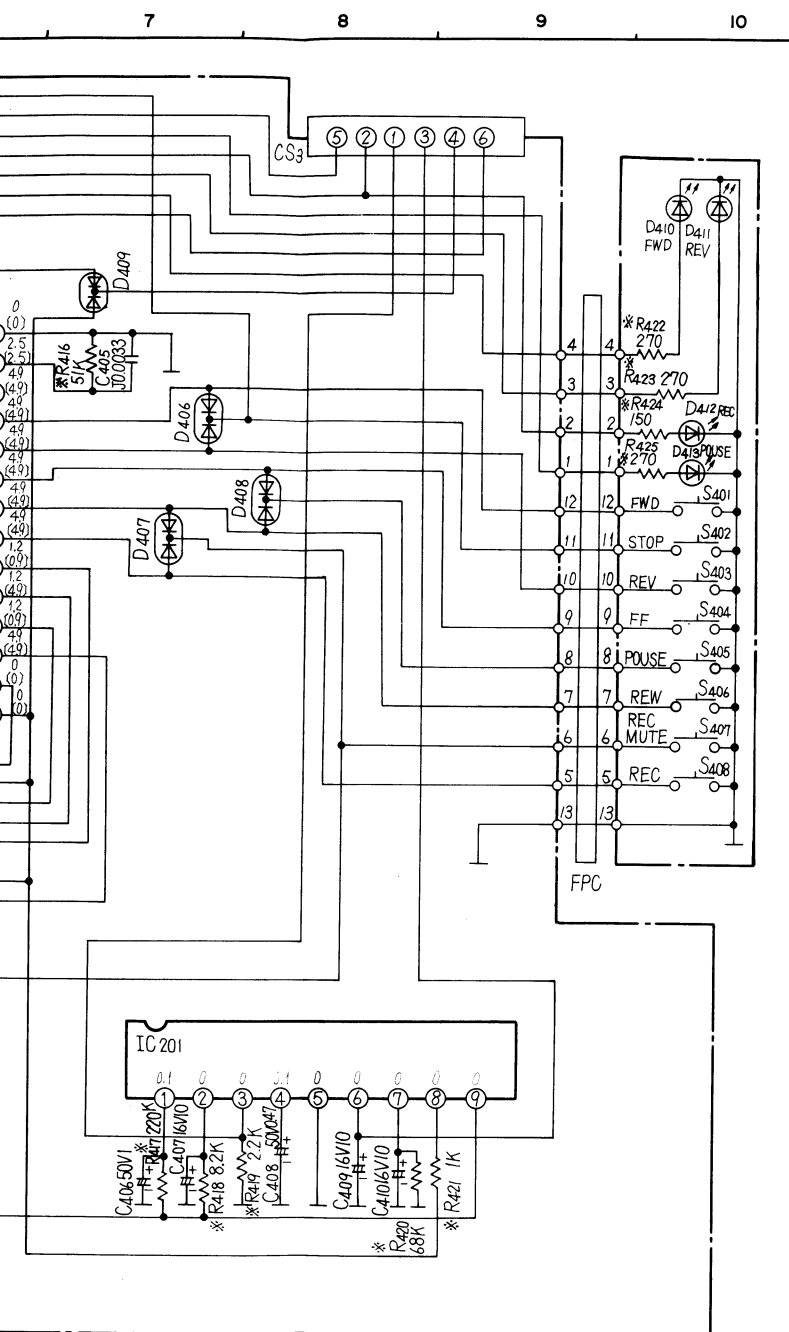
1. The symbols (□) shown in the circuit board indicate printed resistor.
2. The circuit shown in (●) on the conductor indicates printed circuit on the back side of the printed circuit board.
3. The circuit shown in (○) on the conductor indicates printed circuit on the front side of the printed circuit board.
4. The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.



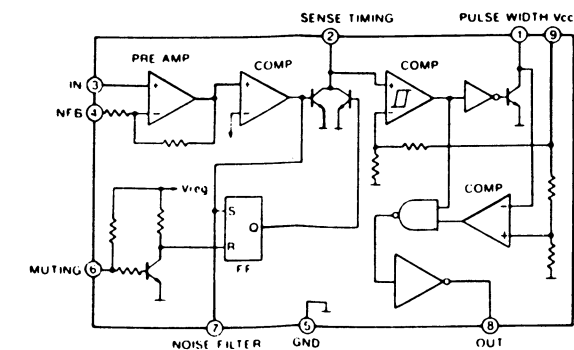
SWITCH CIRCUIT BOARD



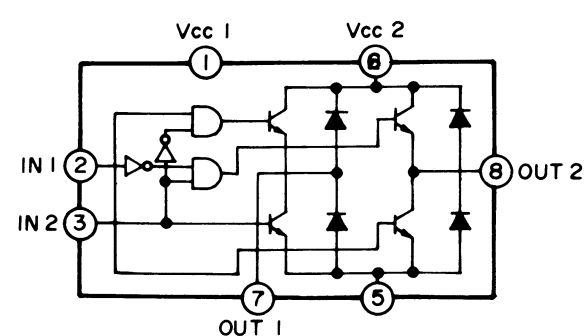
MODEL RX-C20



IC201 RVIBA338



IC205 RVITA7354P



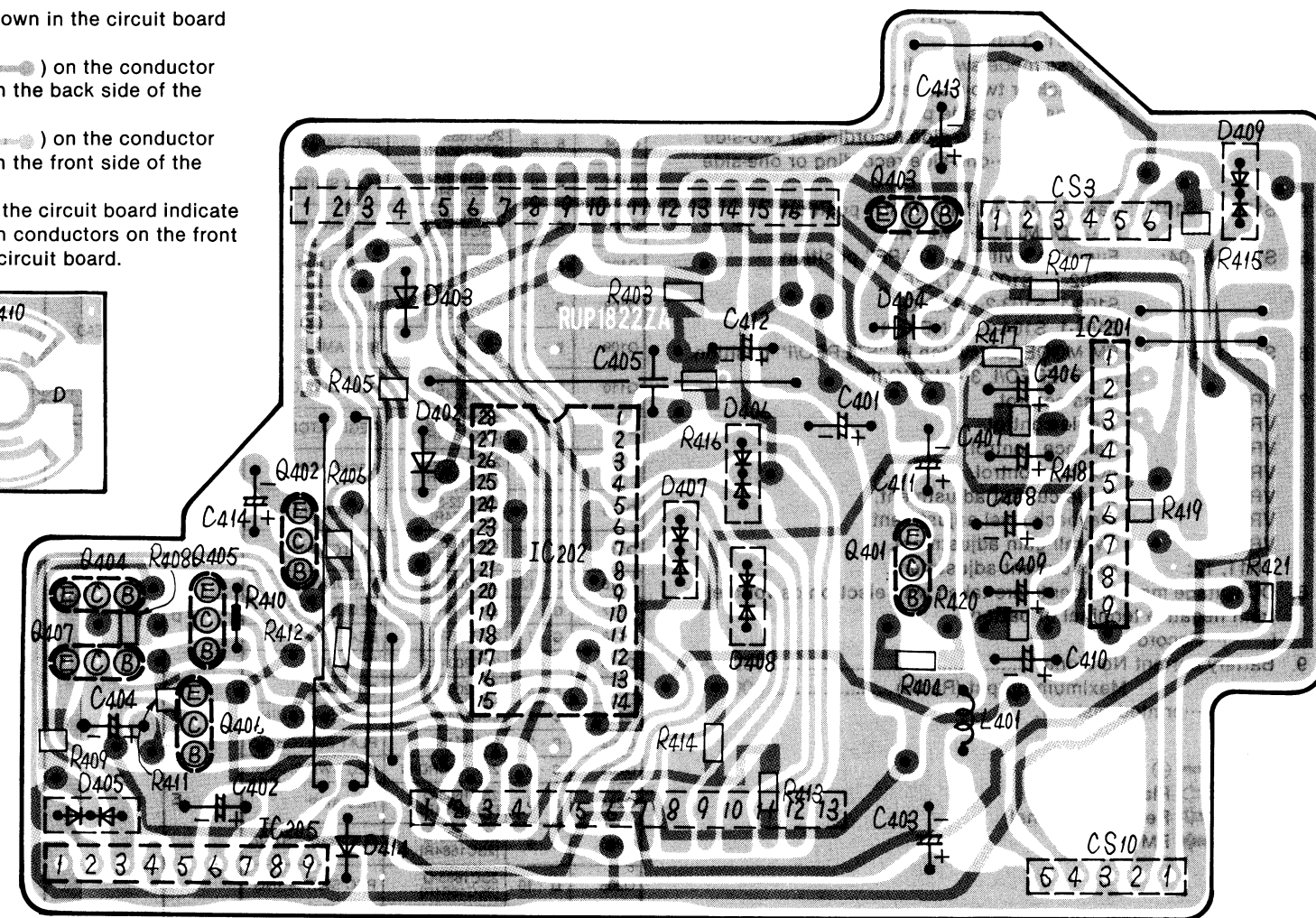
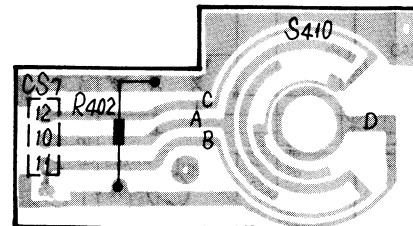
Ref. No.	Zone	Parts No.	Function
IC201	F · 8	RVIBA338	TPS AMP
IC202	C · 6	RVITC9310N	LOGIC
IC205	A · 3	RVITA7354P	MOTOR DRIVE
Q401	C · 3	2SA722-S [2SA564]	TAPE END SWITCHING
Q402	E · 3	2SC2001	MOTOR SWITCHING
Q403	F · 3	2SC2001	PLUNGER DRIVE
Q404	E · 4	2SC1685-Q [2SC1684-R]	TPS SWITCHING
Q405	E · 4	2SA722-S [2SA564]	TPS SWITCHING
Q406	F · 4	2SA722-S [2SA564]	REC MUTING
Q407	E · 5	2SC1685-Q [2SC1684-R]	TPS SWITCHING
Q408	D · 1	2SA722-S [2SA564]	DRIVER
Q410	B · 1	0N2160Q	PHOTO COUPLER
Q411	C · 1	0N2160Q	PHOTO COUPLER
D401	D · 1	MA161 [MA150]	SWITCHING
D402	E · 3	RVD1SS133	SWITCHING
D403	E · 3	RVD1SS133	SWITCHING
D404	F · 3	RVD1SR35	PROTECTOR
D405	B · 3	MA175WK	SWITCHING
D406	B · 7	MA175WK	SWITCHING
D407	C · 7	MA175WK	SWITCHING
D408	C · 8	MA175WK	SWITCHING
D409	B · 7	MA175WK	SWITCHING
D410	A · 10	RVDPY2222SB1	FWD IND
D411	A · 10	RVDPY2222SB1	REV IND
D412	B · 10	RVDA2222SB1	REC IND
D413	C · 10	RVDA2222SB1	PAUSE IND
D414	G · 4	RVD1SS133	SWITCHING

[] Production parts number.

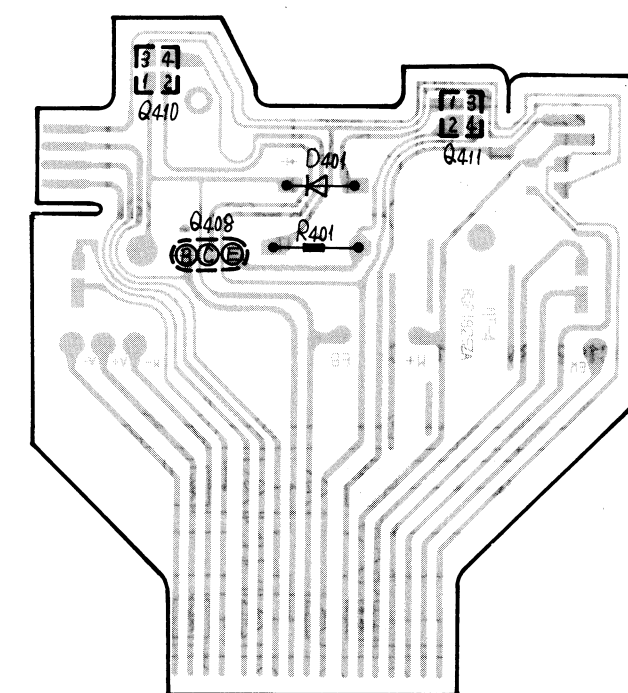
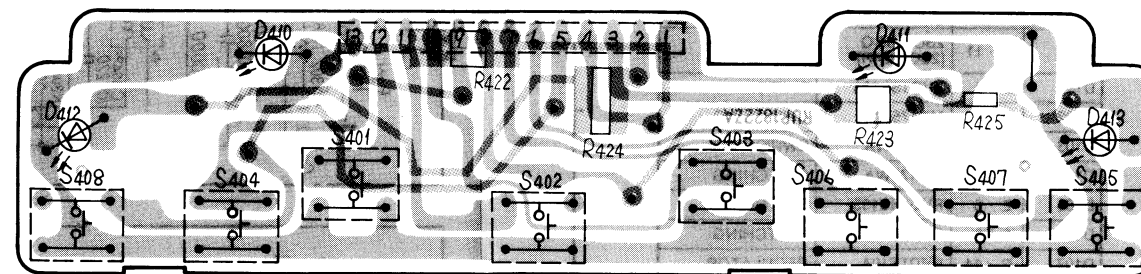
CIRCUIT BOARD (Logic) MODEL RX-C20

Notes:

- The symbols () shown in the circuit board indicate printed resistor.
- The circuit shown in () on the conductor indicates printed circuit on the back side of the printed circuit board.
- The circuit shown in () on the conductor indicates printed circuit on the front side of the printed circuit board.
- The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.



■ SWITCH CIRCUIT BOARD



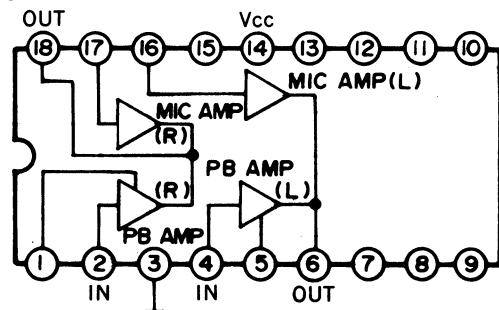
IC201	IC202	Q401~408	D401~404, 414
IC205	Q410, 411	D405~409	D410~413

Notes:

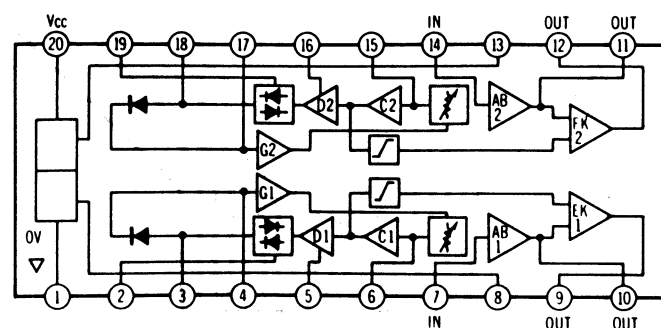
- S1-1, S1-2: Power switch in "ON" position.
(1...ON, 3...OFF)
- S2: Dolby switch in "OUT" position.
(1...OUT, 3...IN)
- S3: Reverse mode switch in "repeat two-side playback or two-side recording" position.
(1...repeat two-side playback or two-side recording, 2...two-side recording or two-side recording, 3...one-side recording or one-side playback)
- S101-1~S101-5: Tape switch in "NORMAL" position.
(1...NORMAL, 3...METAL)
- S102~S104: Function switch in "TAPE" position.
(S102-1~S102-6...TAPE, S103-1, S103-2...RADIO, S104-1, S104-2...LINE/CD)
- S105-1, S105-2: FM MODE/B.P switch in "STEREO/I" position.
(1...STEREO/I, 3...MONO/II)
- VR2: Bass control.
VR3: Treble control.
VR4: Balance control.
VR5: Volume control.
VR6: Erase current adjustment.
VR7, 8: Playback level adjustment.
VR9, 10: Overall gain adjustment.
VR11, 12: Bias current adjustment.
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
[]...Record
- Battery current No signal 100 mA
Maximum output (Radio) 800 mA
- * mark...printed resistor.

