

Service Manual

**FM/AM/FM STEREO RECEIVER
WITH CASSETTE PLAYER/RECORDER**

**Integrated Receiver
RA-6500**



* Dolby is the trade mark of Dolby Laboratories Inc.

Specifications

AMPLIFIER SECTION

FTC Power Output.....	12W per channel, 40~20 kHz (THD 0.8%)
Input Sensitivity and Impedance:	
PHONO	5 mV, 40k ohms (Magnetic) 400 mV, 1M ohms (Ceramic)
MIC (Rec).....	1.0 mV, 1.5k ohms
AUX	300 mV, 50k ohms
EXT. TAPE	300 mV, 10k ohms
Output Level and Impedance	150 mV, 1.5k ohms
Tone Controls:	
Bass.....	±10 dB at 100 Hz
Treble.....	±10 dB at 10 kHz
Loudness Control.....	±10 dB at 100 Hz, +5 dB at 10 kHz (Volume at -30 dB)
Signal to Noise Ratio (IHF A):	
PHONO	70 dB (OPEN)
AUX	80 dB (OPEN)

FM TUNER SECTION

Frequency Range.....	88 ~ 108 MHz
Usable Sensitivity	2 μ V (S/N 30 dB MOD. 30%)
Harmonic Distortion	0.3% at 1 kHz (MONO) 0.4% at 1 kHz (STEREO)
Signal to Noise Ratio	68 dB at 1 kHz, MOD 100%, MONO
Stereo Separation.....	40 dB at 1 kHz
Image Ratio.....	38 dB (98 MHz)
Selectivity.....	55 dB
Antenna	300 ohms Balanced

AM TUNER SECTION

Frequency Range.....	525 kHz ~ 1605 kHz
Sensitivity	100 μ V/m for 50 mW
Selectivity	25 dB
Image Ratio.....	40 dB
IF Rejection.....	40 dB

TAPE DECK SECTION

Recording System.....	AC Bias (50 kHz) Manual with Dolby NR system
Erasing System	AC Erase (50 kHz)
Tape Speed	1-7/8 i.p.s (4.75 cm/sec)
Frequency Response	25 Hz ~ 13 kHz (NORMAL) 20 Hz ~ 16 kHz (CrO ₂)
Signal to Noise Ratio	DOLBY NR OUT: 52 dB (WEIGHTED) DOLBY NR IN: 60 dB (WEIGHTED)
Wow and Flutter	0.15% (WRMS)
Erase Ratio.....	68 dB
Channel Separation.....	36 dB
Crosstalk.....	60 dB

AC POWER SUPPLY AC 120V, 60 Hz

POWER CONSUMPTION 80W

DIMENSIONS (W × H × D) 543 mm × 174 mm × 325 mm
(21-3/8" × (6-7/8") × (12-3/4")

WEIGHT 9.2 kg (20 lbs. 5 oz)

Panasonic

Panasonic Company
Division of Matsushita Electric
Corporation of America
One Panasonic Way, Secaucus,
New Jersey 07094

Matsushita Electric of Hawaii, Inc.
320 Waiakamilo Road, Honolulu,
Hawaii 96817

Matsushita Electric of Canada Ltd.
40 Ronson Drive, Rexdale,
Ontario M9W 1B5

DISASSEMBLY INSTRUCTIONS

■ To Replace Compartments

1. Remove five (5) bottom board mounting screws Nos. 1 ~ 5 as shown in Fig. 6.
2. Remove four (4) cabinet mounting screws Nos. 6 ~ 9 as shown in Fig. 6.
3. To reassemble, reverse above procedure.

■ To Remove Escutcheon

1. Refer to instruction 1 and 2 above.
2. Remove fifteen (15) knobs from front panel.
3. Remove eight (8) escutcheon mounting screws No. 5 and Nos. 10 ~ 16 as shown in Fig. 6.
4. To reassemble, reverse above procedure.

■ To Replace Power IC

To replace power IC, remove escutcheon and use nut driver, as shown in Fig. 1.

■ To Remove Cassette Deck

1. Push EJECT button to open cassette cover.
2. Remove cassette lid B lifting it up as shown in Fig. 2.
3. Remove nine (9) cassette deck mounting screws Nos. 16 ~ 24 as shown in Fig. 6, and remove connectors.
4. To reassemble, reverse above procedure.

■ To Remove Remote Wire Assembly

Lift remote wire assembly upward by pushing the lower portion of plastic hook with a suitable screwdriver, as shown in Fig. 3.

■ To Install Remote Wire Assembly

Put the front portion of remote wire assembly into the mounting board while inclining the plastic body and push the top portion of body, as shown in Fig. 4.

■ Note for Treatment of Remote Wire Assembly

When servicing remote wire assembly, be sure to hold gently, and do not bend a part of it tightly, as shown in Fig. 5.

Before lifting the cassette player/recorder (or circuit board), be sure to remove remote wire assembly carefully to prevent it from being damaged.

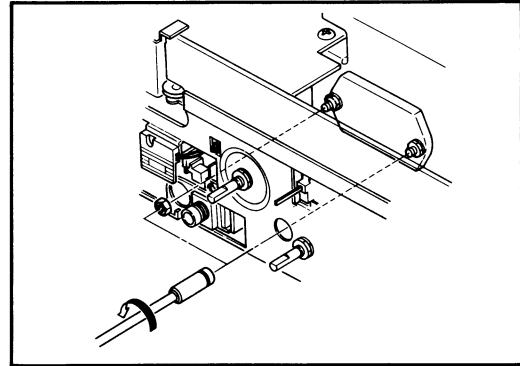


FIG. 1

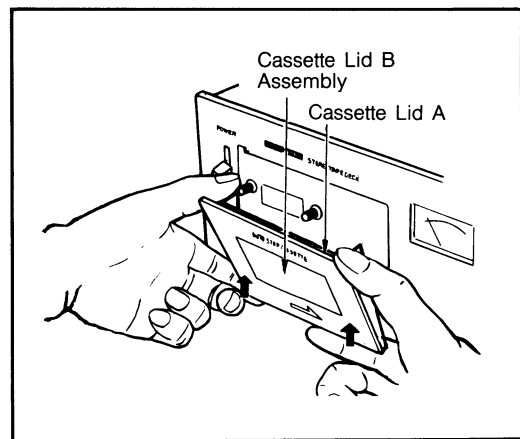


FIG. 2

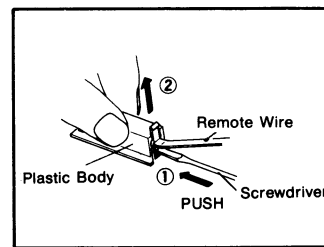


FIG. 3

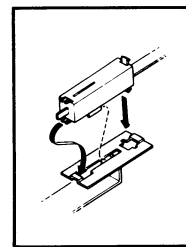


FIG. 4

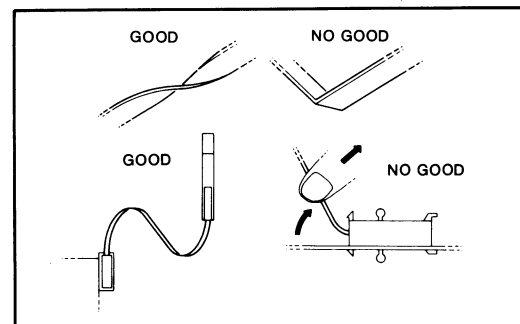


FIG. 5

LOCATION OF PARTS

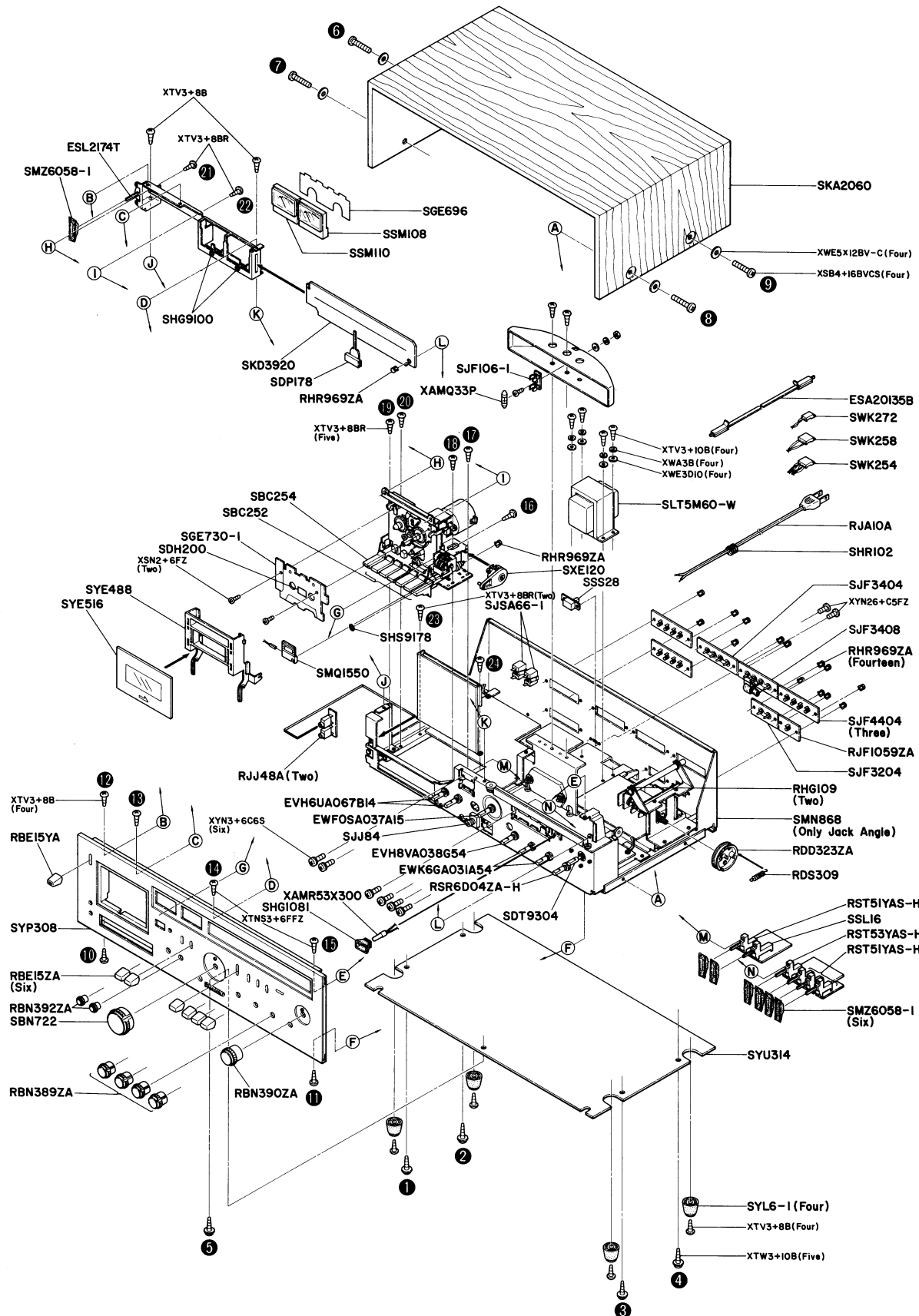


FIG. 6

BLOCK DIAGRAM OF MODEL RA-6500

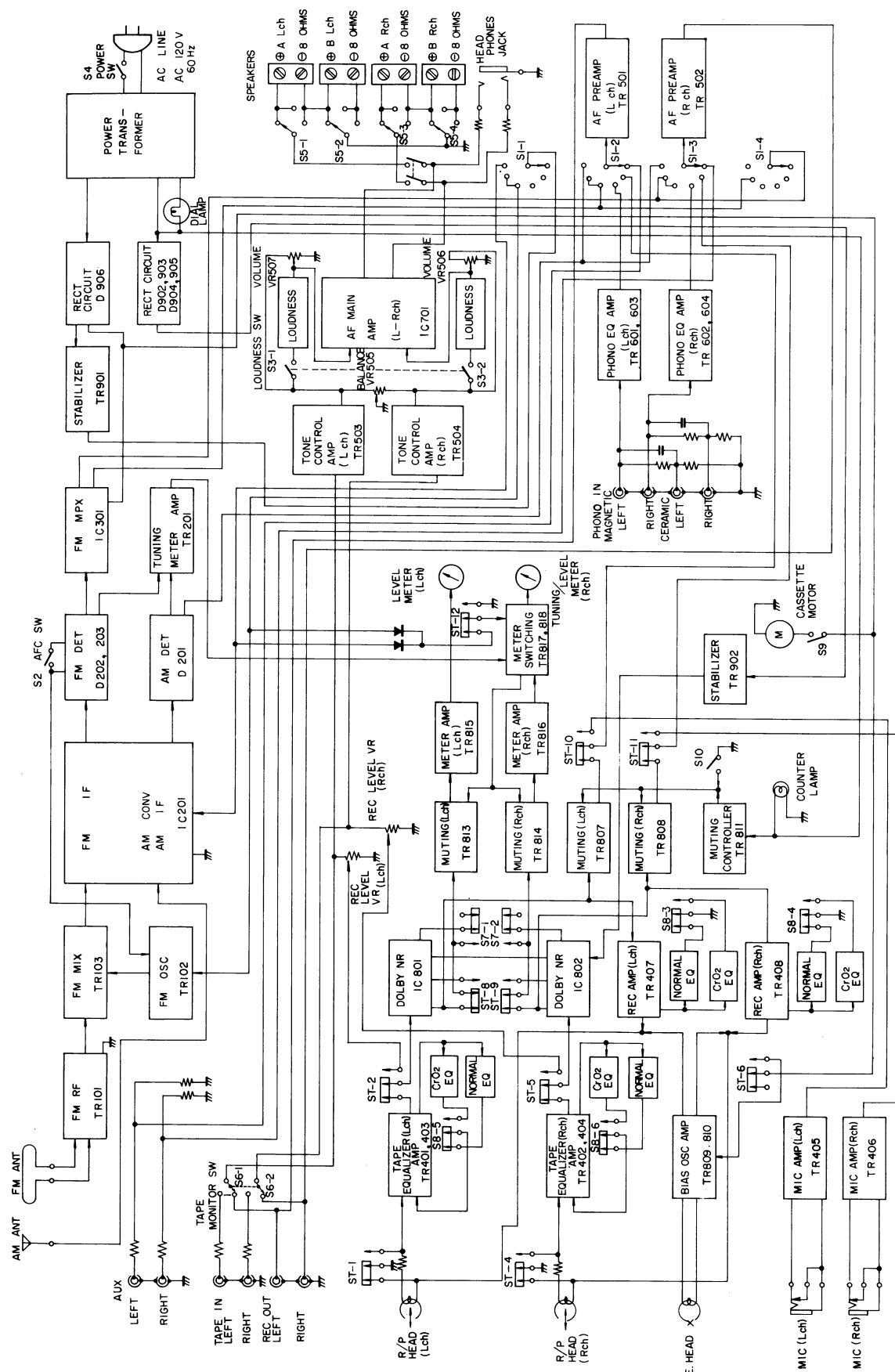


FIG. 7

DIAL CORD STRINGING GUIDE

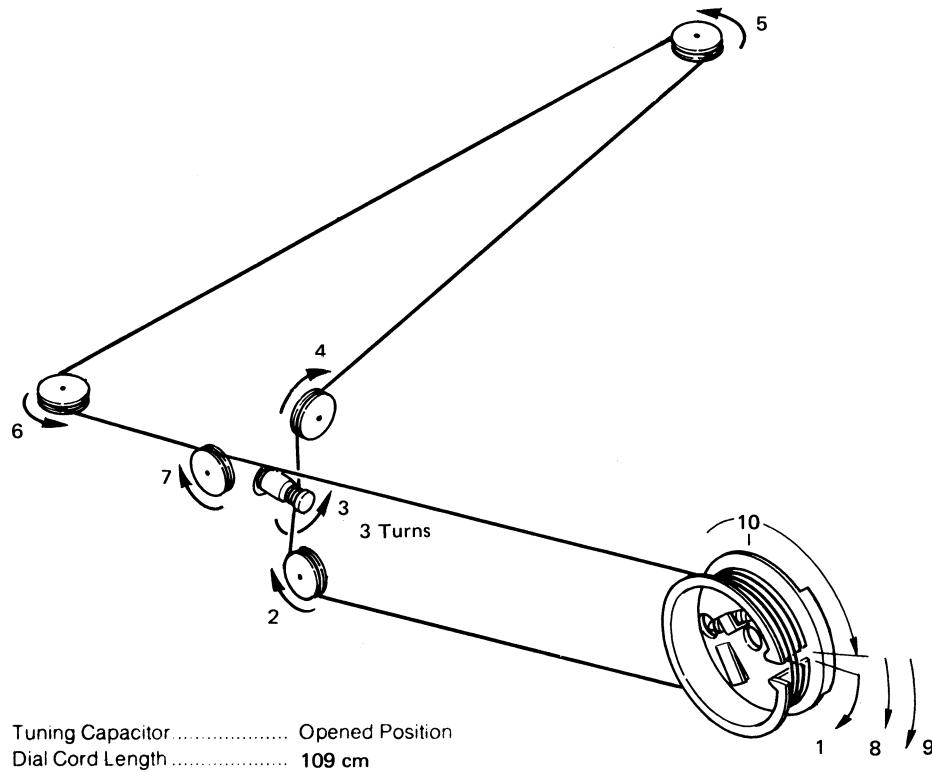


FIG. 8

ALIGNMENT INSTRUCTIONS (RADIO)