⊕ Voltage Line
 ↳ Playback Signal
 ↳ Recording Signal
 ↳ FM Signal

IC101 AN6205



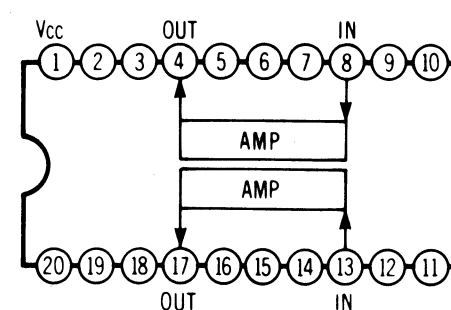
IC102 RVILM1131C



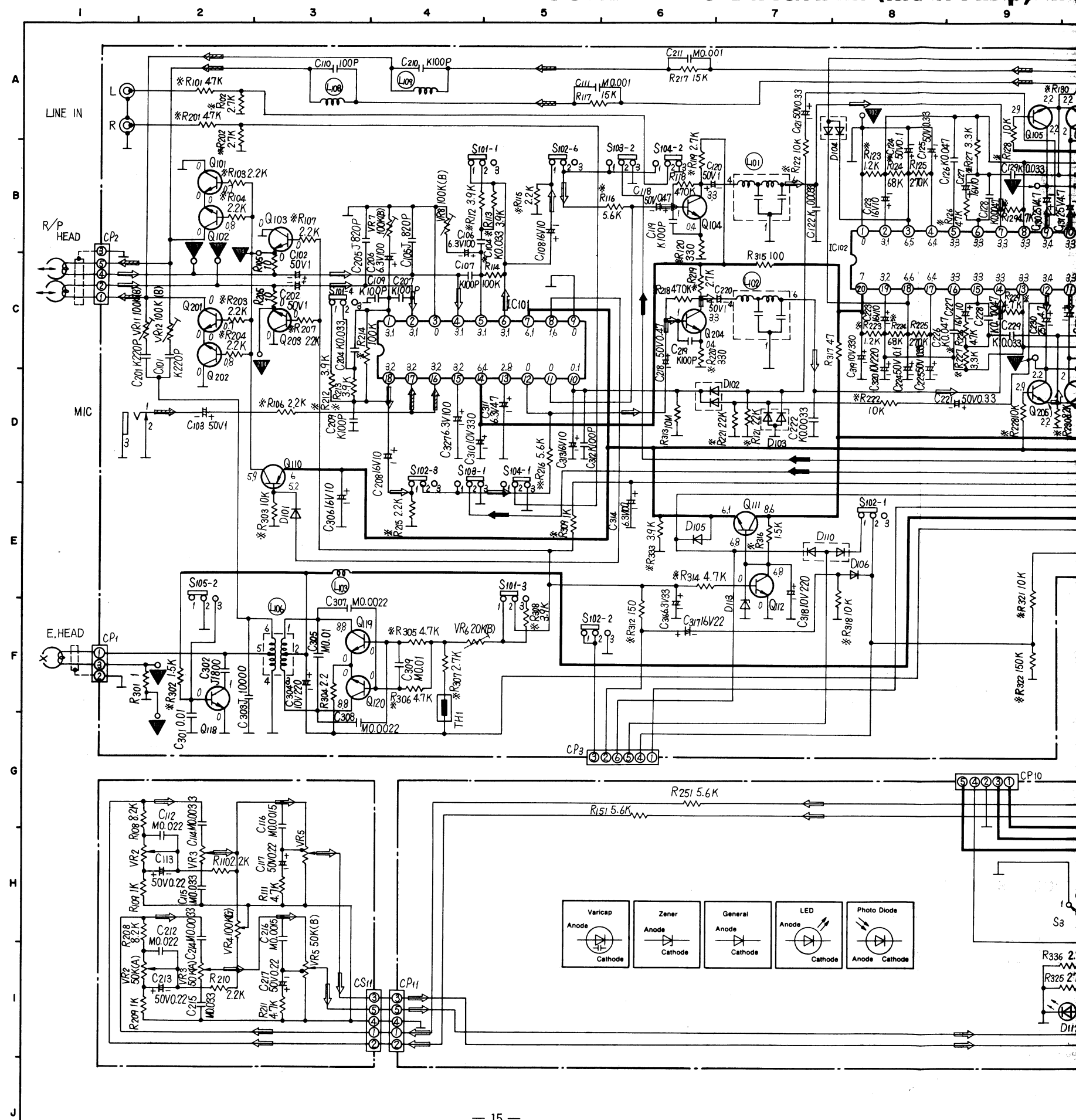
Ref. No.	Zone	Parts No.	Function
IC101	C · 5	AN6205	EQ/MIC AMP
IC102	B · 8	RVILM1131C	DOLBY
IC103	I · 13	RVILA4505R	POWER AMP
Q101	B · 2	2SC1845E	PLAY SWITCHING
Q102	B · 2	2SC1845E	PLAY SWITCHING
Q103	B · 3	2SC1788RD	REC SWITCHING
Q104	B · 6	2SC1685-Q [2SC1684R]	REC SWITCHING
Q105	A · 9	2SC1685-Q [2SC1684R]	PLAY SWITCHING
Q106	A · 10	2SC1685-Q [2SC1684R]	REC SWITCHING
Q107	B · 10	2SC1685-Q [2SC1684R]	REC MUTING
Q108	B · 15	2SC1685-Q [2SC1684R]	MUTING
Q109	B · 11	2SC1685-Q [2SC1684R]	REC AMP
Q110	D · 3	2SA722-S [2SA564R]	PLAY SWITCHING
Q111	E · 7	2SC1685-Q [2SC1684R]	REGULATOR
Q112	E · 7	2SC1685-Q [2SC1684R]	REGULATOR
Q113	C · 15	2SA722-S [2SA564R]	SWITCHING
Q114	D · 15	2SC1685-Q [2SC1684R]	SWITCHING
Q116	G · 13	2SC2001K1	REGULATOR
Q117	G · 14	2SC874R	REGULATOR
Q118	G · 2	2SC945P1	BEAT PROOF
Q119	F · 3	2SC2001K1	BIAS OSC
Q120	F · 3	2SC2001K1	BIAS OSC
Q201	C · 2	2SC1845E	PLAY SWITCHING
Q202	C · 2	2SC1845E	PLAY SWITCHING
Q203	C · 3	2SC1788RDR1	REC SWITCHING
Q204	C · 6	2SC1685-Q [2SC1684R]	REC AMP
Q205	D · 9	2SC1685-Q [2SC1684R]	PLAY SWITCHING
Q206	D · 10	2SC1685-Q [2SC1684R]	REC SWITCHING
Q207	D · 10	2SC1685-Q [2SC1684R]	REC MUTING
Q208	B · 15	2SC1685-Q [2SC1684R]	MUTING
Q209	C · 11	2SC1685-Q [2SC1684R]	REC AMP
D101	E · 3	RVD1SS133	SWITCHING
D102	D · 7	MA175WK	SWITCHING
D103	D · 7	MA175WA	SWITCHING
D104	A · 8	MA175WA	SWITCHING
D105	E · 6	RVD1SS133	SWITCHING
D106	E · 8	RVD1SS133	SWITCHING
D107	G · 14	RVDTZ10A	REGULATOR
D108	G · 13	RVDTZ6R2B	REGULATOR
D110	E · 8	MA175WA	SWITCHING
D111, 112	G · 12/ I · 10	LN021223PH	DOLBY/POWER IND
D113	F · 7	RVDMTZ6R8B	REGULATOR

[] Production parts number.

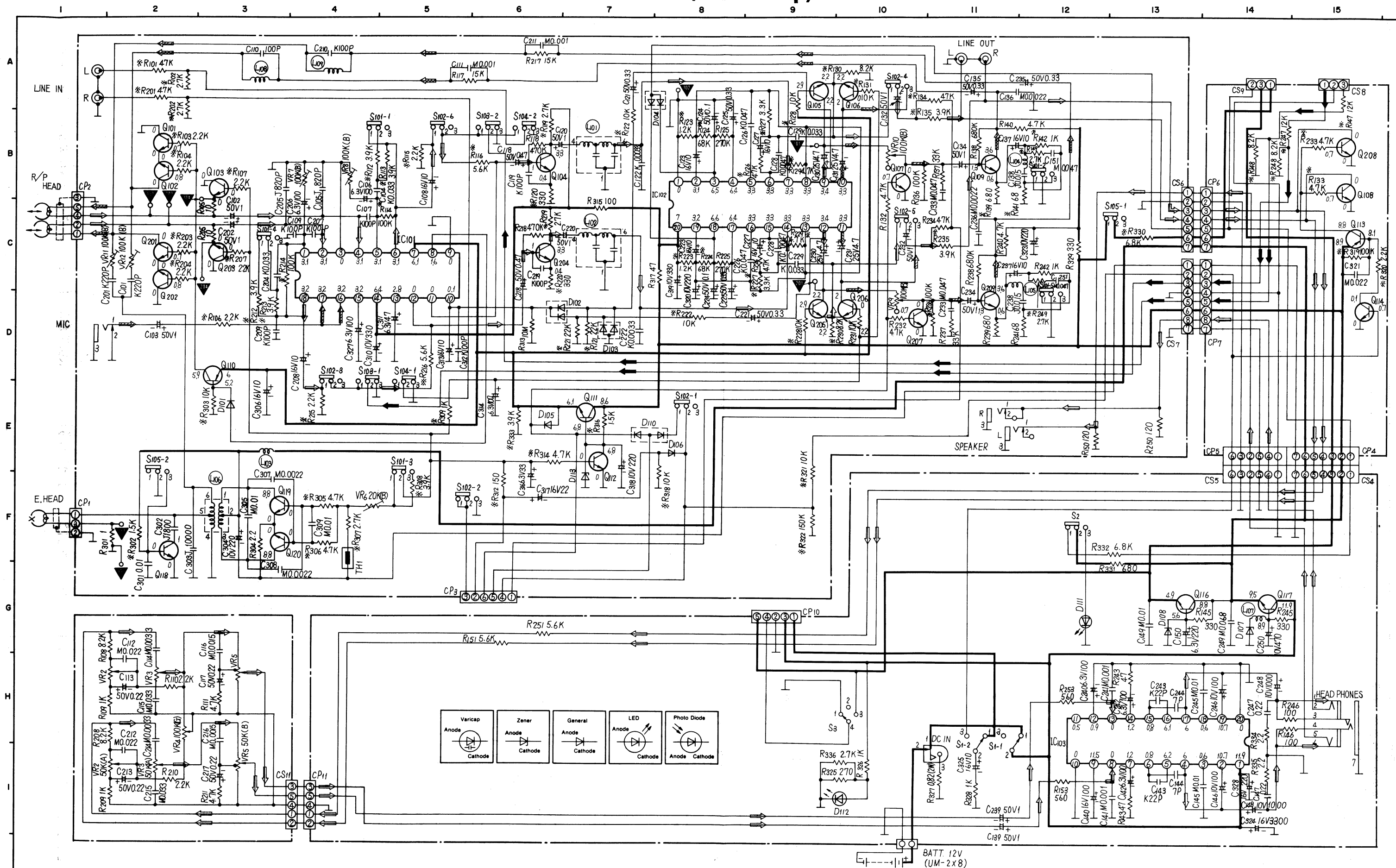
IC103 RVILA4505R



SCHEMATIC DIAGRAM (Main Amp) MC

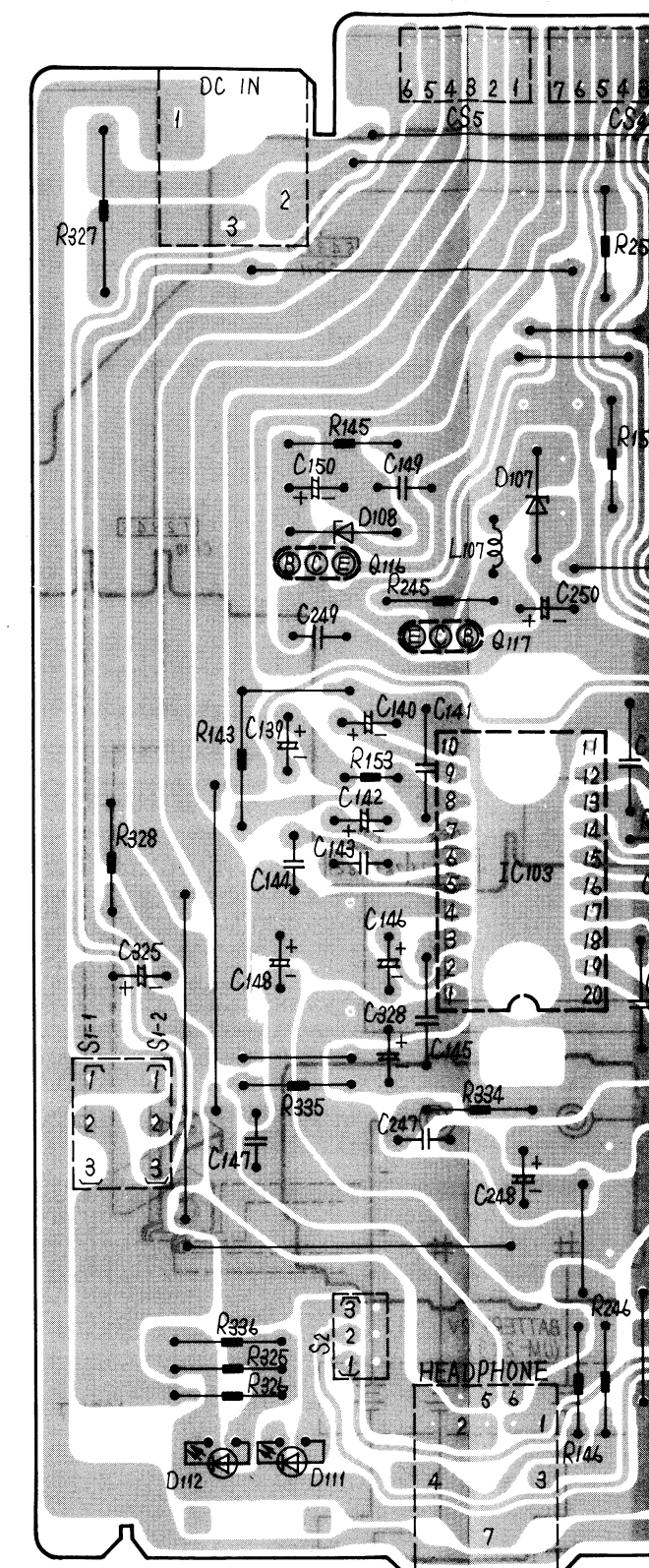
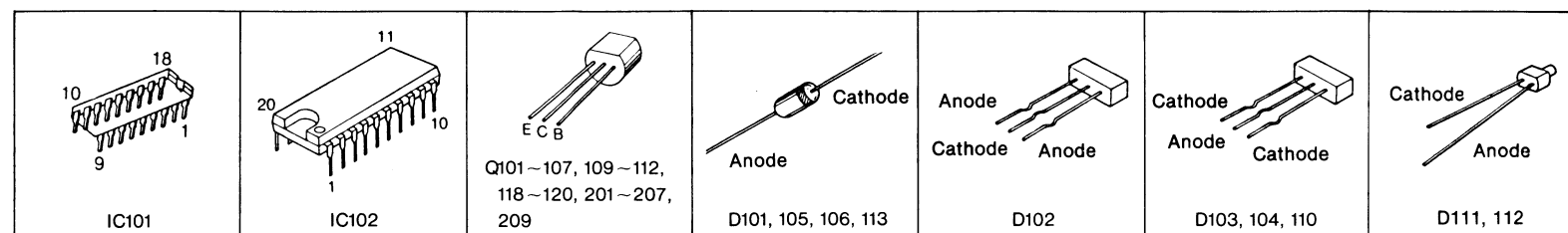
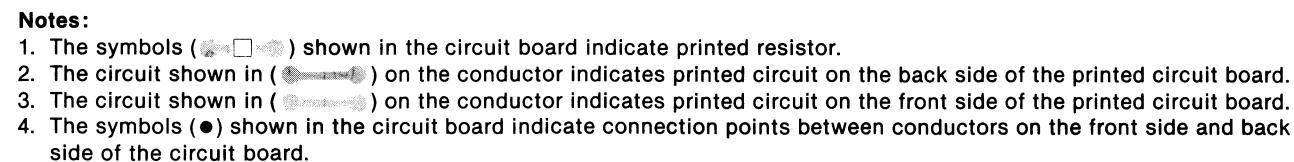