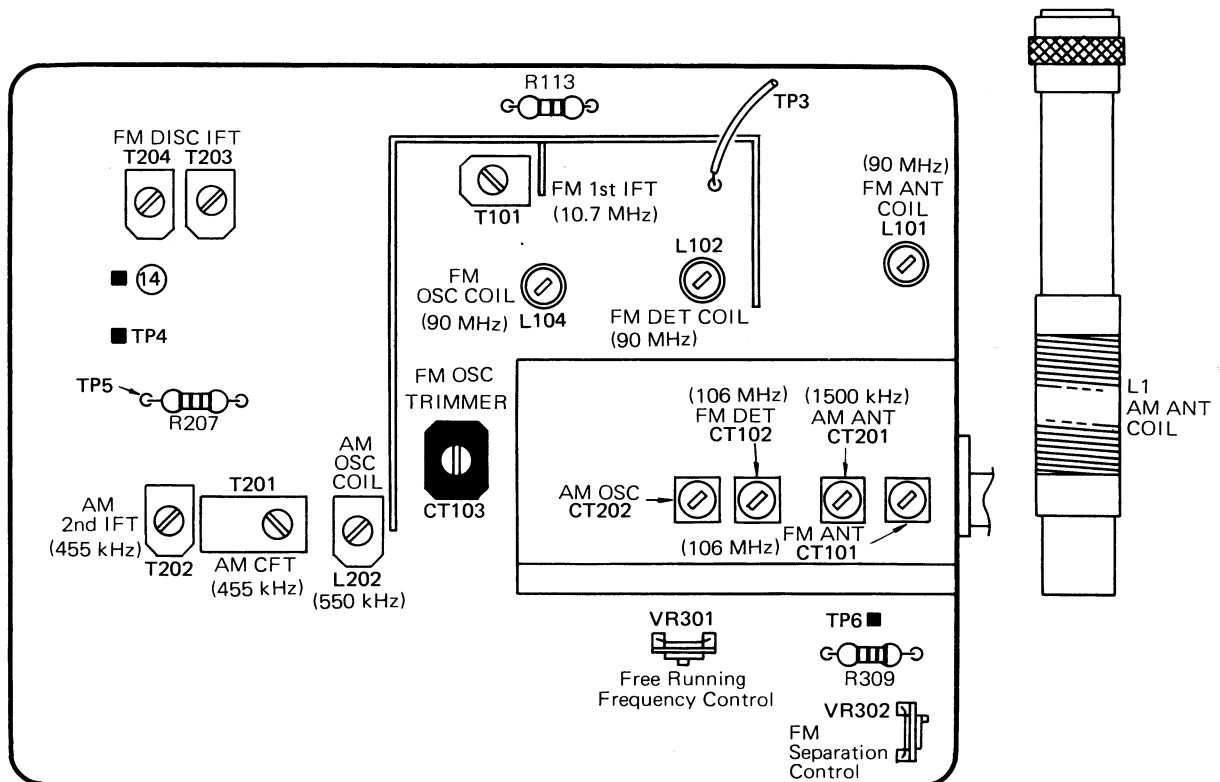


FIG. 9

ALIGNMENT INSTRUCTIONS (RADIO)

Notes:

1. Volume Control Maximum (AM-IF and RF, FM-RF); Minimum (FM-IF)
2. Treble Control Center
3. Bass Control..... Center
4. Balance Control..... Center
5. Function Selector AM, FM, FM AUTO
6. Power Switch ON
7. Tape Monitor..... Source
8. Loudness OFF
9. AFC Switch OFF
10. Output of signal generator should be no higher than necessary to obtain output reading.
11. Make certain that speaker system is connected to the receiver when aligning.

STEP	SIGNAL GENERATOR OR SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUST	REMARKS
	CONNECTION	FREQUENCY				
AM-IF and RF ALIGNMENT						
1	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. with 400 Hz	Point of non-interference (on/ about 600 kHz)	Output meter across speaker jack (L) (Imp. 8Ω)	T201 (CFT) T202 (2nd IFT)	Adjust for maximum output.
2	Fashion loop of several turns of wire and radiate signal into loop of receiver.	550 kHz 30% Mod. with 400 Hz	550 kHz (6.3 mm)	Output meter across speaker jack (L) (Imp. 8Ω)	L1 (ANT Coil) L201 (OSC Coil)	Adjust for maximum output by sliding coil (L1) along ferrite core.
3	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1500 kHz 30% Mod. with 400 Hz	1500 kHz (136.2 mm)	Output meter across speaker jack (L) (Imp. 8Ω)	CT201 (ANT Trimmer) CT202 (OSC Trimmer)	Adjust for maximum output. Repeat steps (2) and (3).
Note: Cement antenna bobbin with wax after completing alignment.						
FM-IF and DETECTOR ALIGNMENT						
1	High side through 0.001μF to point TP3. Common to chassis.	10.7 MHz (400 kHz SWP.)	Point of non-interference (on/ about 98 MHz)	Connect vert. amp. input of scope to point TP4. Common to chassis.	T101 (FM 1st IFT) T203 (FM Disc. IFT)	Adjust T101 for maximum amplitude and symmetrical curve. (Refer to Fig. 10)
2	High side through 0.001μF to point TP3. Common to chassis.	10.7 MHz (400 kHz SWP.)	Point of non-interference (on/ about 98 MHz)	Connect vert. amp. input of scope to point TP4. Common to chassis.	T204 (FM Disc. IFT)	Adjust for maximum amplitude and proper linearity between ±100 kHz markers. (Refer to Fig. 11)
Note: Before aligning step 1, turn the core of T204 fully counterclockwise.						
FM-RF ALIGNMENT						
1	Connect to EXT. FM antenna terminal through Dummy antenna. Common to earth. (Refer to Fig. 12)	90 MHz 30% Mod. with 400 Hz	90 MHz (20.4 mm)	Output meter across speaker jack (L) (Imp. 8Ω)	L101 (FM ANT Coil) L102 (FM DET Coil) L104 (FM OSC Coil)	Adjust for maximum output.
2	Connect to EXT. FM antenna terminal through Dummy antenna. Common to earth. (Refer to Fig. 12)	106 MHz 30% Mod. with 400 Hz	106 MHz (129.4 mm)	Output meter across speaker jack (L). (Imp. 8Ω)	CT101 (FM ANT Trimmer) CT102 (FM DET Trimmer) CT103 (FM OSC Trimmer)	Adjust for maximum output. Repeat steps (1) and (2).
Note: As three output readings will be present, adjustments must be made at center frequency.						