SCHEMATIC DIAGRAM (Main Amp) MODEL RX-C20

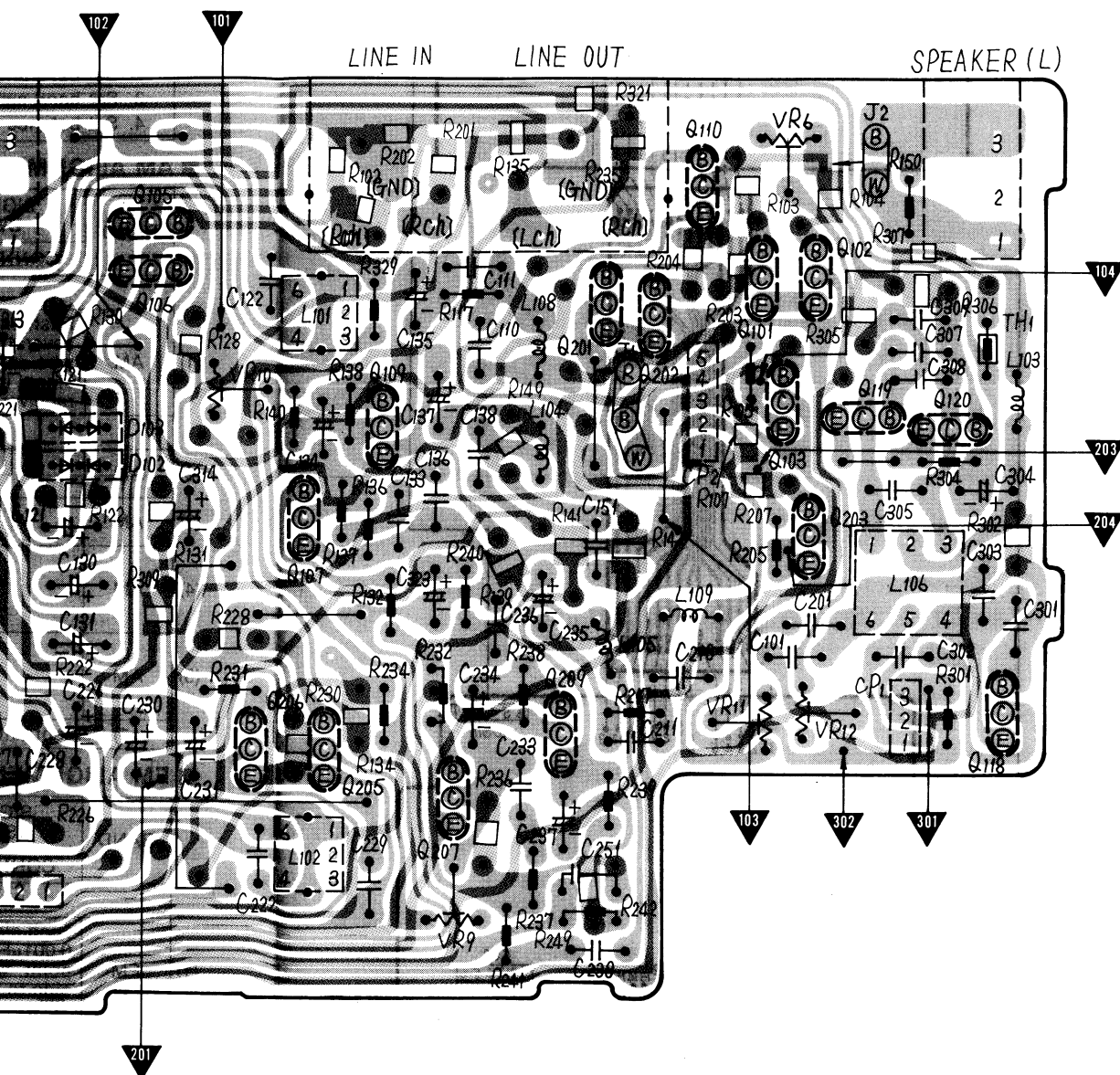


CIRCUIT BOARD (Main Amp) MODEL RX-C20

■ POWER AMP CIRCUIT BOARD



Gain Amp) MODEL RX-C20

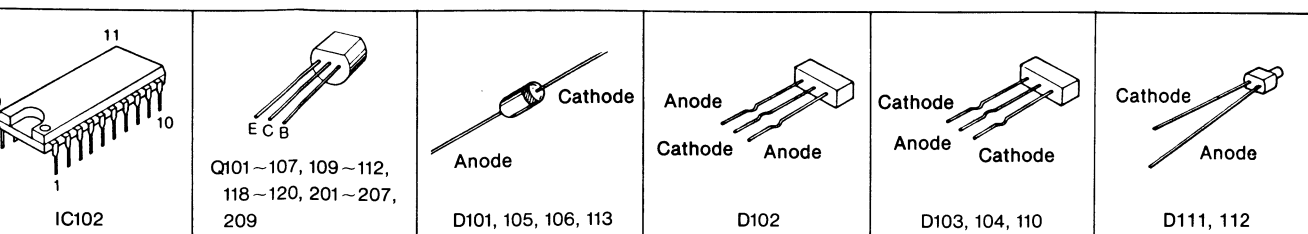


bols () shown in the circuit board indicate printed resistor.

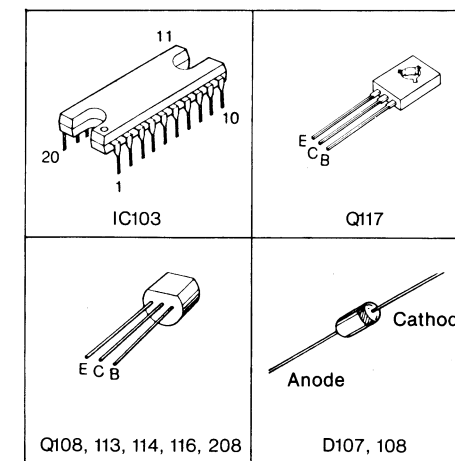
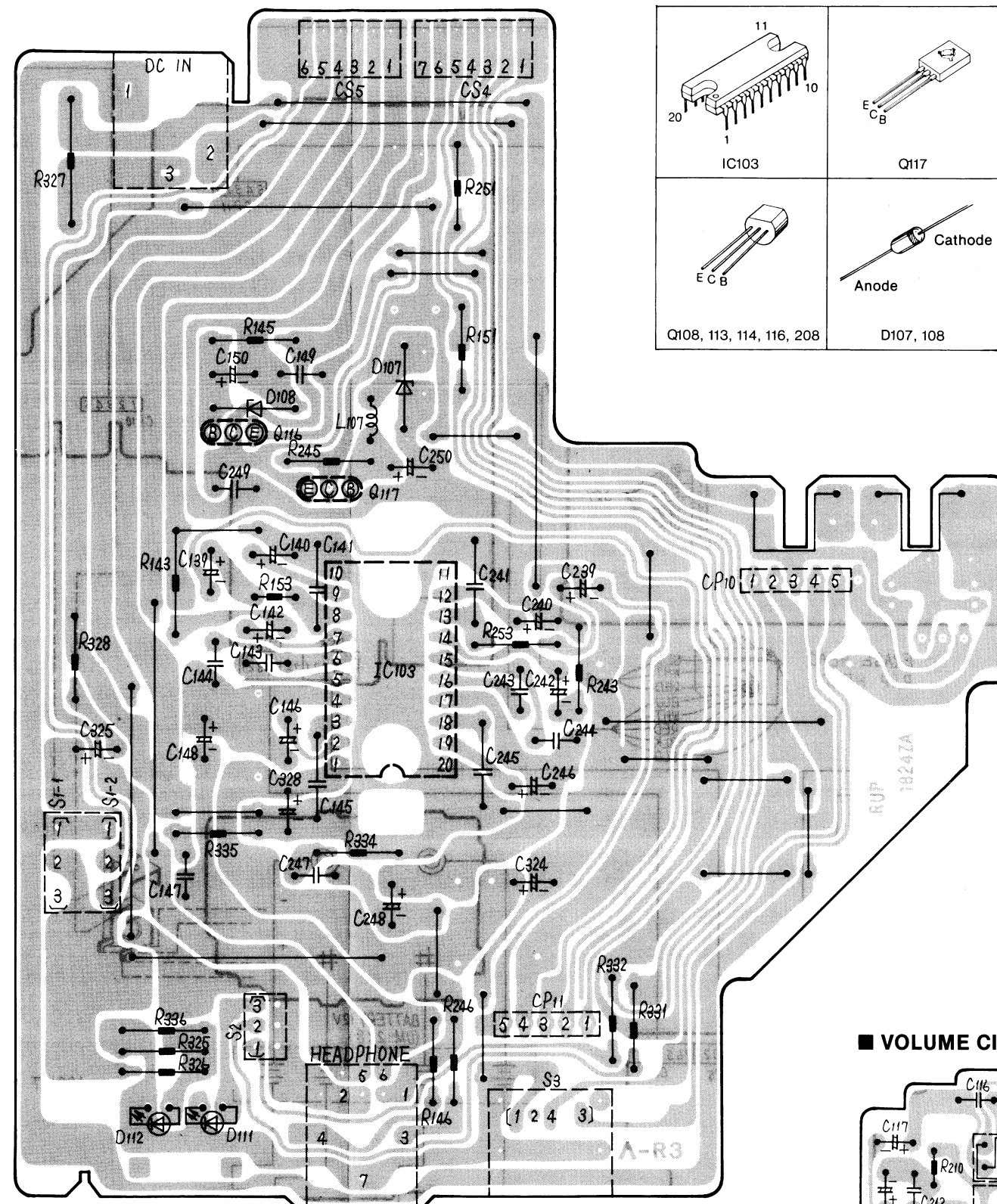
uit shown in () on the conductor indicates printed circuit on the back side of the printed circuit board.

uit shown in () on the conductor indicates printed circuit on the front side of the printed circuit board.

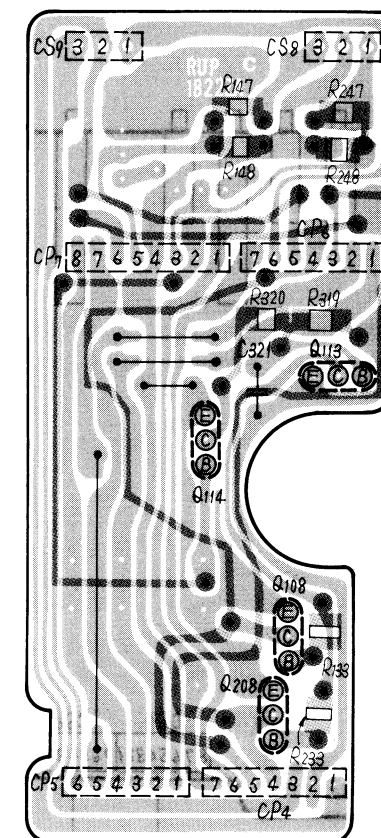
bolts (●) shown in the circuit board indicate connection points between conductors on the front side and back of the circuit board.