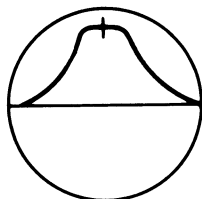


FIG. 10

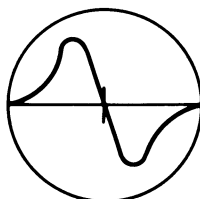


FIG. 11

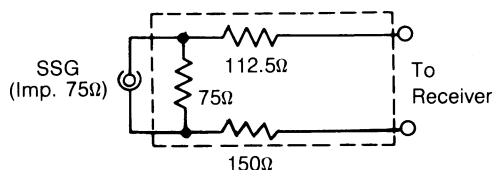
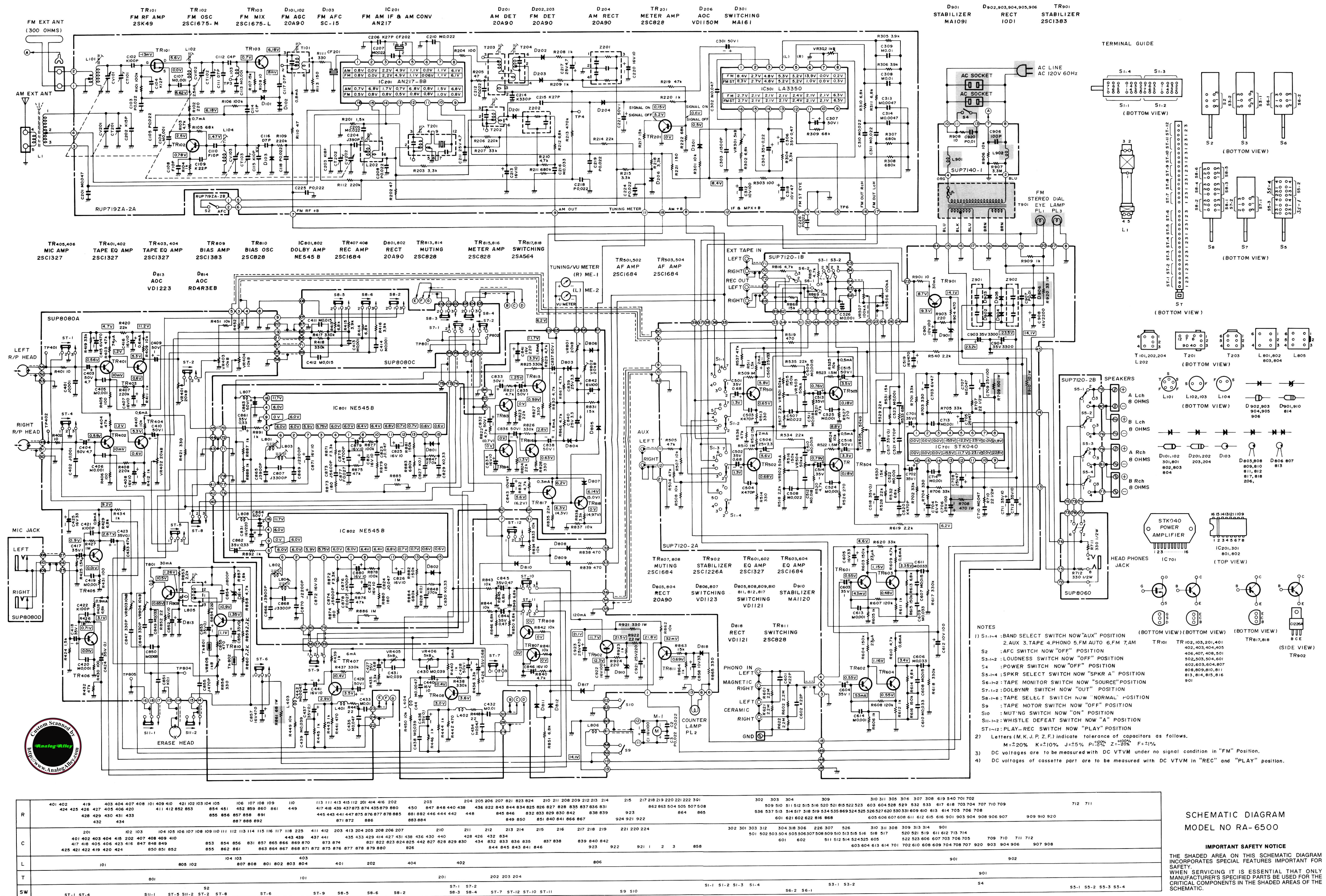


FIG. 12 DUMMY ANTENNA

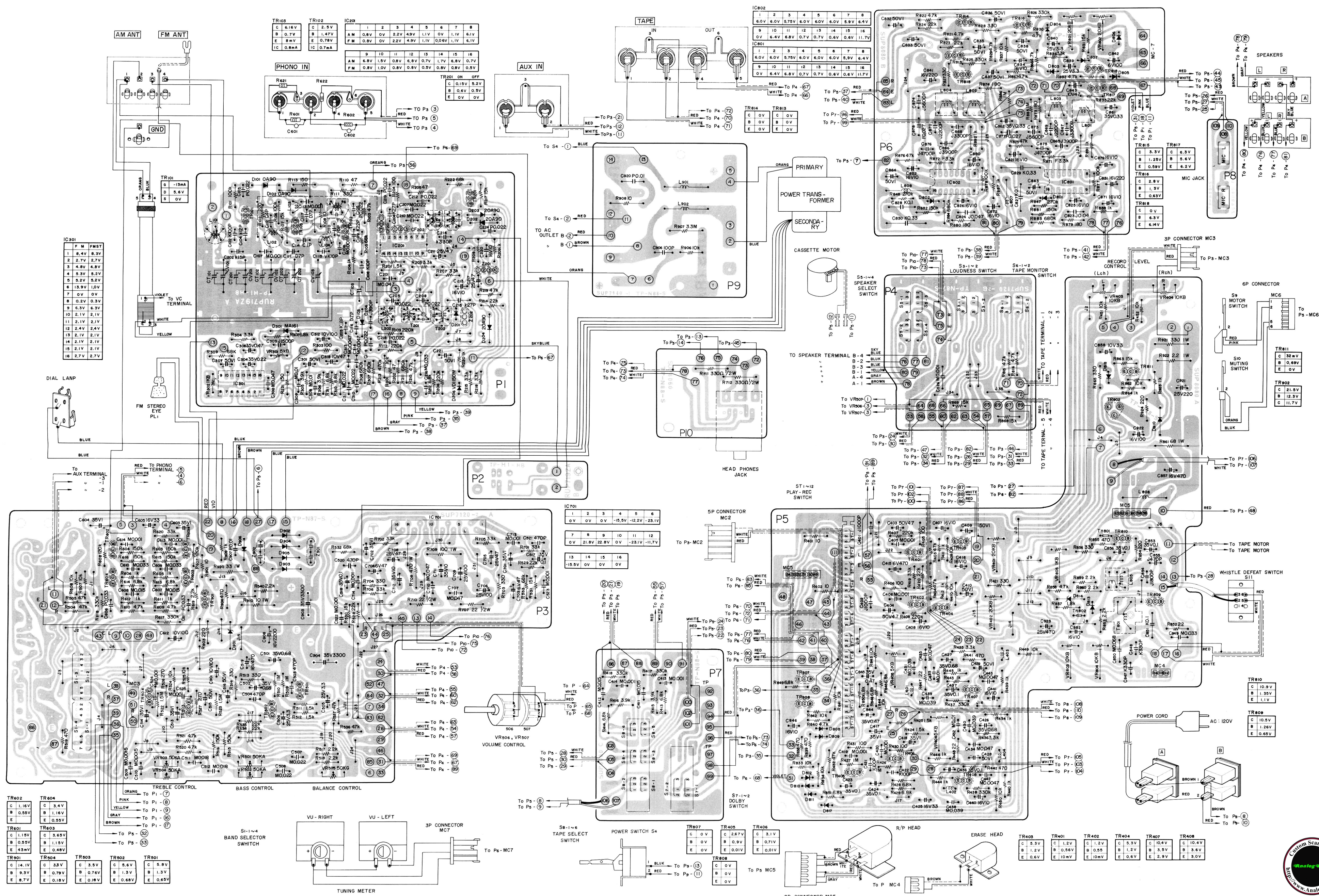
SCHEMATIC DIAGRAM OF MODEL RA-6500



SCHEMATIC DIAGRAM
MODEL NO RA-6500

IMPORTANT SAFETY NOTICE
THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR SAFETY. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.

WIRING DIAGRAM OF MODEL RA-6500



• This diagram might be modified without notice for further development of technology.

ALIGNMENT INSTRUCTIONS (RADIO)

■ FM Stereo Alignment

Notes: Tuner: Volume Control Audible level of speaker sound Treble Control MIN Bass Control Center Band Selector FM AUTO Balance Control Center				
EQUIPMENT CONNECTION			ADJUST	REMARKS
Connect frequency counter to TP6 and ground at no signal condition.				Adjust VR301 for 19 kHz $\pm$ 100 Hz on frequency counter reading.
SEPARATION ALIGNMENT				
Notes: 1. Stereo Modulator: Connect Stereo Modulator to EXT. Mod. terminal of signal generator. 2. Signal Generator: Modulation Rate of 19 kHz Pilot Signal 10% Modulation Rate of Right and Left Signal 27% Output Level 60 dB 3. Tuner (Balance Control): Adjust balance control so that output level from both channels becomes equal.				
EQUIPMENT CONNECTION			ADJUST	REMARKS
SIGNAL GENERATOR	VTVM	OSCILLOSCOPE		
Connect to EXT. FM antenna terminal through dummy antenna. (Refer to Fig. 12)	Connect across speaker jack. (Imp. 8 Ω)	Connect vertical amp. input of scope to terminals of VTVM.	VR302 (Separation Control)	Adjust VR302 for minimum indication of VTVM from the left side output when the right side of stereo modulator is modulated. Adjust VR302 in the same way for the right side. Adjust for best balance between "L to R" and "R to L" separation.
Note: When aligning separation, disconnect frequency counter.				

ALIGNMENT INSTRUCTIONS (CASSETTE DECK)

PRESSURE ROLLER ADJUSTMENT

1. Switch set to PLAY. (Do not insert cassette.)
2. Hook Spring gauge to arm of pressure roller, as shown in Fig. 13.
3. Pull pressure roller away from the capstan in the direction of arrow 1 with spring gauge and slowly permit the pressure roller to return forward capstan in the direction of arrow 2.
4. Measure tension at time when pressure roller makes contact with capstan (or when pressure roller start rotating).
5. The standard tension of pressure roller should be 250 ~ 380g/cm².
6. If pressure is not within these limits;
Clean the rubber roller and capstan with a soft cloth moistened with alcohol or replace pressure spring.