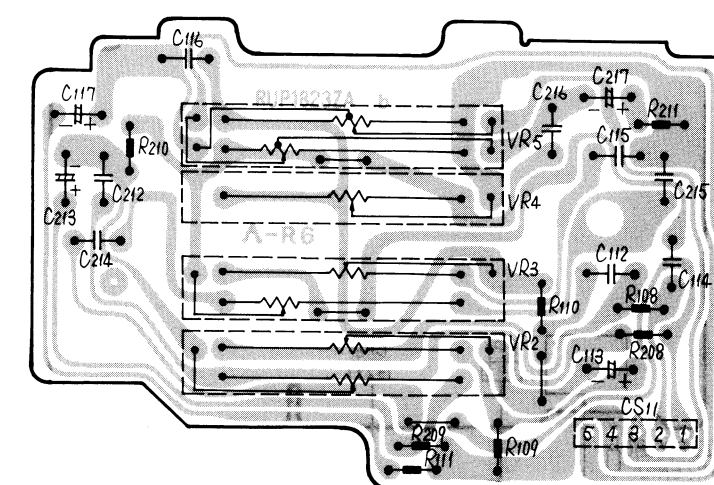
■ POWER AMP CIRCUIT BOARD



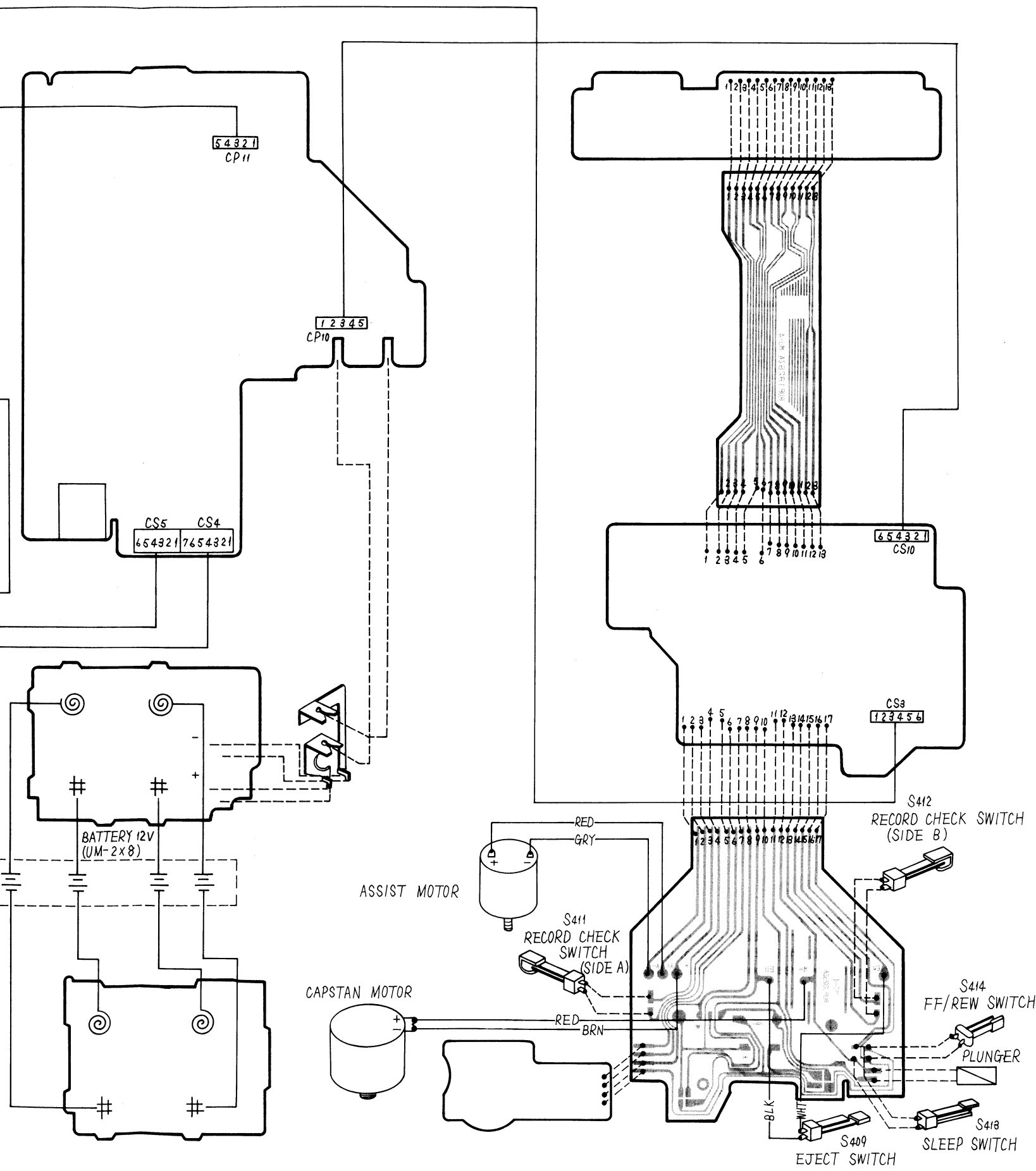
■ CONNECTING CIRCUIT BOARD



■ VOLUME CIRCUIT BOARD



NECTION DIAGRAM MODEL RX-C20



MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT					
1. Set volume control to maximum.				5. Set function selector to radio.	
2. Set bass and treble control to center.				6. Set power source voltage to 12V DC.	
3. Set band switch to AM or FM.				7. Output of signal generator should be no higher than necessary to obtain an output reading.	
4. Set balance control to center.					

■ AM ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
AM-IF ALIGNMENT						
(1)	AM	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455kHz 30% Mod. at 400Hz	Point of non-interference. (on/ about 600kHz)	Output meter across voice coil.	T2 (AM 1st IFT) T4 (AM 2nd IFT) Adjust for maximum output.
AM-RF ALIGNMENT						
(2)	AM	"	511 kHz	Tuning capacitor fully closed.	"	L4 (AM OSC Coil) Adjust for maximum output.
(3)	AM	"	1,650kHz	Tuning capacitor fully open.	"	CT4 (AM OSC Trimmer) "
(4)	AM	"	550 kHz	Tune to signal.	"	(* 1) L3 (AM ANT Coil) Adjust for maximum output. Adjust L3 by moving coil bobbin along ferrite core.
(5)	AM	"	1,500kHz	"	"	CT3 (AM ANT Trimmer) Adjust for maximum output. Repeat steps (2)~(5).
(* 1) Cement antenna bobbin with wax after completing alignment.						

■ FM ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS	
	CONNECTIONS	FREQUENCY					
FM-IF ALIGNMENT							
(1)	FM	High side thru. 0.001 μ F to test point ∇ . Negative side to test point ∇ .	10.7 MHz (SWP.)	Point of non-interference. (on/ about 90MHz)	Connect vert. amp. of scope to test point ∇ . Negative side to test point ∇ .	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 2.)
(2)	FM	"	"	"	"	T3 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 3.)
FM-RF ALIGNMENT							
(3)	FM	Connect to test point ∇ through FM dummy antenna. Negative side to test point ∇ .	86.2MHz	Variable capacitor fully closed.	Output meter across voice coil.	L2 (FM OSC Coil)	(*2) Adjust for maximum output.
(4)	FM		109.2MHz	Variable capacitor fully open.	"	CT2 (FM OSC Trimmer)	"
(5)	FM		90 MHz	Tune to signal.	"	L1 (FM ANT Coil)	"
(6)	FM		106 MHz	"	"	CT1 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (3)~(6).
(*2) Three output responses will be present; proper tuning is the center frequency.							

■ SEPARATION ALIGNMENT

ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	90 MHz, 60 dB	∇ ... (+) ∇ ... (-)	VR1	19 kHz	Adjust VR1, for 19 kHz (\pm 100 Hz) reading on electronics counter.

■ AUDIO ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Azimuth	QZZCFM (8kHz, -20dB)	EXT SP	Maximum output.	Azimuth screw	Playback mode (Refer to Fig. 5)
Playback level	QZZCFM (315Hz, 0dB)	101... (Lch) 201... (Rch) 102... (-)	0.42±0.025V	VR7 (Lch) VR8 (Rch)	Playback mode
Erase current	Use metal tape	301... (+) 302... (-)	155±10 5mV	VR6	Record mode Beat proof switch → I Tape selector → Metal
Bias current	Use metal tape	101... (Lch) 201... (Rch) 102... (-)	Metal 8.5±1.5mV Normal 4.1±0.2mV	Metal VR11 (Lch) VR12 (Rch)	Record mode Beat proof switch → I Tape selector → Metal
Overall gain	LINE IN 1kHz (-24dB)	101... (Lch) 201... (Rch) 102... (-)	0±1dB	VR10 (Lch) VR9 (Rch)	1. Set function switch in line position. 2. Record the signal at 1kHz and -24dB. Read the output at test points 101 and 201. 3. Set function switch in tape position. 4. With the reading at 101 and 201 during recording at 0dB, adjust the outputs at these points so that they read 0±1dB when the signal recorded in step 2 above is played back.

■ TAPE SPEED ADJUSTMENT

COUNTER	ADJUSTMENT
Connect to earphone jack	1. Playback test tape (QZZCWAT, 3kHz). 2. Adjust VR until 3000Hz±90Hz is read on the counter. (Refer to Fig. 4)

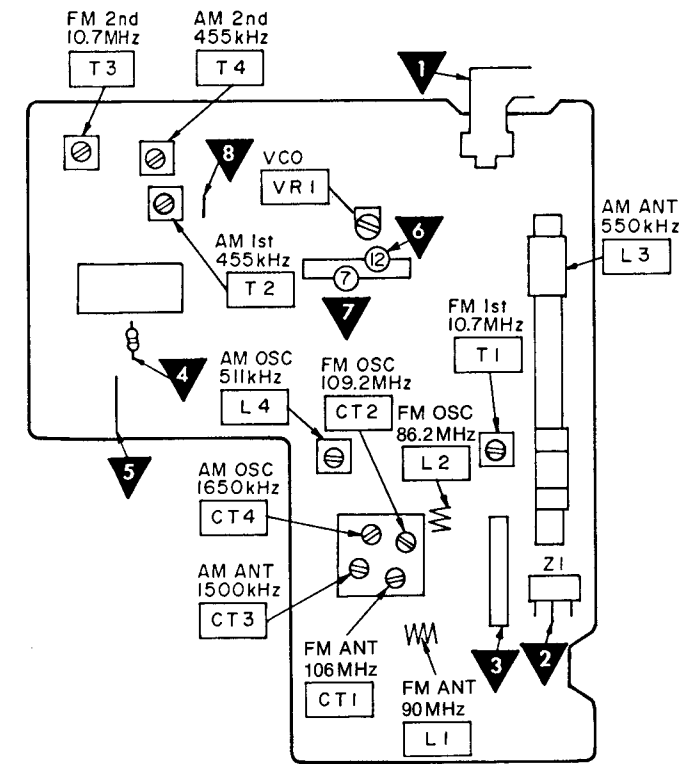


Fig. 1

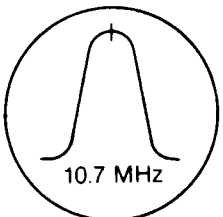


Fig. 2

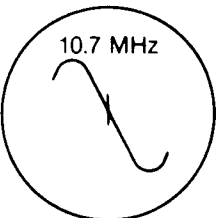


Fig. 3

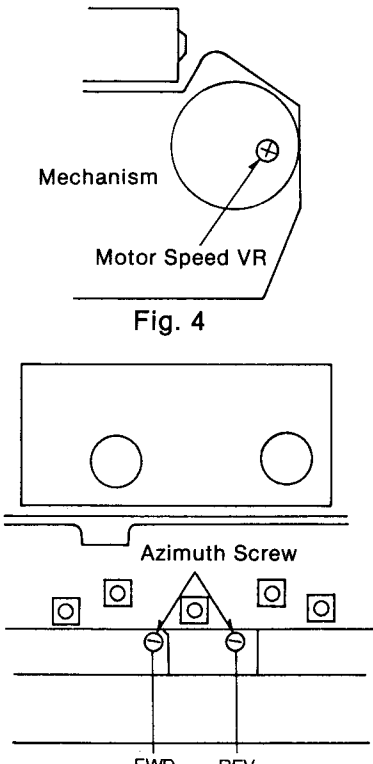


Fig. 4

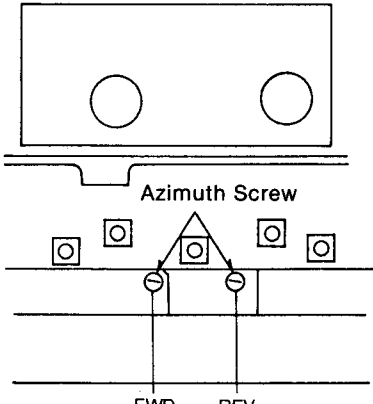


Fig. 5

• Please refer to Circuit Board and Wiring Connection Diagram which is located test point.

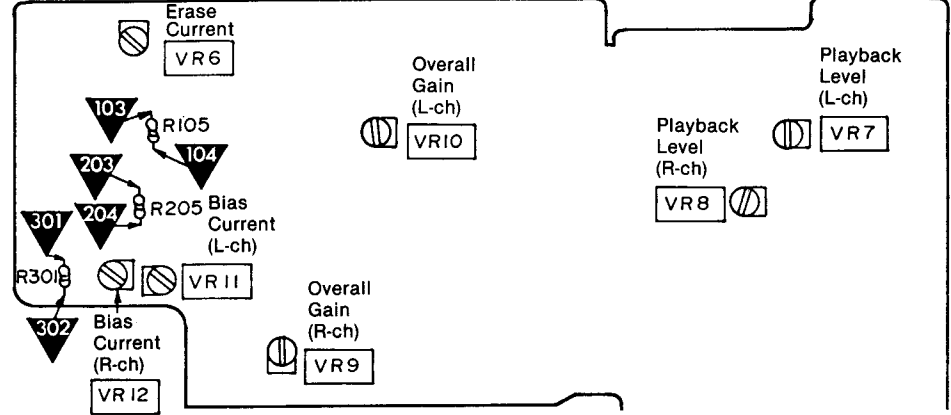


Fig. 6

Specification of Extension Cable

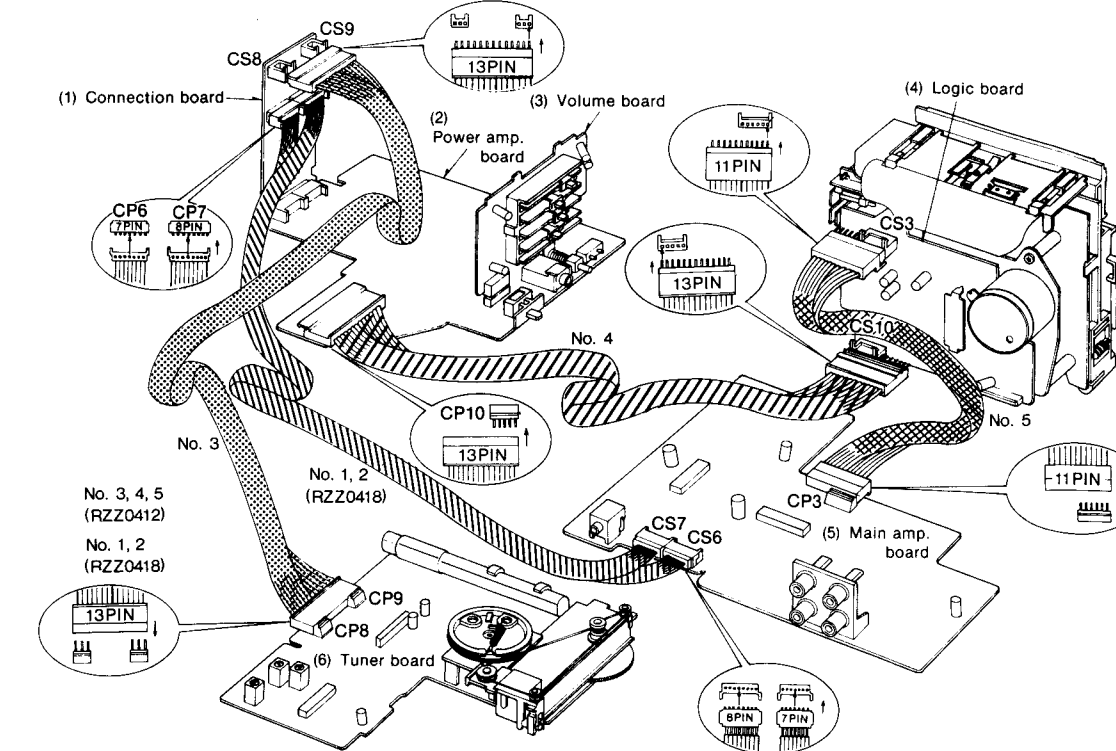
[Type of cable]

Cable no.	No. of pins	Usage	For general use	Remarks
1	pin 7	Main amp. board (CS7)~ Connection board (CP7)	RX-C20	
2	pin 8	Main amp. board (CS6)~ Connection board (CP8)	RX-C20	
* 3	pin 13	Connection board (CS8, CS9)~ Tuner board (CP8, CP9)	RX-C50	Extension cable for RX-C50 (RZZ0412) For the extension cables, they are handled by the service parts route. Extension cable for RX-C20 Part No. RZZ0418
* 4	pin 13	Power amp. board (CP10)~ Logic board (CS10)	RX-C50	Extension cable for RX-C50 Part No. RZZ0412
* 5	pin 11	Main amp. board (CP3)~ Logic board (CS3)	RX-C50	Extension cable for RX-C50 Part No. RZZ0412

Note) 1. Before assembly, disassembly or cable connection, be sure to turn OFF the power supply of the set.
2. Wrong connection may cause the set to break down.