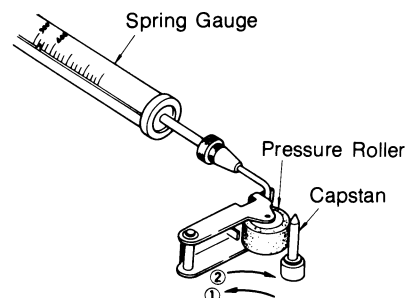


FIG. 13

TAKE-UP TORQUE ADJUSTMENT

* Test Tape: SRK-CT (Take-up Torque Meter)

1. Insert test tape.
2. Rewind the tape to its starting point.
3. Switch set to PLAY.
4. Read "►" mark of indicator on take-up side, as shown in Fig. 14.
5. Repeat PLAY-STOP several times and read the average tension.
6. The standard take-up tension should be 30 ~ 70g/cm².
If take-up tension is not within these limits;
 - a) Clean main belt, take-up reel and all parts which contact them with a cotton swab moistened with alcohol, and/or
 - b) Switch set to "OFF", remove main belt and make sure that take-up reel and take-up clutch are rotating smoothly.
 - c) Change take-up clutch tension by turning the friction spring under reel table, as shown in Fig. 15, and/or
 - d) Replace take-up clutch.

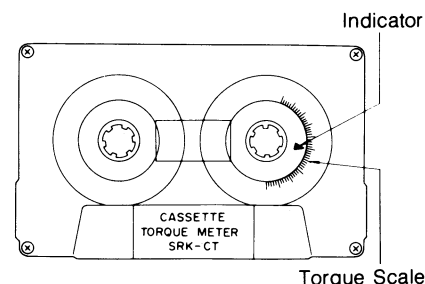


FIG. 14

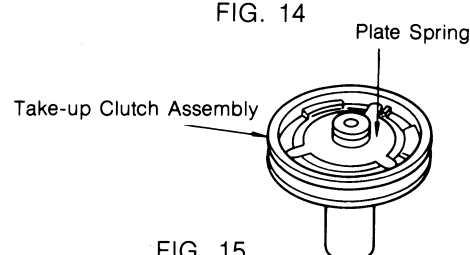


FIG. 15

ALIGNMENT INSTRUCTIONS (CASSETTE DECK)

Notes: 1. Function Selector TAPE 2. Balance Control..... Center 3. Depress push buttons PLAY and REC at the same time. (Be sure to release the record safety lever manually.) 4. Dolby Switch OUT					
STEP	CIRCUITS	VTVM CONNECTION	TAPE SELECTOR	ADJUSTMENT	REMARKS
1	AC BIAS CIRCUIT	Connect positive side to TP804 (+) and negative side to TP805 (-). (Refer to Fig. 16)	Bias SW: Normal	L805	Adjust L805 for maximum indication on VTVM. WDS "B" side
2	AC BIAS CIRCUIT	Connect positive side to TP804 and negative side to TP805. (Refer to Fig. 16)	Bias SW: CrO ₂	VR805	Adjust VR805 for 12V reading on VTVM. WDS "A" side.
3	AC BIAS CIRCUIT	Connect positive side to TP401 and negative side to TP403. (Refer to Fig. 16)	Bias SW: Normal	VR803	Adjust VR803 and VR804 for 3.5mV reading on VTVM. WDS "A" side.
		Connect positive side to TP402 and negative side to TP404. (Refer to Fig. 16)		VR804	
4	19 kHz TRAP CIRCUIT	Connect positive side to TP801 and negative side to TP803(E). (Refer to Fig. 16)	EQ SW: Normal	L803	Turn Function Selector to AUX and Dolby SW to IN. Apply audio signal (300 mV, 19 kHz) to both L-ch and R-ch AUX terminals. Adjust L803 and L804 for minimum indication on VTVM.
		Connect positive side to TP802 and negative side to TP803(E). (Refer to Fig. 16)		L804	
5	DOLBY CIRCUIT	Connect positive side to TP801 and negative side to TP803. (Refer to Fig. 16)	EQ SW: Normal	VR401	Turn Dolby SW to IN and playback a test tape (MTT-150). Adjust VR401 and VR402 for 580 mV reading on VTVM.
		Connect positive side to TP802 and negative side to TP803. (Refer to Fig. 16)		VR402	
6	VU METER CIRCUIT		EQ SW: Normal	VR801 VR802	Turn Dolby SW to IN and playback a test tape (MTT-150). Adjust VR801 and VR802 so that needle rests at +3 dB ( mark) as shown in Fig. 17.
7	REC CURRENT CIRCUIT	Connect positive side to TP401 and negative side to TP403. (Refer to Fig. 16)	EQ SW: Normal	VR405	Connect TP804 to TP805. Turn Function Selector to AUX and Dolby SW to IN. Apply 1 kHz audio signal to both AUX terminals and set body REC Volume at +3 dB ( mark) on VU meter. Adjust VR405 and VR406 for 0.72 mV reading on VTVM.
		Connect positive side to TP402 and negative side to TP403. (Refer to Fig. 16)		VR406	
Notes: 1. Do not touch R/P Head and Erase Head when aligning. 2. L801 and L802 are pre-aligned. Do not touch them. 3. MTT-150 is DOLBY LEVEL calibration tape.					

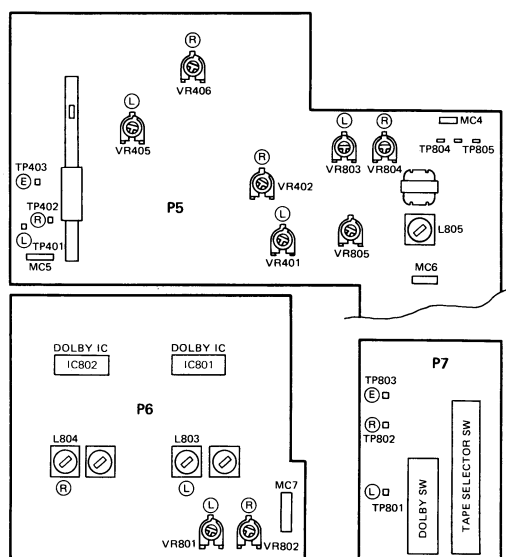


FIG. 16

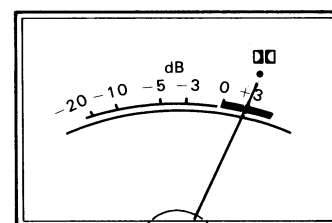


FIG. 17

RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

Playback a Standard Alignment Tape and turn Azimuth Adjusting Screw for maximum loudness.

* Test Tape (6.3 kHz)
VTT-652 or Equivalent

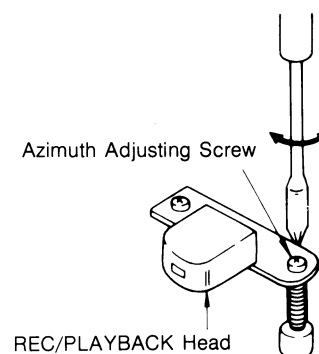


FIG. 18

DOLBY NOISE REDUCTION SYSTEM

GENERAL DESCRIPTION

The Dolby B-Type Noise Reduction System is used in this equipment, which reduces the level of background noise introduced during recording without changing the tone of audio signal.

METHOD OF DOLBY SYSTEM

Signal deviation of Dolby System is shown in Fig. 19.

Low level signal is recorded by boosting and is played back by attenuating as illustrated in the figure.

For example, following a level in Fig. 19:

1. When -30 dB REC signal is applied.
2. It is boosted to -20 dB and recorded on a magnetic head. [ENCODE]
3. Playing back this recorded tape (at -20 dB).
4. The output signal is boosted by Dolby System and reproduced at -30 dB, the same level as recorded. [RECODE]

Fig. 20 shows the boosting frequency characteristics. Generally, the signal deviation increases in proportion to the frequency.

At playback, the characteristics are curved symmetrically against the recording curve and the overall REC and PLAY curve flattens as shown in Fig. 21. This 0 dB is called Dolby Level, which is the flux level of the cassette tape and standardized at the point of 200 pwb/mm, and it is indicated by +3 VU on the VU meter of this equipment.

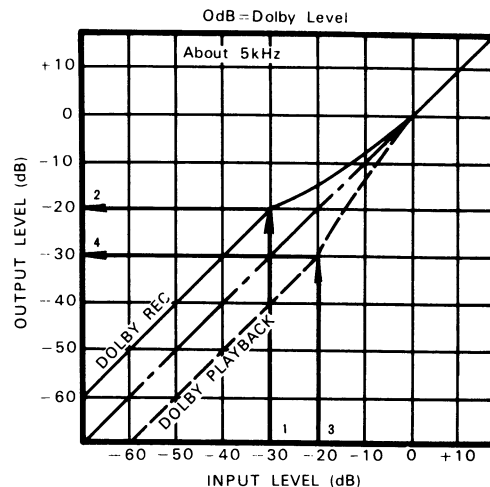


FIG. 19

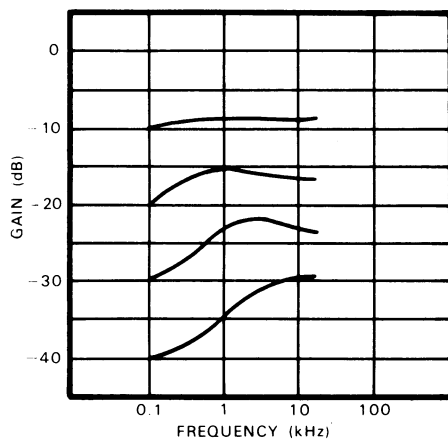


FIG. 20

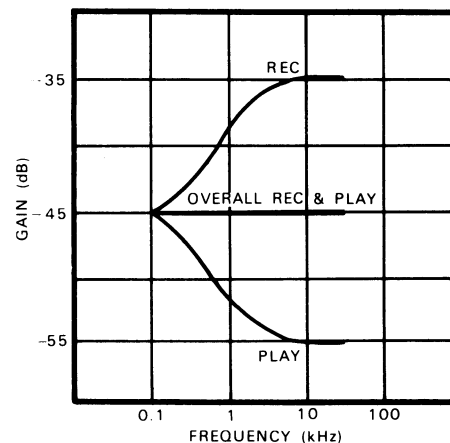


FIG. 21

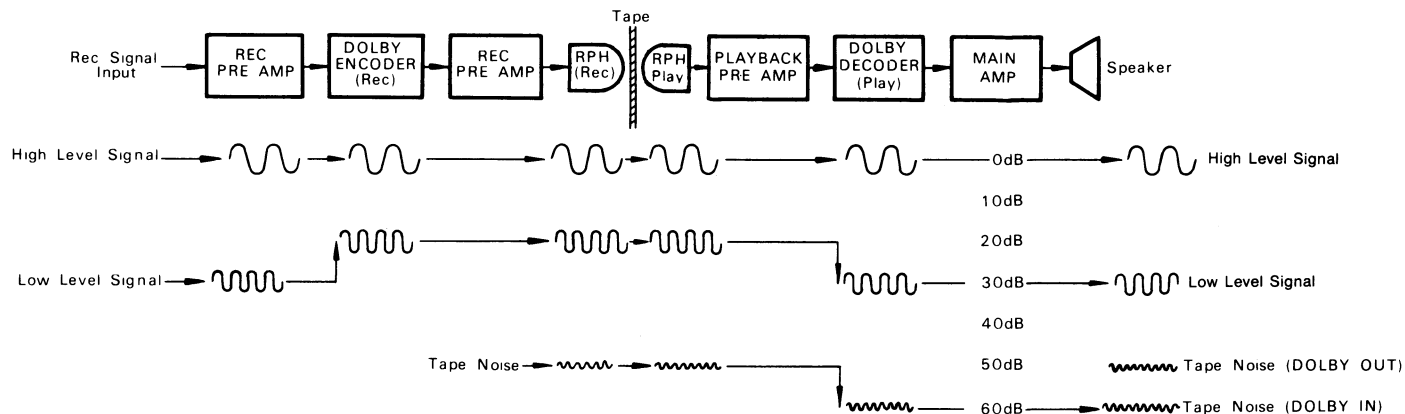


FIG. 22

DOLBY NOISE REDUCTION SYSTEM

PRINCIPLE OF NOISE REDUCTION

Much of the audible noise of a tape recorder is a hiss noise of high and medium frequency created when recording on a magnetic tape while some of it is playback amplifier noise.

A high input signal level suppresses noise but a low input signal level decreases S/N ratio and noise is easily heard.

For solving this problem as shown in Fig. 22, the Dolby System operates by boosting a low-level, high and medium frequency approx. 10 dB when recording, and attenuating the same signal in a complementary manner during playback.

During this process, the hiss noise of high and medium frequency and the amplifier noise are suppressed approx. 10 dB.

Fig. 23 shows noise reduction in Dolby IN/OUT.

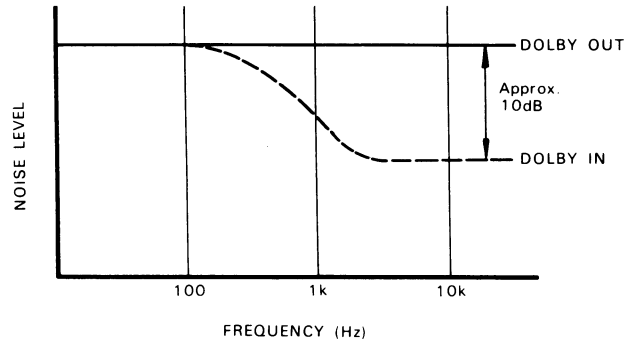


FIG. 23

CIRCUIT OPERATION

The operation of Noise Reduction System is shown in the block diagram of Fig. 24. By turning ST1, ST2, S7-1 and ST8 to REC/PLAY, this circuit operates on ENCODE/DECODE.

[ENCODE] : ST1, ST2 and ST8 in PLAY position.

Recording signal is applied to REC AMP and passes through AMP "A" of Dolby IC and the low-pass-filter "LPF", and then it enters AMP "B". LPF attenuates unwanted frequencies such as tape recorder bias or FM MPX sub. carrier signals to the level which will not influence the Dolby circuit operation. The output signal of AMP "B" is divided into two paths; one is directly supplied to ADDER "E", which is called a direct signal, while the other controls the noise reduction signal. This signal, passing through ST8, S7-1, high-pass-filter "HPF", variable resistance "F" and AMP "C", enters ADDER "E" and increases the direct signal.

As a result, REC signal from INVERTER "K" is boosted.

[DECODE] : Essentially the same circuitry.

ST1, ST2 and ST8 in REC position.

Playback signal from the playback head "RPH" is applied to PLAYBACK PRE AMP and passes through ST2, AMP "A" of Dolby IC, "LPF" and AMP "B", and then it enters ADDER "E" as the direct signal. One part of output signal from INVERTER "K", passing through ST8, is supplied to MAIN AMP, and the other, as Noise Reduction Signal, passes through S7-1, "HPF".

Variable Resistance "F" and AMP "C", are applied to ADDER "E" in opposite phase. As a result, the level of the playback signal is attenuated. This circuit operates to boost at REC position [ENCODE] and to attenuate at PLAY position [DECODE].

"G" is the rectifying and smoothing circuit of Noise Reduction Signal and controls Variable Resistance "F". And "F" and "HPF" compose the dynamic high pass filter, and control the boosting and attenuating degree of high and medium frequency in response to the signal level (Figs. 20 and 21). "T" is the circuit setting the response time of Dolby.

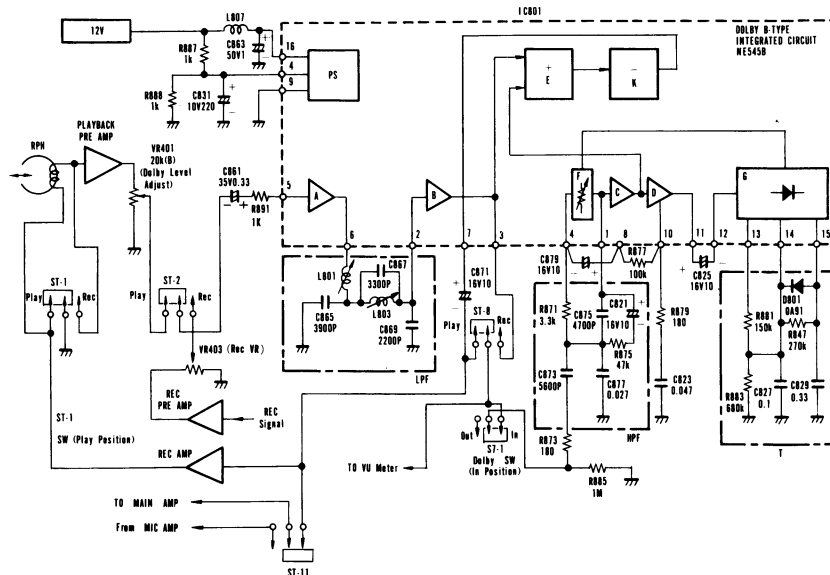


FIG. 24

REPLACEMENT PARTS LIST

- NOTE:**
1. Part numbers are indicated on most mechanical parts.
 2. Please use this part number for parts orders.
 3. Components identified by shaded area have special characteristics important for safety.
 4. When replacing any of these components use only manufacturer's specified parts.
- The term "M. Film" is the abbreviation of Metal Film.