[Extension cable connecting method] (RX-C20)

Connect the connectors as shown below.



ELECTRICAL PARTS LIST

Numbering System of Resistor

Example	25	F	J	101	Example	1H	102	Z	F
ERD	25	F	J	101	ECKD	1H	102	Z	F
Type	Wattage	Shape	Tolerance	Value (1000)	Type	Voltage	Value (1000 pF)	Tolerance	Peculiarity
ERX	2	AN	J	2R2	ECEA	50	M	R47	
Type	Wattage	Shape	Tolerance	Value (2.20)	Type	Voltage	Peculiarity	Value (0.47 μF)	

Numbering System of Capacitor

Resistor Type	Wattage	Tolerance
ERD: Carbon	10 : 1/8 W	J : ±5%
ERD: Metal Film	12 : 1/2 W	
ERX: Metal Film	25 : 1/4 W	
ERQ: Fast Type Metal	1 : 1 W	
RRD: Carbon (Chip Type)	18 : 1/8 W	

REPLACEMENT PARTS LIST

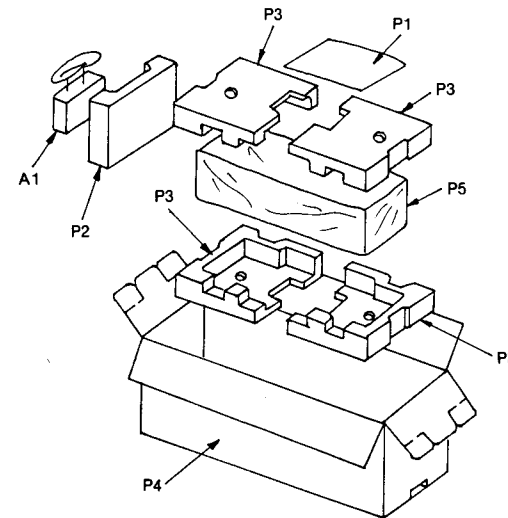
Important safety notice
Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA: Electrolytic	0J : 6.3 V	2H : 500 V DC	C : ±0.25 pF
ECCD: Ceramic	1A : 10 V	1 : 100 V	J : ±5%
ECKD: Ceramic	1C : 16 V	DKC : 400 V AC	K : ±10%
ECQM: Polyester	1E : 25 V		Z : +80%, -20%
ECQP: Polypropylene	1H : 50 V		P : +100%, -0%
ECET: Electrolytic	1V : 35 V		
ECEA□□□□: Non Polar Electrolytic	50 : 50 V		
QCU □: Ceramic (Chip Type)	25 : 25 V		
ECUX: Ceramic (Chip Type)	16 : 16 V		

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS			COILS			TRANSFORMERS		
IC 1	RVITA7358P	Integrated Circuit	D 107	RVDZ10A	Diode (Si)	T 1, 3	RLI4B153	I.F. Transformer
IC 2	AN7220A	Integrated Circuit	D 108	RVDZ5R6B	Diode (Si)	T 2	RLI2B207	I.F. Transformer
IC 3	RVIBA1332L	Integrated Circuit	D 112, 113	LN021223PH	Diode (Si)	T 4	RLI2B217	I.F. Transformer
IC 101	AN6205	Integrated Circuit	D 113	RVDMTZ6R8B	Diode (Si)	VARIABLE CAPACITORS		
IC 102	RVILM1131C	Integrated Circuit	D 401	MA161	Diode (Si)	VC 1, 2, 3, 4	RCV4LC502U	Tuning Capacitor
IC 103	RVILA4505R	Integrated Circuit	TRANSISTORS			VARIABLE RESISTORS		
IC 201	RVIBA338	Integrated Circuit	D 404	RVD1SR35	Diode (Si)	VR 1	QVNB3A00B103	Variable Resistor
IC 202	RVITC9310N	Integrated Circuit	D 410, 411	RVDPY2222SB1	Diode (Si)	VR 2, 3	RVV2K2A54	Variable Resistor
IC 205	RVITA7354P	Integrated Circuit	D 412	RVDAR2222SB1	Diode (Si)	VR 4	RVV1K3W15	Variable Resistor
TRANSISTORS			D 413	RVDAA2202SB1	Diode (Si)	VR 5	RVV2K1B54	Variable Resistor
Q 1	2SC829-C	Transistor (Si)	DIODES & RECTIFIERS			JACKS		
Q 101, 102, 201, 202	2SC2845E	Transistor (Si)	D 1	RVDS0113	Diode (Si)	J 1, 2	RJF1091Z	Line In
Q 103, 203	2SC1788RDR1	Transistor (Si)	D 3	LN253RPLF	Diode (Ga)	J 3	RJJ1D33Z	Headphone
Q 104, 105, 106, 107, 108, 109, 111, 112, 114	2SC1685-Q	Transistor (Si)	D 101, 105, 106, 402, 403, 414	RVDS1S133	Diode (Si)	J 4	RJJ97Y	DC In
Q 110, 113, 401, 405, 406, 408	2SA722-S	Transistor (Si)	D 102, 405, 406, 407, 408, 409	MA175WA	Diode (Si)	J 5	QJA0172	Speaker (R ch)
Q 116, 119, 120, 402, 403	2SC2001K1	Transistor (Si)	D 103, 104, 110	MA175WA	Diode (Si)	J 6	RJJ1D28Y	Speaker (L ch)
Q 117	2SC1847	Transistor (Si)	PACKINGS			J 7	RJJ1D20Y	Microphone
Q 118	2SC945-Q	Transistor (Si)	REPLACEMENT PARTS LIST			ACCESSORY		
Q 204, 205, 206, 207, 208, 209, 404, 407	2SC1685-Q	Transistor (Si)	PACKINGS			A 1	RDAC120M	AC Adaptor Δ
Q 410, 411	ON2160Q	Transistor (Si)	P 1	RQX4537Z	Instruction Book	P 1	RQX4537Z	Instruction Book
DIODES & RECTIFIERS			P 2	RPN4526Z	Pad	P 2	RPN4526Z	Pad
D 1	RVDS0113	Diode (Si)	P 3	RPN9840Z	Pad Complete	P 3	RPN9840Z	Pad Complete
D 3	LN253RPLF	Diode (Ga)	P 4	RPK1963Z	Gift Box	P 4	RPK1963Z	Gift Box
D 101, 105, 106, 402, 403, 414	RVDS1S133	Diode (Si)	P 5	RPP618Z	Polyethylene Cover	P 5	RPP618Z	Polyethylene Cover
D 102, 405, 406, 407, 408, 409	MA175WA	Diode (Si)	REPLACEMENT PARTS LIST			PACKINGS		
D 103, 104, 110	MA175WA	Diode (Si)	PACKINGS			ACCESSORY		

Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.
CAPACITORS				RESISTORS			
C 1, 33	ECCD1H180K	C 60	ECCD1H030C	R 15, 108, 208	ERDS2TJ822	R 15, 108, 208	ERDS2TJ822
C 2, 39, 305, 309	ECKD1H103MD	C 101, 202	ECCD1H221K	R 16	ERDS2TJ391	R 16	ERDS2TJ391
C 3	ECCD1H040C	C 102, 103, 120, 132, 134, 139, 202, 220, 232	ECEA1HU010	R 20, 21, 22, 317	ERDS2TJ470	R 20, 21, 22, 317	ERDS2TJ470
C 4, 144, 244	ECCD1H070D	C 104, 129, 204, 229	ECFT1E333KD	R 105, 205	ERDS2TJ100	R 105, 205	ERDS2TJ100
C 5	ECCD1H470K	C 105, 205	ECKD1H821KB	R 109, 209, 242	ERDS2TJ102	R 109, 209, 242	ERDS2TJ102
C 6	ECCD1H050C	C 112, 222	ECFT1E332KD	R 110, 210	ERDS2TJ222	R 110, 210	ERDS2TJ222
C 7, 9, 35, 111, 211	ECKD1H102MD	C 113, 117, 213, 217, 411	ECEA1HUR22	R 111, 132, 140, 211, 232, 240	ERDS2TJ472	R 111, 132, 140, 211, 232, 240	ERDS2TJ472
C 10, 11, 13, 14, 22, 29, 30, 36, 38, 112, 212, 321	ECFT1E223MD	C 114, 214	ECKD1H332MD	R 117, 217	ERDS2TJ153	R 117, 217	ERDS2TJ153
C 15	ECCD1H330K	C 116, 216	ECKD1H152MD	R 125, 225	ERDS2TJ274	R 125, 225	ERDS2TJ274
C 16	ECEA0JK101	C 118, 218, 408	ECEA1HUR47	R 137, 237	ERDS2TJ333	R 137, 237	ERDS2TJ333
C 17, 108, 123, 127, 137, 208, 223, 227, 237	ECEA1CU100	C 121, 125, 135, 221, 225, 235	ECEA1HUR33	R 138, 238	ERDS2TJ684	R 138, 238	ERDS2TJ684
C 19, 115, 215	ECFT1E333MD	C 124, 224	ECEA1HU0R1	R 143, 243	ERD25FJ470	R 143, 243	ERD25FJ470
C 20, 27	ECEA1HK0R1	C 126, 226	ECFT1E473KD	R 145, 245	ERD25FJ331	R 145, 245	ERD25FJ331
C 21, 106, 142, 206, 240, 242, 314	ECEA0JU101	C 133, 151, 233, 251	ECFT1E473MD	R 146, 246	ERD25FJ101	R 146, 246	ERD25FJ101
C 23	ECKD1H471KB	C 136, 236, 307, 308	ECKD1H222MD	R 150, 250	ERDS2TJ121	R 150, 250	ERDS2TJ121
C 24, 26, 31, 32	ECEA1HK010	C 138, 238	ECQG1H153JZ	R 151, 251	ERD25FJ562	R 151, 251	ERD25FJ562
C 25	ECFT1E153MD	C 140, 402	ECEA1CU101	R 153, 253	ERD25FJ561	R 153, 253	ERD25FJ561
C 28	ECQP2A102JZ	C 141, 241	ECBS1H102KB	R 231	ERD25FJ103	R 231	ERD25FJ103
C 34	ECCD1H100K	C 143, 243	ECCD1H220K	R 239	ERDS2TJ681	R 239	ERDS2TJ681
C 43	ECEA1CK100	C 145, 245	ECBS1C103MY	R 241	ERDS2TJ680	R 241	ERDS2TJ680
C 44, 107, 109, 110, 119, 207, 209, 210, 219, 312	ECCD1H101K	C 146, 246	ECEA1AU101	R 301	ERDS2TJ1R0	R 301	ERDS2TJ1R0
		C 147, 247	ECQV1H224JZ	R 304	ERDS2TJ2R2	R 304	ERDS2TJ2R2
		C 148, 248	ECEA1AU102	R 313	ERD25TJ106	R 313	ERD25TJ106
		C 149	ECFT1E103MD	R 325	ERD25FJ271	R 325	ERD25FJ271

PACKINGS



REPLACEMENT PARTS LIST

Important safety notice
Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Part No.	Part Name & Description
ACCESSORY		
A 1	RDAC120M	AC Adaptor Δ
PACKINGS		
P 1	RQX4537Z	Instruction Book
P 2	RPN4526Z	Pad
P 3	RPN9840Z	Pad Complete
P 4	RPK1963Z	Gift Box
P 5	RPP618Z	Polyethylene Cover

Service Manual

Radio Cassette

RX-C20

(Black)

Supplement

Portable Stereo Component System

This is the Service Manual for the following areas.

Z ...For all European areas except United Kingdom.

E ...For United Kingdom.

• Please use this manual together with the service manual for model No. RX-C20 **Z**/**E** order No. GAD8508526A2.

This is the information on the supply of Head Block Ass'y.

■ ADDITION PARTS LIST

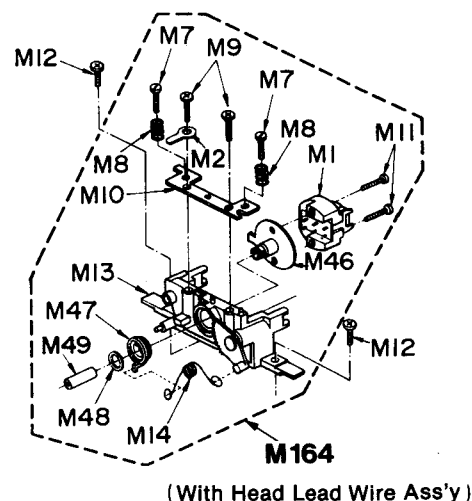
Ref. No.	Part No.	Part Name & Description
M164	RFH12Z	Head Block Ass'y

■ HEAD BLOCK ASS'Y REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
MECHANICAL PARTS		
M1	RJH37T1Z	R/P Erase Head
M2	RFE171Z	Terminal
M7	RFE138Z	Screw
M8	RFS381Z	Spring
M9	RFE140Z	Screw
M10	RFD171Z	Head Plate
M11	RFE139Z	Screw
M12	RFE141Z	Screw
M13	RFE135Z	Head Base Ass'y
M14	RFS382Z	Spring
M46	RFD176Z	Bracket
M47	RFG60Z	Gear, Head Reverse
M48	RFN118Z	Washer
M49	RFE143Z	Tube, Lead Wire

■ MECHANICAL PARTS LOCATION

(Top View)



(With Head Lead Wire Ass'y)

Panasonic

Matsushita Electric Trading Co., Ltd.

P.O. Box 288, Central Osaka Japan

GAD **Z**/**E**
Y.Y.

Printed in Japan (H)

Service Manual

Radio Cassette
RX-C20

Supplement-1

Portable Stereo Component System

This is the Service Manual
for the following areas.

M ...For U.S.A.

- Please use this manual together with the service manual for model No. RX-C20 **M** order No. GAD84125481C1.
- This service manual indicates the main differences between; Original RX-C20 **M** and supplement-1.

- The method of replacement and assembly of the head of the RX-C20 was not clear, so we are providing this supplement explanation.

ADDITION

■ HEAD REPLACEMENT

1. Remove the mechanism block from the set.
2. Remove the two screws (M12) holding the head base.
(See Fig. 1)
3. Remove the two screws (M11) holding the head. (See Fig. 1)
4. Desolder the head lead wires and replace the head.

■ HEAD LEAD WIRE CONNECTIONS.