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier
TRANSISTORS					
TR101	2SK49	FM RF Amp.	1		
TR102	2SC1675	FM OSC Amp.	1		
TR103	2SC1675	FM MIX Amp.	1		
TR201	2SC828	Meter Amp.	1		
TR401,402	2SC1372	Tape Equalizer Amp.	2		
TR403,404	2SC1327	Tape Equalizer Amp.	2		
TR405,406	2SC1327	MIC Amp.	2		
TR407,408	2SC1684	Rec Amp.	2		
TR501,502	2SC1684	AF 1st Amp.	2		
TR503,504	2SC1684	AF 2nd Amp.	2		
TR601,602	2SC1327	Phono Equalizer Amp.	2		
TR603,604	2SC1684	Phono Equalizer Amp.	2		
TR807,808	2SC1684	Muting Amp.	2		
TR809	2SC1383	Bias Amp.	1		
TR810	2SC828	Bias OSC	1		
TR811	2SC828	Switching	1		
TR813,814	2SC828	Muting Amp	2		
TR815,816	2SC828	Meter Amp.	2		
TR817,818	2SA564	Switching Amp.	2		
TR901	2SC1383	Stabilizer Amp.	1		
TR902	2SC1226A	Stabilizer Amp.	1		
INTEGRATED CIRCUITS					
IC201	AN217	IF Amp.	1		
IC301	LA3350A	MPX Amp.	1		
IC701	STK040	Power Amp.	1		
IC801,802	NE545B	Dolby Amp.	1		
DIODES					
D101,102	20A90	FM AGC	2		
D103	SC-15	FM AFC	1		

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier
D201	20A90	AM DET	1		
D202,203	20A90	FM DET	2		
D204	20A90	AM RECT	1		
D206	VD1150M	AOC	1		
D301	MA161	Switching	1		
D801,802	OA91	RECT	2		
D803,804	20A90	RECT	2		
D805	VD1121	Switching	1		
D806,807	VD1223	Switching	2		
D808,809	VD1121	Switching	2		
D810,811	VD1121	Switching	2		
D812	VD1121	Switching	1		
D813	VD1223	AOC	1		
D814	RD4R3EB	AOC	1		
D817	VD1121	Switching	1		
D818	VD1121	RECT	1		
D901	MA1091	Stabilizer	1		
D902,903	10D1	RECT	2		
D904,905	10D1	RECT	2		
D906	10D1	RECT	1		
D910	MA1120	Stabilizer	1		
THERMISTORS					
TH801,802	ERTD2FHK202S	Thermistor	2		
LAMPS AND FUSES					
PL1	XAMR53 x 300	Lamp, Stereo 14V 50mA	1		
PL2	SWE112	w/Rubber, Counter 12.6V 30mA	1		
PL3	XAMQ33P	Lamp, Dial 12.6V 380mA	1		
METER					
ME1	SSM108	Meter, VU and Tuning	1	○	
ME2	SSM110	Meter, VU	1	○	
COILS AND TRANSFORMERS					
L1	SLF2D26-Q	Ferrite ANT	1		
L101	SLA4N2-O	ANT Coil, FM	1		

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier	
L102	RLD4N30	Coil Collector	1			
L103	RLQY30S1-O	Coil, Trap	1			
L104	SLO4N12-O	OSC Coil, FM	1			
L202	RLO2M6	OSC Coil, AM	1			
L401,402	SLQU222-2Y	Coil Equalizer	2			
L403,404	SLQV393-4Y	Coil, Trap	2			
L801,802	SLQC363-2K	Coil, Trap	2			
L803,804	SLQC233-2K	Coil, Trap	2			
L805	SLO9210-K	Coil, Bias OSC	1			
L806,807	ELQ250A999	Coil, Choke	2			
L808	ELQ250A999	Coil, Choke	1			
L901,902	SLQY35S-2S	Coil, RFC	2			
T101	RLI4M101	IFT, FM 1st	1			
T201	RLI7W105Q-M	CFT, AM	1			
T202	RLI2M402	IFT, AM	1			
T203	RLI4M501-M	IFT, FM Disc	1			
T204	RLI4M502-M	IFT, FM Disc	1			
T801	SLT6E2-D	OPT Bias OSC	1			
T901	SLT5M6C-W	PT	1	○		
CF210,202	RVFCF10M12CR	FM Ceramic	2			
COMPONENT COMBINATION						
Z201	EXASDL04C	330pF × 3, 4.7kΩ × 2	1			
Z202	EXAF203Z471	0. 01μF × 2, 470Ω	1			
Z901,902	EXNF2SLQ4C	0. 0 1μF × 2	2			
RESISTORS						
R101	ERD25TJ104	Carbon 100kΩ 1/4W ±5%	1			
R102	ERD25TJ221	Carbon 220Ω 1/4W ±5%	1			
R103	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	1			
R104	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	1			
R105	ERD25TJ683	Carbon 68kΩ 1/4W ±5%	1			
R106	ERD25TJ104	Carbon 100kΩ 1/4W ±5%	1			
R107	ERD25TJ153	Carbon 15kΩ 1/4W ±5%	1			
R108	ERD25TJ100	Carbon 10Ω 1/4W ±5%	1			
R109	ERD25TJ224	Carbon 220kΩ 1/4W ±5%	1			
R110	ERD25TJ470	Carbon 47Ω 1/4W ±5%	1			
R111	ERD25TJ331	Carbon 330Ω 1/4W ±5%	1			
R112	ERD25TJ224	Carbon 220kΩ 1/4W ±5%	1			
R113	ERD25TJ151	Carbon 150Ω 1/4W ±5%	1			
R201	ERD25TJ152	Carbon 1.5kΩ 1/4W ±5%	1			

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier	
R202	ERD25TJ470	Carbon 47Ω 1/4W ±5%	1			
R203	ERD25TJ332	Carbon 3.3kΩ 1/4W ±5%	1			
R204	ERD25TJ101	Carbon 100Ω 1/4W ±5%	1			
R205	ERD25TJ470	Carbon 47Ω 1/4W ±5%	1			
R206	ERD25TJ224	Carbon 220kΩ 1/4W ±5%	1			
R207	ERD25TJ333	Carbon 33kΩ 1/4W ±5%	1			
R208,209	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	2			
R210	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	1			
R211	ERD25TJ684	Carbon 680kΩ 1/4W ±5%	1			
R212	ERD25TJ682	Carbon 6.8kΩ 1/4W ±5%	1			
R213	ERD25TJ474	Carbon 470kΩ 1/4W ±5%	1			
R214	ERD25TJ223	Carbon 22kΩ 1/4W ±5%	1			
R215	ERD25TJ332	Carbon 3.3kΩ 1/4W ±5%	1			
R217	ERD25TJ153	Carbon 15kΩ 1/4W ±5%	1			
R218	ERD25TJ332	Carbon 3.3kΩ 1/4W ±5%	1			
R219	ERD25TJ473	Carbon 47kΩ 1/4W ±5%	1			
R220	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	1			
R221	ERD25TJ151	Carbon 150Ω 1/4W ±5%	1			
R222	ERD25TJ683	Carbon 68kΩ 1/4W ±5%	1			
R301	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	1			
R302	ERD25TJ682	Carbon 6.8kΩ 1/4W ±5%	1			
R303	ERD25TJ101	Carbon 100Ω 1/4W ±5%	1			
R304	ERD25TJ332	Carbon 3.3kΩ 1/4W ±5%	1			
R305,306	ERD25TJ392	Carbon 3.9kΩ 1/4W ±5%	2			
R307,308	ERD25TJ684	Carbon 680kΩ 1/4W ±5%	2			
R309	ERD25TJ333	Carbon 33kΩ 1/4W ±5%	1			
R310,311	ERD25TJ682	Carbon 6.8kΩ 1/4W ±5%	2			
R401,402	ERD25TJ100	Carbon 10Ω 1/4W ±5%	2			
R403,404	ERD25TJ473	Carbon 47kΩ 1/4W ±5%	2			
R405,406	ERD25TJ101	Carbon 100Ω 1/4W ±5%	2			
R407,408	ERD25TJ224	Carbon 220kΩ 1/4W ±5%	2			
R409,410	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	2			
R411,412	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	2			
R413,414	ERD25TJ682	Carbon 6.8kΩ 1/4W ±5%	2			
R415,416	ERD25TJ392	Carbon 3.9kΩ 1/4W ±5%	2			
R417,418	ERD25TJ334	Carbon 330kΩ 1/4W ±5%	2			
R419	ERD25TJ333	Carbon 33kΩ 1/4W ±5%	1			
R420	ERD25TJ223	Carbon 22kΩ 1/4W ±5%	1			
R421	ERD25TJ331	Carbon 330Ω 1/4W ±5%	1			
R424,425	ERD25TJ152	Carbon 1.5kΩ 1/4W ±5%	2			
R426,427	ERD25TJ105	Carbon 1MΩ 1/4W ±5%	2			
R428,429	ERD25TJ682	Carbon 6.8kΩ 1/4W ±5%	2			
R430,431	ERD25TJ101	Carbon 100Ω 1/4W ±5%	2			
R432,433	ERD25TJ473	Carbon 47kΩ 1/4W ±5%	2			
R434	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	1			
R435,436	ERD25TJ332	Carbon 3.3kΩ 1/4W ±5%	2			
R437,438	ERD25TJ334	Carbon 330kΩ 1/4W ±5%	2			
R439,440	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	2			