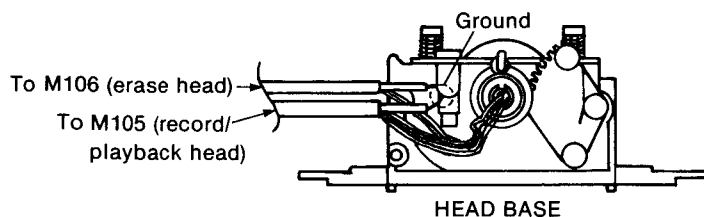


Fig. 2

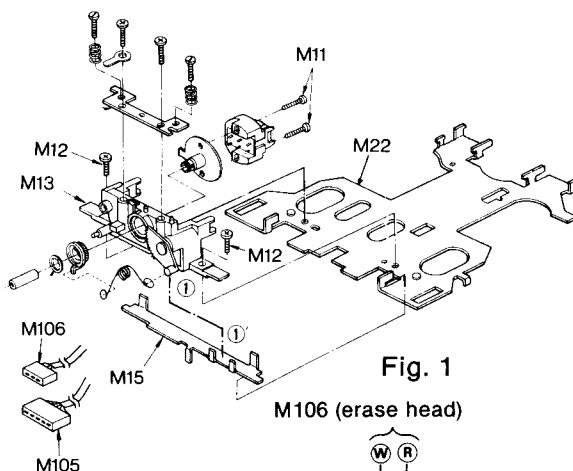


Fig. 1

NOTES:

- W... White
- B... Black
- BL... Blue
- R... Red

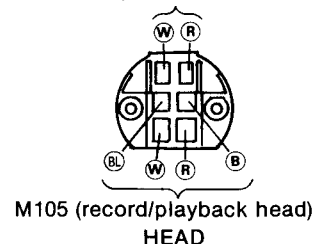


Fig. 3

Precautions to Take When Replacing and Attaching the Head

1. When attaching the head base, be sure (1') of M15 (head switching lever) and the gear (1) of the head base mesh properly. (See Fig. 1.)
2. Do not apply the soldering iron for too long a period when soldering the head lead wires.
3. Be careful to correctly connect the red and white wires of the head lead wires M105 (for record/playback head) and M106 (for erase head).
4. Be careful to connect the head in the right direction.

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Panasonic Sales Company,
Division of Matsushita Electric
of Puerto Rico, Inc.
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Victoria Industrial Park
Carolina, Puerto Rico 00630

5. The arrow “” indicates the direction of tape travel. (See Fig. 4~5.)

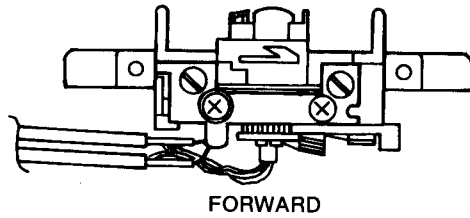


Fig. 4

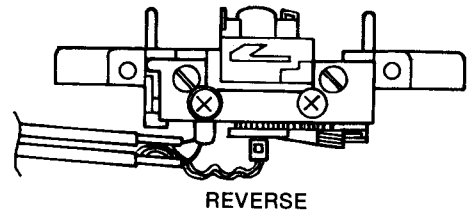


Fig. 5

■ Gear Attachment Position after Disassembly of Head Block

View of bottom of head during REV (reverse)

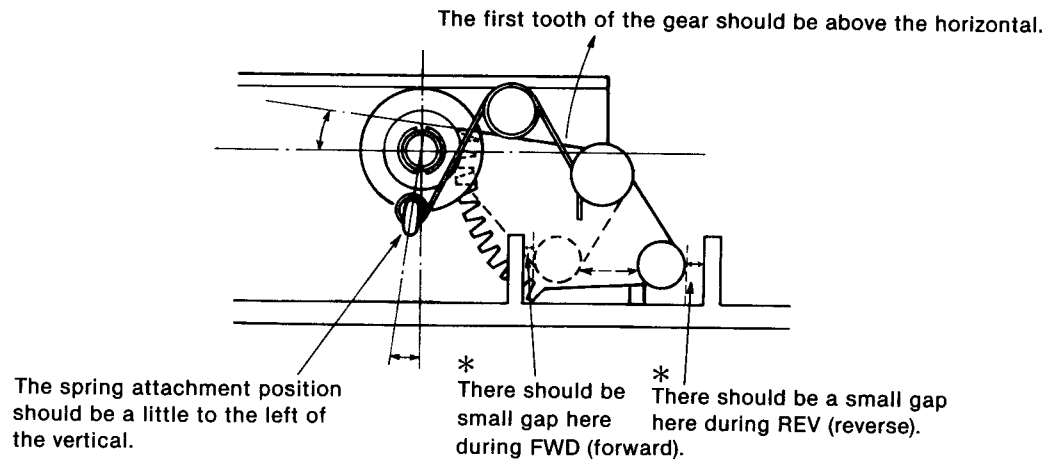


Fig. 6

Note:

When there is no gap during both FWD (forward) and REV (reverse), the azimuth cannot be adjusted.

Service Manual

Supplement-2

Radio Cassette
RX-C20

Portable Stereo Component System

This is the Service Manual
for the following area.

M ... For U.S.A.

• Please use this manual together with the service manual for model No. RX-C20 **M** order No. GAD84125481C1.

This is the information on the supply of Head Block Ass'y.

■ ADDITION PARTS LIST

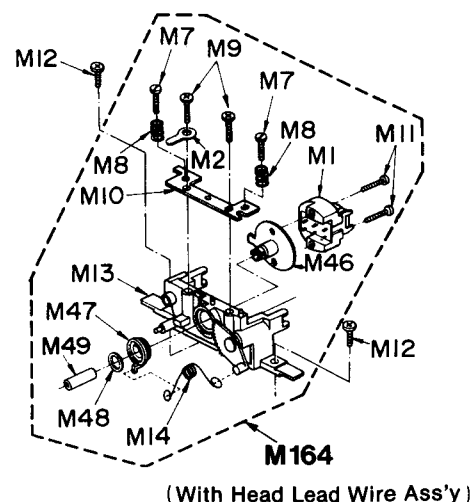
Ref. No.	Part No.	Part Name & Description
M164	RFH12Z	Head Block Ass'y

■ HEAD BLOCK ASS'Y REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
MECHANICAL PARTS		
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M46	RFD176Z	Bracket
M47	RFG60Z	Gear, Head Reverse
M48	RFN118Z	Washer
M49	RFE143Z	Tube, Lead Wire

■ MECHANICAL PARTS LOCATION

(Top View)



Panasonic®

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Carolina, Puerto Rico 00630

GAD **M** Printed in Japan (H)
Y.Y.

RX-C20 NACHTRAG

DEUTSCH

■ TECHNISCHE DATEN

Allgemeines:	
Stromversorgung:	Wechselstrom: [Z] 220 V, 50 Hz mit Netzadapter [E] 240 V, 50 Hz mit Netzadapter Batterien: 12 V (acht Batterien der Größe "C") (Panasonic UM-2 oder entsprechende) Autobatterie: mit Panasonic Autobatterie-Adapter RP-952
Leistungsaufnahme:	19 W mit Netzadapter
Ausgangsleistung:	15 W max. eff. 14 W MPO
Lautsprecher:	8 cm, dynamischer PM-Lautsprecher (2,7 Ω)
Eingang:	MIC: Empfindlichkeit 0,25 mV/passende Mikrofonimpedanz 200~600 Ω, (Ø 3,5) LINE IN: Empfindlichkeit über 200 mV/47 kΩ DC IN: 13,2 V
Ausgang:	LINE OUT: Empfindlichkeit unter 0,36 V/4,7 kΩ EXT SP: 2,7~8 Ω (Ø 3,5) HEADPHONES: 32 Ω (Ø 3,5)
Abmessungen:	Gesamtabmessungen: 417(B) × 113(H) × 170(T) mm Hauptgerät: 212(B) × 113(H) × 170(T) mm Lautsprecherboxen: 106(B) × 113(H) × 152(T) mm
Gewicht:	3,5 kg ohne Batterien
Empfangsteil:	
Wellenbereiche:	UKW: 87,5~108 MHz MW: 520~1610 kHz (577~186 m)
Zwischenfrequenz:	UKW: 10,7 MHz MW: [Z] ... 455 kHz [E] ... 470 kHz
Empfindlichkeit:	UKW: 1,6 µV/50 mW Ausgang (-3 dB Grenzempfindlichkeit) MW: 63 µV/m/50 mW Ausgang
Tonbandteil:	
Frequenzgang:	40~12.000 Hz (Normalband) 40~16.000 Hz (Metallband)
Aufnahmesystem:	Wechselstrom-Vormagnetisierung, Magnetlöschung
Bandgeschwindigkeit:	4,8 cm/s
Spurlage:	Stereo-Aufnahme und -Wiedergabe auf 4 Spuren/2 Kanälen
※ "Dolby" und das Doppel-D-Symbol sind Warenzeichen der Dolby Laboratories Licensing Corporation. Rauschunterdrückungssystem hergestellt unter Lizenz der Dolby Laboratories Licensing Corporation. Technische Änderungen vorbehalten.	

Änderungen des Designs und der technischen Daten vorbehalten.

BEZEICHNUNGEN IN DER SCHEMATISCHEN DARSTELLUNG

■ EMPFANGSTEIL

Bemerkungen:	
1. S4-1, S4-2:	Wellenbereichsschalter auf "AM".
2. VR1:	VCO-Einstellung
3. Gleichspannungsmessungen sind mit einem Elektronik-Voltmeter vom negativen Batterieanschluß aus durchzuführen. < >...FM, ()...AM	

■ LOGIK

Bemerkungen:	
1. S401:	Vorwärtsschalter
2. S402:	Stopschalter
3. S403:	Rückwärtsschalter
4. S404:	FF (REW)/TPS-Schalter
5. S405:	Pauseschalter
6. S406:	TPS/REW (FF)-Schalter
7. S407:	Stummaufnahmeschalter
8. S408:	Aufnahmeschalter
9. S409:	Auswurfschalter
10. S410-1~S410-3:	Drehschalter
11. S411, S412:	Aufnahmeprüfschalter
12. S413:	Schlummerschalter
13. S414:	FF/REW-Schalter
14. Gleichspannungsmessungen sind mit einem Elektronik-Voltmeter vom negativen Batterieanschluß aus durchzuführen.	
15. Markierung ※ ... gedruckter Widerstand	

■ HAUPTVERSTÄRKER

Bemerkungen:	
1. S1-1, S1-2:	Netzschalter auf "ON" (1...ON, 3...OFF)
2. S2:	Dolby-Schalter auf "OUT" (1...OUT, 3...IN)

- ⊕ Spannungsleitung
- Wiedergabesignal
- /// Aufnahmesignal
- UKW-Signal

- 3. S3: Reverse-Schalter auf Position "Wiedergabewiederholung von zwei Seiten oder Zweiseiten-Aufnahme".
(1...kontinuierliche Zweiseiten-Wiedergabe oder Zweiseiten-Aufnahme, 2...Zweiseiten-Aufnahme oder Zweiseiten-Wiedergabe, 3...Aufnahme einer Seite oder Wiedergabe einer Seite)
- 4. S101-1~S101-5: Bandsortenschalter auf "NORMAL" (1...NORMAL, 3...METAL)
- 5. S102~S104: Funktionsschalter auf "TAPE" (S102-1~S102-6...TAPE, S103-1, S103-2...RADIO, S104-1, S104-2...LINE/CD)
- 6. S105-1, S105-2: FM MODE/B.P.-Schalter auf "STEREO/I" (1...STEREO/I, 3...MONO/II)
- 7. VR2: Tiefenregler
VR3: Höhenregler
VR4: Balanceregler
VR5: Lautstärkeregler
VR6: Löschstrom-Einstellung
VR7, 8: Wiedergabepegel-Einstellung
VR9, 10: Gesamtverstärkung-Einstellung
VR11, 12: Vormagnetisierungsstrom-Einstellung
- 8. Alle Gleichspannungen sind mit einem Elektronik-Voltmeter vom negativen Batterieanschluß aus zu messen.
[]...Aufnahme
- 9. Batteriestrom: kein Signal 100 mA
Maximalausgang (Radio) 800 mA
- 10. Markierung ※ ... gedruckter Widerstand

MESSUNGEN UND ABGLEICH

■ VORGANGSWEISE BEIM ABGLEICH

BITTE DIESEN ABSCHNITT VOR DEM ABGLEICH SORGFÄLTIG DURCHLESEN	
1. Den Lautstärkeregler in die Maximalposition stellen. 2. Den Tiefen- und Höhenregler in die Mittelposition stellen. 3. Den Wellenbereichsschalter auf MW oder UKW stellen. 4. Den Balanceregler auf die Mittelposition stellen.	5. Den Funktionsschalter auf Radio stellen. 6. Eine Gleichspannung von 12 V anlegen. 7. Der Ausgang des Signalgenerators darf nicht höher sein, als für eine Ausgangsanzeige erforderlich ist.

■ MW-ABGLEICH

WELLENBAND	SIGNALGENERATOR oder WOBBELGENERATOR		STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (ELEKTRONIK- VOLTMETER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN
	ANSCHLÜSSE	FREQUENZ				
MW-ZF-ABGLEICH						
(1)	MW	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Empfängerschleife abstrahlen.	455 kHz 30% Modulation bei 400 Hz	Abstimmungspunkt, wo keine Interferenz auftritt (etwa bei 600 kHz)	Ausgangsmesser parallel zur Lautsprecherspule	T2 (1. MW-ZF-Transformator) T4 (2. MW-ZF-Transformator) Auf maximalen Ausgang einstellen.
MW-HF-ABGLEICH						
(2)	MW	"	511 kHz	Abstimmkondensator voll geschlossen	"	L4 (MW-Oszillatorspele) Auf maximalen Ausgang einstellen.
(3)	MW	"	1650 kHz	Abstimmkondensator voll geöffnet	"	CT4 (MW-Oszillatortrimmer) "
(4)	MW	"	550 kHz	Auf Signal abstimmen.	"	(*1) L3 (MW-Antennenspele) Auf maximalen Ausgang einstellen. L3 durch Verschieben der Spule am Ferritkern einstellen.
(5)	MW	"	1500 kHz	"	"	CT3 (MW-Antennentrimmer) Auf maximalen Ausgang einstellen. Schritte (2)–(5) wiederholen.
(*1) Nach beendetem Abgleich den Antennen-Spulenkörper mit Wachs befestigen.						

■ UKW-ABGLEICH

WELLENBAND	SIGNALGENERATOR oder WOBELGENERATOR		STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (ELEKTRONIK- VOLTMETER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN	
	ANSCHLÜSSE	FREQUENZ					
UKW-ZF-ABGLEICH							
(1)	UKW	Hohe Seite durch 0,001 μ F an Meßpunkt ▼ anschließen. Negative Seite an Meßpunkt ▼ anschließen.	10,7 MHz (SWP)	Abstimmungspunkt ohne Interferenz (etwa 90 MHz)	Vertikalamplitude des Oszilloskops an Meßpunkt ▼ anschließen. Negative Seite an Meßpunkt ▼ anschließen.	T1 (1. UKW-ZF-Transformator)	Auf maximale Amplitude einstellen. (Siehe Abb. 2.)
(2)	UKW	"	"	"	"	T3 (2. UKW-ZF-Transformator)	Auf maximale Amplitude einstellen. (Siehe Abb. 3.)
UKW-HF-ABGLEICH							
(3)	UKW	Durch eine UKW- Blindantenne an Meßpunkt ▼ anschließen. Die negative Seite an Meßpunkt ▼ anschließen.	86,2 MHz	Regelkondensator voll geschlossen.	Ausgangsmesser parallel zur Lautsprecherspule	L2 (UKW-Oszillatorspule)	(*2) Auf maximalen Ausgang einstellen.
(4)	UKW		109,2 MHz	Regelkondensator voll geöffnet	"	CT2 (UKW- Oszillatortrimmer)	"
(5)	UKW		90 MHz	Auf Signal abstimmen.	"	L1 (UKW-Antennenspule)	"
(6)	UKW		106 MHz	"	"	CT1 (UKW-Antennentrimmer)	(*2) Auf maximalen Ausgang einstellen. Schritte (3)~(6) wiederholen.
(*2) Drei Ausgangsfrequenzen sind vorhanden, die richtige Abstimmung ist die Mittelfrequenz.							

■ KANALTRENNUNGSABGLEICH

GEGENSTAND	SOURCE-ANSCHLUSS DES UKW-SIGNALGENERATORS	GERÄTEANSCHLUSS (ELEKTRONIK-ZÄHLER)	EINSTELLUNG	SPEZIFIKATION	BEMERKUNGEN
Einstellung des Pilottons	90 MHz, 60 dB	▼... (+) ▼... (-)	VR1	19 kHz	VR1 auf Anzeige auf dem Elektronik-Zähler von 19 kHz (± 100 Hz) einstellen.

■ AUDIO-ABGLEICH

GEGENSTAND	EINGANG	MESSPUNKT	SPEZIFIKATION	EINSTELLPUNKT	BEMERKUNGEN
Azimet	QZZCFM (8 kHz, -20 dB)	EXT SP	Maximaler Ausgang	Azimutschraube	Wiedergabe (Siehe Abb. 5)
Wiedergabepegel	QZZCFM (315 Hz, 0 dB)	▼... (linker Kanal) ▼... (rechter Kanal) ▼... (-)	$0,42 \pm 0,025$ V	VR7 (linker Kanal) VR8 (rechter Kanal)	Wiedergabe
Löschstrom	Metallband verwenden	▼... (+) ▼... (-)	$155 \pm \frac{10}{5}$ mV	VR6	Aufnahme Schwebungsunterdrückungsschalter → 1 Bandsortenwähler → Metall
Vormagnetisierungsstrom	Metallband verwenden	▼... (linker Kanal) ▼... (rechter Kanal) ▼... (-)	Metallband $8,5 \pm 1,5$ mV Normalband $4,1 \pm 0,2$ mV	Metallband VR11 (linker Kanal) VR12 (rechter Kanal)	Schwebungsunterdrückungsschalter → 1 Bandsortenwähler → Metall
Gesamtverstärkung	LINE IN 1 kHz (-24 dB)	▼... (linker Kanal) ▼... (rechter Kanal) ▼... (-)	0 ± 1 dB	VR10 (linker Kanal) VR9 (rechter Kanal)	1. Den Funktionsschalter auf LINE stellen. 2. Das Signal bei 1 kHz und -24 dB aufnehmen. Den Ausgang an den Meßpunkten ▼ und ▼ abnehmen. 3. Den Funktionsschalter auf TAPE stellen. 4. Mit der Ablesung an ▼ und ▼ während der Aufnahme bei 0 dB die Ausgänge an diesen Punkten so einstellen, daß sie bei der Wiedergabe des im obigen Schritt 2 aufgenommenen Signals 0 ± 1 dB ergeben.

■ ABGLEICH DER BANDGESCHWINDIGKEIT

ZÄHLER	EINSTELLUNG
An die Kopfhörerbuchse anschließen.	1. Testkassette (QZZCWAT, 3 kHz) wiedergeben. 2. Den Regelwiderstand einstellen, bis 3000 ± 90 Hz auf dem Zähler anzeigt. (Siehe Abb. 4)

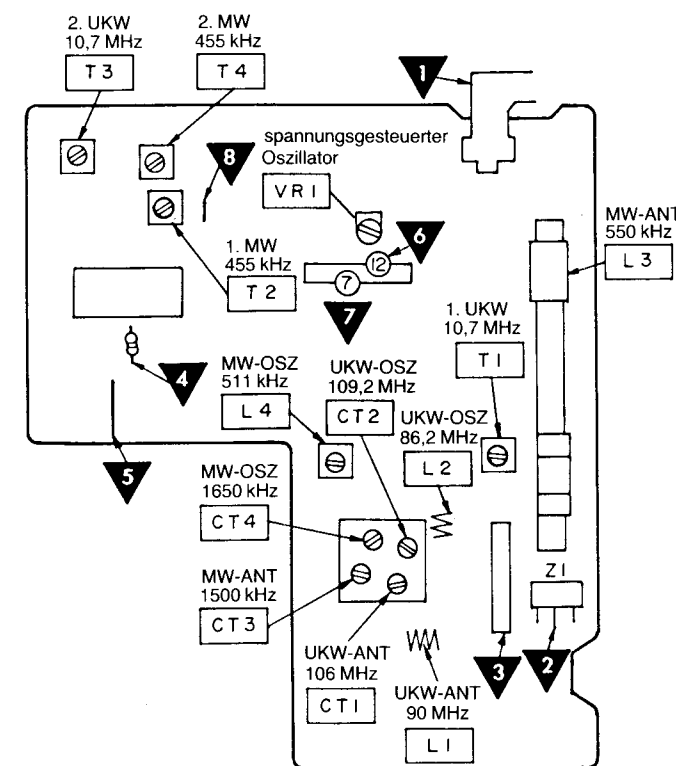


Abb. 1

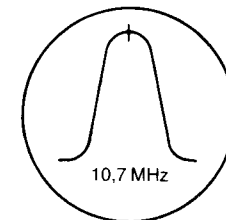


Abb. 2

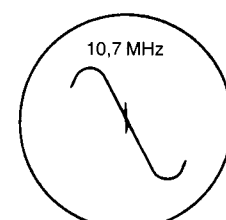


Abb. 3

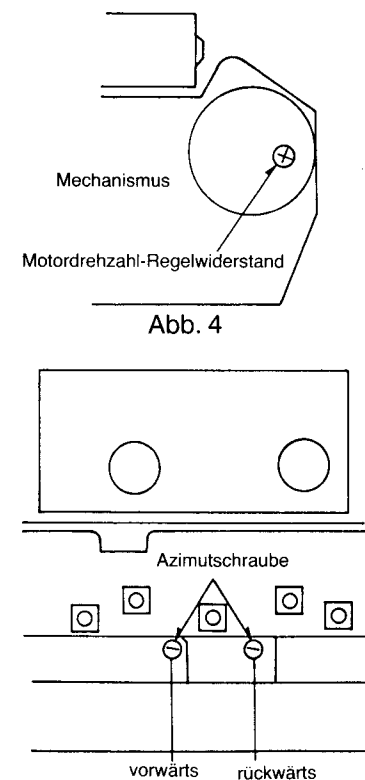


Abb. 5

- Zum Finden der Meßpunkte siehe den Schaltplan und den Platinen-Anschlußplan.

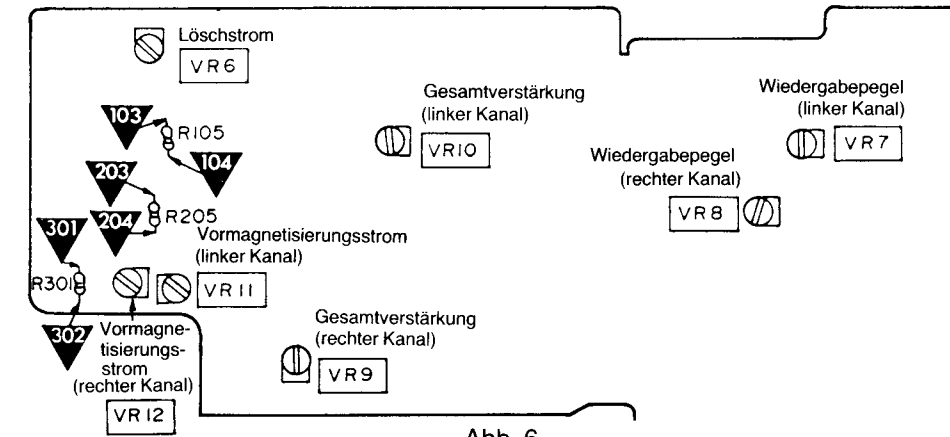


Abb. 6

Spezifikation des Verlängerungskabels

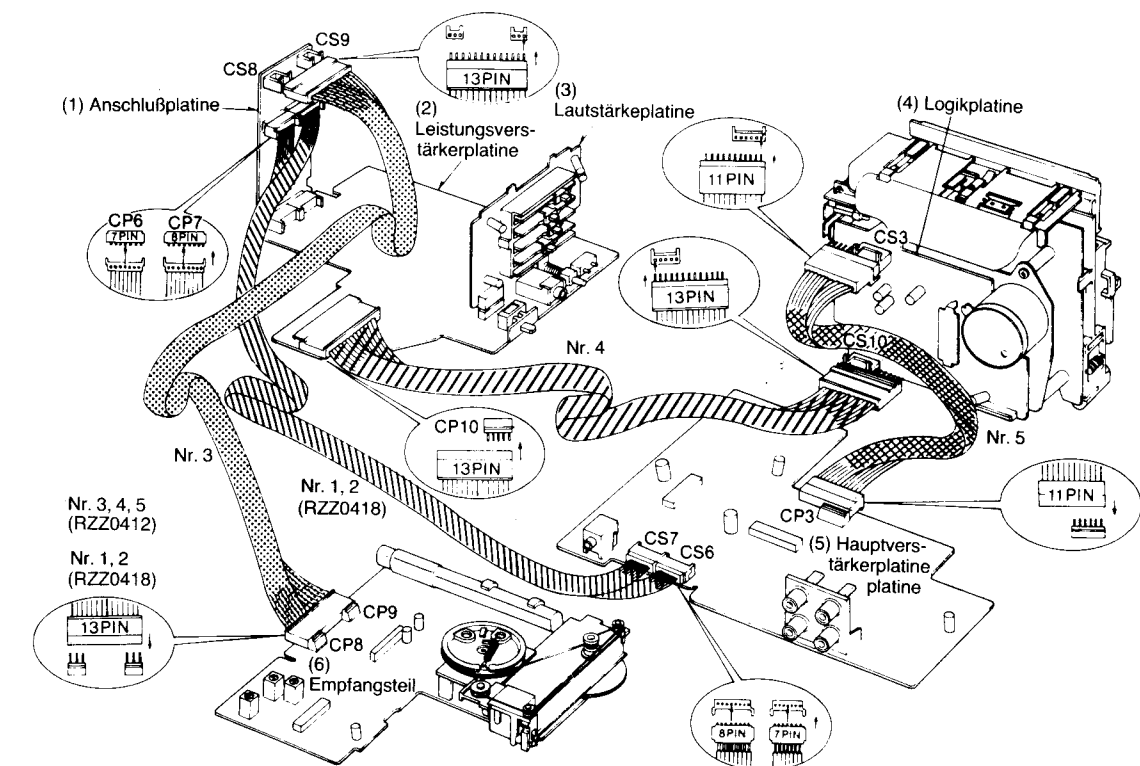
[Kabeltyp]

Kabel-Nr.	Anzahl Stifte	Verwendung	für allgemeine Zwecke	Bemerkungen
1	Stift 7	Hauptverstärkerplatine (CS7)~ Anschlußplatine (CP7)	RX-C20	
2	Stift 8	Hauptverstärkerplatine (CS6)~ Anschlußplatine (CP8)		
* 3	Stift 13	Anschlußplatine (CS8, CS9)~ Empfangsteilplatine (CP8, CP9)	RX-C50	Verlängerungskabel für RX-C50 (RZZ0412) Die Verlängerungskabel werden als Ersatzteile geliefert. Verlängerungskabel für RX-C20 Teile-Nr. RZZ0418 Verlängerungskabel für RX-C50 Teile-Nr. RZZ0412
* 4	Stift 13	Leistungsverstärkerplatine (CP10)~ Logikplatine (CS10)		
* 5	Stift 11	Hauptverstärkerplatine (CP3)~ Logikplatine (CS3)		

- Hinweis: 1. Vor dem Zusammenbau, Auseinanderbau und vor Anschluß von Kabeln die Spannungsversorgung des Geräts ausschalten.
2. Falsche Anschlüsse können zu Beschädigungen des Geräts führen.

[Verfahren zum Anschließen der Verlängerungskabel] (RX-C20)

Die Stecker anschließen, wie unten dargestellt.



RX-C20 SUPPLEMENT

FRANCAIS

■ SPECIFICATIONS

Généralités:

Alimentation: ☒ c.a. 220 V, 50 Hz☐ c.a. 240 V, 50 Hz
avec adaptateur secteurPile: 12 V (huit piles sèches de dimension C)
(Panasonic UM-2 ou équivalent)Batterie pour automobile: utiliser
uniquement l'adaptateur pour automobile de
Panasonic, modèle RP-952

Consommation: 19 W avec adaptateur secteur

Puissance de sortie: 15 W RMS (max.)
14 W MPOEnceinte acoustique: Haut-parleur dynamique de 8cm à aimant
permanent (2,7 Ω)Entrée: MIC: sensibilité 0,25 mV, impédance
applicable pour microphone 200 à 600 Ω
(Ø 3,5)Sortie: LINE IN: sensibilité 200 mV/47 kΩ ou plus
DC IN: 13,2 VLINE OUT: sensibilité 0,36 V/4,7 kΩ ou
moinsEXT SP: 2,7 Ω à 8 Ω (Ø 3,5)
HEADPHONES: 32 Ω (Ø 3,5)Dimensions: Ensemble:
417(L) × 113(H) × 170(P) mmAppareil principal:
212(L) × 113(H) × 170(P) mmEnceinte acoustique:
106(L) × 113(H) × 152(P) mm

Poids: 3,5 kg sans piles

Présentation et spécifications sujettes à des modifications sans préavis.

SYMBOLES UTILISES DANS LE SCHEMA

■ TUNER

Remarques:

- S4-1, S4-2: sélecteur de gammes d'ondes en position "AM".
- VR1: Réglage de fréquence de l'oscillateur VCO.
- La tension C.C. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
< > ... FM, () ... AM

■ LOGIQUE

Remarques:

- S401: Commutateur de défilement avant
- S402: Commutateur d'arrêt
- S403: Commutateur de défilement arrière
- S404: Commutateur d'avance rapide (rebobinage)/TPS
- S405: Commutateur de pause
- S406: Commutateur TPS/rebobinage (avance rapide)
- S407: Commutateur d'enregistrement silencieux
- S408: Commutateur d'enregistrement
- S409: Commutateur d'éjection
- S410-1~S410-3: Commutateur rotatif
- S411, S412: Commutateur de vérification d'enregistrement
- S413: Commutateur d'arrêt automatique
- S414: Commutateur d'avance rapide/rebobinage
- La tension C.C. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
- Le signe ※ indique une résistance imprimée.

■ AMPLIFICATEUR PRINCIPAL

Remarques:

- S1-1, S1-2: Interrupteur d'alimentation en position "ON".
(1 ... ON, 3 ... OFF)

Section radio:

Gamme de fréquence FM: 87,5 à 108 MHz

radio: AM: 520 à 1610 kHz (577 à 186 m)

Fréquence intermédiaire: FM: 10,7 MHz

AM: ☒ ... 455 kHz☐ ... 470 kHzSensibilité: FM: 1,6 µV pour une sortie de 50 mW
(-3 dB sensibilité limite)

AM: 63 µV/m pour une sortie de 50 mW

Section platine magnétophone:

Réponse de fréquence: 40 à 12 000 Hz (bande normale)

40 à 16 000 Hz (bande métal)

Système d'enregistrement: Polarisation C.A., effacement C.A.

Vitesse de bande: 4,8 cm/s

Pistes: Enregistrement et lecture stéréo 4 pistes,
2 canaux※ "Dolby" et le symbole double D sont des marques déposées de
Dolby Laboratories Licensing Corporation.Système réducteur de bruit fabriqué sous licence de Dolby
Laboratories Licensing Corporation.

Spécifications sujettes à des modifications sans préavis.

- S2: Commutateur Dolby en position "OUT".
(1 ... OUT, 3 ... IN)
- S3: Commutateur de défilement arrière en position "lecture ou enregistrement continu des deux côtés".
(1 ... lecture ou enregistrement continu des deux côtés, 2 ... lecture ou enregistrement des deux côtés, 3 ... lecture ou enregistrement d'un côté)
- S101-1~S101-5: Sélecteur de bande en position "NORMAL".
(1 ... NORMAL, 3 ... METAL)
- S102~S104: Commutateur de fonctions en position "TAPE".
(S102-1~S102-6 ... TAPE, S103-1, S103-2 ... RADIO, S104-1, S104-2 ... LINE/CD)
- S105-1, S105-2: Commutateur FM MODE/B.P en position "STEREO/I".
(1 ... STEREO/I, 3 ... MONO/II)
- VR2: Commande des graves
- VR3: Commande des aigus
- VR4: Commande de balance
- VR5: Potentiomètre de volume
- VR6: Réglage du courant d'effacement
- VR7, 8: Réglage du niveau de lecture
- VR9, 10: Réglage du gain total
- VR11, 12: Réglage du courant de polarisation
- La tension C.C. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
[] ... position Enregistrement
- Courant des piles: Pas de signal 100 mA
Sortie maximum (Radio) 800 mA
- Le signe ※ indique une résistance imprimée.

- + Ligne de tension
— Signal de lecture
— Signal d'enregistrement
— Signal FM

MESURES ET REGLAGES

■ INSTRUCTIONS D'ALIGNEMENT

AVANT DE PROCEDER AUX ALIGNEMENTS, LIRE ATTENTIVEMENT CE QUI SUIV

- Régler le potentiomètre de volume au maximum.
- Régler les commandes des graves et des aigus au centre.
- Régler le sélecteur de gammes d'ondes sur AM ou FM.
- Régler la commande de balance au centre.
- Régler le sélecteur de fonctions sur "radio".
- Régler la tension d'alimentation sur 12 V C.C.
- Régler la sortie du générateur étaloné de façon à ne pas surcharger les circuits.

■ ALIGNEMENT AM

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		REGLAGE DU CADRAN RADIO	INDICATEUR (VOLTMETRE OU OSCILLOSCOPE ELECTRONIQUES)	REGLAGE	OBSERVATIONS
	BRANCHEMENT	FREQUENCE				
ALIGNEMENT IF sur AM						
(1)	AM	Faire une boucle de plusieurs tours de fil et émettre le signal dans la boucle du récepteur.	455 kHz (modulation de 30% à 400 Hz)	Point de non- interférence. (à/environ 600 kHz)	Outputmètre branché à la bobine mobile	T2 (AM 1ère IFT) T4 (AM 2ème IFT) Régler pour une sortie maximum.
ALIGNEMENT HF sur AM						
(2)	AM	"	511 kHz	Condensateur d'accord entièrement fermé	"	L4 (bobine d'oscillateur AM) Régler pour une sortie maximum.
(3)	AM	"	1650 kHz	Condensateur d'accord entièrement ouvert	"	CT4 (trimmer d'oscillateur AM) "
(4)	AM	"	550 kHz	Syntoniser sur le signal	"	(*1) L3 (bobine d'antenne AM) Régler pour une sortie maximum. Régler L3 en déplaçant la bobine le long du noyau en ferrite.
(5)	AM	"	1500 kHz	"	"	CT3 (trimmer d'antenne AM) Régler pour une sortie maximum. Refaire les étapes (2) à (5).
(*1) Après avoir achevé l'alignement, sceller la bobine d'antenne à la cire.						

■ ALIGNEMENT FM

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		REGLAGE DU CADRAN RADIO	INDICATEUR (VOLTMETRE OU OSCILLOSCOPE ELECTRONIQUES)	REGLAGE	OBSERVATIONS
	BRANCHEMENT	FREQUENCE				
ALIGNEMENT IF sur FM						
(1)	FM	Brancher au point ▼ via 0,001 μF. Côté négatif au point ▼.	10,7 MHz (SWP.)	Point de non- interférence. (à'environ 90 MHz)	Brancher la sonde vert. de l'oscilloscope au point ▼ Côté négatif au point ▼.	T1 (FM 1ère IFT) Régler pour une amplitude maximum. (Voir fig. 2.)
(2)	FM	"	"	"	"	T3 (FM 2ème IFT) Régler pour une amplitude maximum. (Voir fig. 3.)
ALIGNEMENT HF sur FM						
(3)	FM	Brancher au point ▼ via une antenne fictive FM. Côté négatif au point ▼.	86,2 MHz	Condensateur variable entièrement fermé.	Outputmètre branché à la bobine mobile.	L2 (bobine d'oscillateur FM) (*2) Régler pour une sortie maximum.
(4)	FM		109,2 MHz	Condensateur variable entièrement ouvert.	"	CT2 (trimmer d'oscillateur FM) "
(5)	FM		90 MHz	Syntoniser sur le signal.	"	L1 (bobine d'antenne FM) "
(6)	FM		106 MHz	"	"	CT1 (trimmer d'antenne FM) (*2)Régler pour une sortie maximum. Refaire les étapes (3) à (6).
(*2) Il y aura trois réponses de sortie: la syntonisation adéquate est la fréquence du milieu.						

■ ALIGNEMENT DE LA SEPARATION

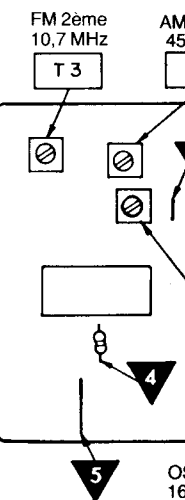
ELEMENT	GENERATEUR DE SIGNAUX FM BRANCHEMENT SUR LA SOURCE	BRANCHEMENT A L'EQUIPEMENT COMPTEUR ELECTRONIQUE	REGLAGE	SPECIFICATION	OBSERVATIONS
Réglage du signal pilote	90 MHz, 60 dB	▼... (+) ▼... (-)	VR1	19 kHz	Régler VR1 pour 19 kHz (± 100 Hz) en effectuant la lecture sur le compteur électronique.

■ REGLAGE A

ELEMENT
Azimet
Niveau de lecture
Courant d'effacement
Courant de polarisation
Gain total

■ REGLAGE D

C
Brancher sur le jack



■ REGLAGE AUDIO

ELEMENT	ENTREE	POINT DE MESURE	SPECIFICATION	POINT DE REGLAGE	OBSERVATIONS
Azimet	QZZCFM (8 kHz, -20 dB)	EXT SP	Sortie maximum	Vis d'azimet	Mode de lecture (Voir fig. 5.)
Niveau de lecture	QZZCFM (315 Hz, 0 dB)	▼... (canal G) ▼... (canal D) ▼... (-)	0,42 ± 0,025 V	VR7 (canal G) VR8 (canal D)	Mode de lecture
Courant d'effacement	Utiliser une bande métal.	▼... (+) ▼... (-)	155 ± 10 5 mV	VR6	Mode d'enregistrement Interrupteur anti-batteement → I Sélecteur de bande → Métal
Courant de polarisation	Utiliser une bande métal.	▼... (canal G) ▼... (canal D) ▼... (-)	Métal 8,5 ± 1,5 mV Normal 4,1 ± 0,2 mV	Métal VR11 (canal G) VR12 (canal D)	Mode d'enregistrement Interrupteur anti-batteement → I Sélecteur de bande → Métal
Gain total	LINE IN 1 kHz (-24 dB)	▼... (canal G) ▼... (canal D) ▼... (-)	0 ± 1 dB	VR10 (canal G) VR9 (canal D)	1. Régler le commutateur de fonctions sur la position "line". 2. Enregistrer le signal à 1 kHz et -24 dB. Lire la sortie aux points ▼ et ▼. 3. Régler le commutateur de fonctions sur la position "tape". 4. En fonction de la lecture aux points ▼ et ▼ durant l'enregistrement à 0 dB, régler les sorties en ces points de telle sorte qu'elles donnent 0 ± 1 dB lorsque le signal enregistré à l'étape 2 plus haut est reproduit.

■ REGLAGE DE LA VITESSE DE LA BANDE

COMPTEUR	REGLAGE
Brancher sur le jack de l'écouteur	1. Procéder à la lecture de la cassette de contrôle (QZZCWAT, 3 kHz) 2. Régler VR jusqu'à ce que le compteur indique 3000 ± 90 Hz. (Voir fig. 4.)

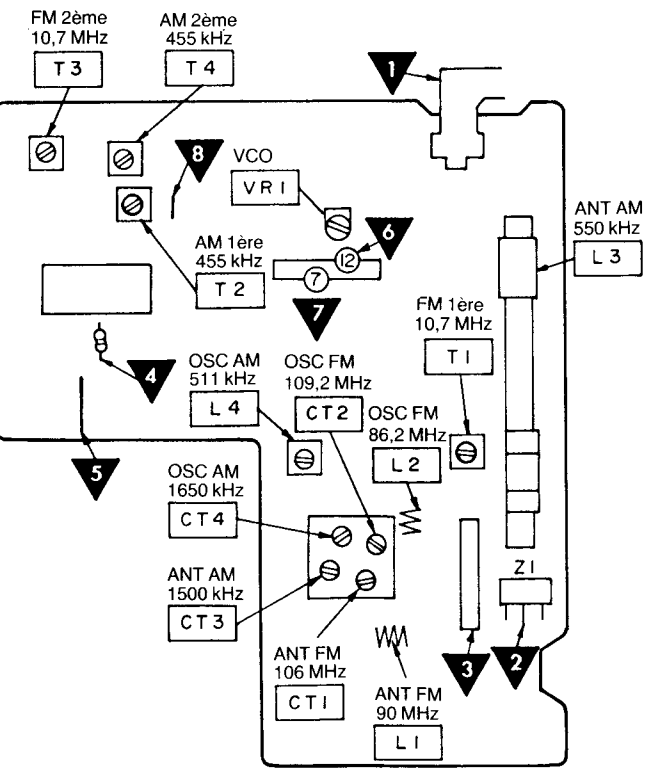


Fig. 1

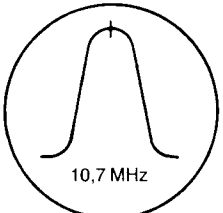


Fig. 2

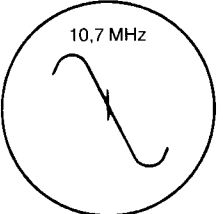


Fig. 3

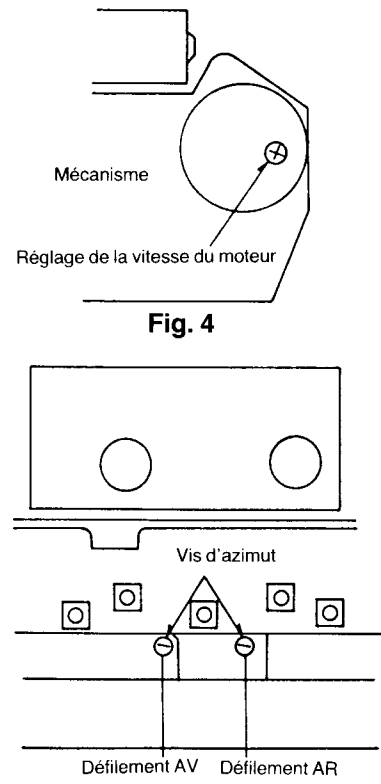


Fig. 5

• Quant à l'emplacement des points de vérification, voir la plaquette de circuit et le schéma de montage du circuit imprimé.

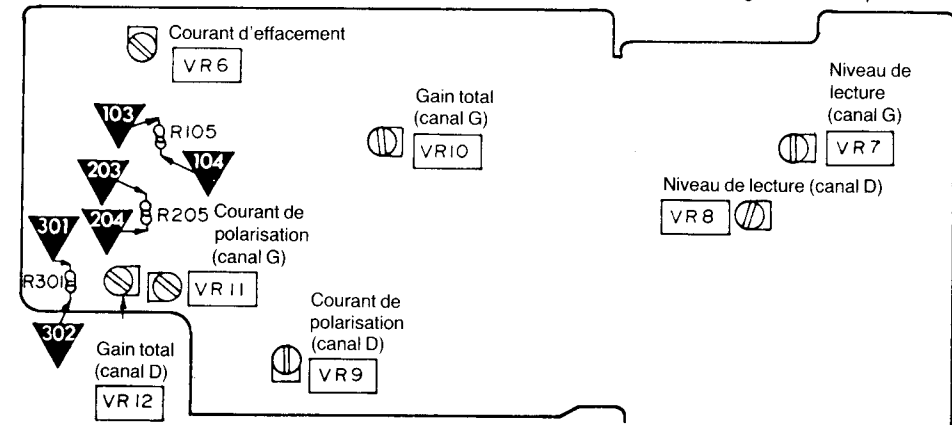


Fig. 6

Spécification des câbles de rallonge

[Type de câble]

N° de câble	N° de broche	Utilisation	Usage universel	Observations
1	broche 7	Plaquette d'ampli. princ. (CS7) ~ plaquette de connexion (CP7)	RX-C20	
2	broche 8	Plaquette d'ampli. princ. (CS6) ~ plaquette de connexion (CP8)		
*3	broche 13	Plaquette de connexion (CS8, CS9) ~ plaquette de tuner (CP8, CP9)		
*4	broche 13	Plaquette d'ampli. de puiss. (CP10) ~ plaquette logique (CS10)	RX-C50	
*5	broche 11	Plaquette d'ampli. princ. (CP3) ~ plaquette logique (CS3)		

Remarque) 1. Avant le montage, le démontage ou la connexion des câbles, ne pas oublier de mettre l'appareil hors tension.
2. Une connexion incorrecte risque d'endommager l'appareil.

[Diagramme de branchement des câbles de rallonge] (RX-C20)

Brancher les connecteurs tel qu'illustré ci-dessous.