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier
R441,442	ERD25TJ471	Carbon 470Ω 1/4W ±5%	2		
R443,444	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	2		
R445,446	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	2		
R447,448	ERD25TJ220	Carbon 22Ω 1/4W ±5%	2		
R449,450	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	2		
R451,452	ERD25TJ106	Carbon 10kΩ 1/4W ±5%	2		
R504,505	ERD25TJ473	Carbon 47kΩ 1/4W ±5%	2		
R507,508	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	2		
R509,510	ERD25TJ105	Carbon 1MΩ 1/4W ±5%	2		
R511,512	ERD25TJ152	Carbon 1.5kΩ 1/4W ±5%	2		
R513,514	ERD25TJ331	Carbon 330Ω 1/4W ±5%	2		
R515,516	ERD25TJ154	Carbon 150kΩ 1/4W ±5%	2		
R517,518	ERD25TJ222	Carbon 2.2kΩ 1/4W ±5%	2		
R519	ERD25TJ471	Carbon 470Ω 1/4W ±5%	1		
R520,521	ERD25TJ155	Carbon 1.5MΩ 1/4W ±5%	2		
R522,523	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	2		
R524,525	ERD25TJ271	Carbon 270Ω 1/4W ±5%	2		
R526,527	ERD25TJ271	Carbon 270Ω 1/4W ±5%	2		
R528,529	ERD25TJ223	Carbon 22kΩ 1/4W ±5%	2		
R530,531	ERD25TJ153	Carbon 15kΩ 1/4W ±5%	2		
R532,533	ERD25TJ683	Carbon 68kΩ 1/4W ±5%	2		
R534,535	ERD25TJ223	Carbon 22kΩ 1/4W ±5%	2		
R536,537	ERD25TJ473	Carbon 47kΩ 1/4W ±5%	2		
R540	ERD25TJ222	Carbon 2.2kΩ 1/4W ±5%	1		
R601,602	ERC12GK225	Solid 2.2MΩ 1/2W ±10%	2		
R603,604	ERD25TJ473	Carbon 47kΩ 1/4W ±5%	2		
R605,606	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	2		
R607,608	ERD25TJ124	Carbon 120kΩ 1/4W ±5%	2		
R609,610	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	2		
R611,612	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	2		
R613,614	ERD25TJ682	Carbon 6.8kΩ 1/4W ±5%	2		
R615,616	ERD25TJ154	Carbon 150kΩ 1/4W ±5%	2		
R617,618	ERD25TJ334	Carbon 330kΩ 1/4W ±5%	2		
R619	ERD25TJ222	Carbon 2.2kΩ 1/4W ±5%	1		
R620	ERD25TJ333	Carbon 33kΩ 1/4W ±5%	1		
R621,622	ERC12GK225	Solid 2.2MΩ 1/2W ±10%	2		
R701,702	ERD25TJ333	Carbon 33kΩ 1/4W ±5%	2		
R703,704	ERD25TJ331	Carbon 330Ω 1/4W ±5%	2		
R705,706	ERD25TJ333	Carbon 33kΩ 1/4W ±5%	2		
R707	ERD50TJ220	Carbon 22Ω 1/2W ±5%	1		
R708	ERG1ANJ471	M. Film 470Ω 1W ±5%	1		
R709	ERG1ANJ101	M. Film 100Ω 1W ±5%	1		
R710	ERD50TJ220	Carbon 22Ω 1/2W ±5%	1		
R711,712	ERD50TJ331	Carbon 330Ω 1/2W ±5%	2		
R815,816	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	2		
R821,822	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	2		
R823,824	ERD25TJ223	Carbon 22kΩ 1/4W ±5%	2		
R825,826	ERD25TJ334	Carbon 330kΩ 1/4W ±5%	2		
R827,828	ERD25TJ331	Carbon 330Ω 1/4W ±5%	2		
R829,830	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	2		
R831	ERD25TJ153	Carbon 15kΩ 1/4W ±5%	1		
R832	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	1		
R833,834	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	2		
R835	ERD25TJ223	Carbon 22kΩ 1/4W ±5%	1		
R836	ERD25TJ332	Carbon 3.3kΩ 1/4W ±5%	1		
R837	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	1		
R838,839	ERD25TJ471	Carbon 470Ω 1/4W ±5%	2		
R840	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	1		
R841,842	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	2		
R843,844	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	2		
R845,846	ERD25TJ682	Carbon 6.8kΩ 1/4W ±5%	2		
R847,848	ERD25TJ274	Carbon 270kΩ 1/4W ±5%	2		
R849,850	ERD25TJ682	Carbon 6.8kΩ 1/4W ±5%	2		
R851	ERD25TJ682	Carbon 6.8kΩ 1/4W ±5%	1		
R852	ERD25TJ220	Carbon 22Ω 1/4W ±5%	1		
R853	ERD25TJ222	Carbon 2.2kΩ 1/4W ±5%	1		
R854	ERD25TJ471	Carbon 470Ω 1/4W ±5%	1		
R855	ERD25TJ331	Carbon 330Ω 1/4W ±5%	1		
R856	ERD25TJ182	Carbon 1.8kΩ 1/4W ±5%	1		
R857	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	1		
R858	ERD25TJ152	Carbon 1.5kΩ 1/4W ±5%	1		
R859	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	1		
R860	ERG1ANJ680	M. Film 68Ω 1W ±5%	1		
R861	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	1		
R862	ERD25TJ153	Carbon 15kΩ 1/4W ±5%	1		
R864	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	1		
R865	ERD25TJ331	Carbon 330Ω 1/4W ±5%	1		
R866,867	ERD25TJ472	Carbon 4.7kΩ 1/4W ±5%	2		
R868,869	ERD25TJ153	Carbon 15kΩ 1/4W ±5%	2		
R871,872	ERD18TJ3301	Carbon 3.3kΩ 1/4W ±5%	2		
R873,874	ERD25TJ181	Carbon 180Ω 1/4W ±5%	2		
R875,876	ERD25TJ473	Carbon 47kΩ 1/4W ±5%	2		
R877,878	ERD25TJ104	Carbon 100kΩ 1/4W ±5%	2		
R879,880	ERD25TJ181	Carbon 180Ω 1/4W ±5%	2		
R881,882	ERD25TJ154	Carbon 150kΩ 1/4W ±5%	2		
R883,884	ERD25TJ684	Carbon 680kΩ 1/4W ±5%	2		
R885,886	ERD25TJ105	Carbon 1MΩ 1/4W ±5%	2		
R887,888	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	2		
R891,892	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	2		
R901	ERD25TJ100	Carbon 10Ω 1/4W ±5%	1		
R903	ERD25TJ221	Carbon 220Ω 1/4W ±5%	1		
R904	ERD25TJ471	Carbon 470Ω 1/4W ±5%	1		
R906	ERD25TJ103	Carbon 10kΩ 1/4W ±5%	1		
R907	ERC12GK335	Solid 3.3MΩ 1/2W ±10%	1		
R908	ERD50TJ100	Carbon 10Ω 1/2W ±5%	1		

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier
R909	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	1		
R910	ERG1ANJ100	M. Film 10Ω 1W ±5%	1		
R920	ERG1ANJ330	M. Film 33Ω 1W ±5%	1		
R921	ERG1ANJ331	M. Film 330Ω 1W ±5%	1		
R922	ERX1ANJ2R2	M. Film 2.2Ω 1W ±5%	1		
R923	ERD25TJ102	Carbon 1kΩ 1/4W ±5%	1		
R924	ERD25TJ221	Carbon 220Ω 1/4W ±5%	1		
CAPACITORS					
C1	ECEA16V100	Electrolytic 100μF 16VW	1		
C2.3	ECKD1H223PF	Ceramic 0.022μF 50WV +100,-0%	2		
C102	ECKD1H101K	Ceramic 100pF 50WV ±10%	1		
C103	ECKD1H223PF	Ceramic 0.022μF 50WV +100,-0%	1		
C104	ECCD1H120K	Ceramic 12pF 50WV ±10%	1		
C105	ECKD1H223PF	Ceramic 0.022μF 50WV +100,-0%	1		
C106.017	ECKD1H102MD	Ceramic 0.001μF 50WV ±20%	2		
C108	ECCD1H100K	Ceramic 10pF 50WV ±10%	1		
C109	ECCD1H220K	Ceramic 22pF 50WV ±10%	1		
C110	ECCD1H100K	Ceramic 10pF 50WV ±10%	1		
C111	ECCD1H070D	Ceramic 7pF 50WV ±0.5pF	1		
C112	ECCD1H040C	Ceramic 4pF 50WV ±0.25pF	1		
C113	ECKD1H102MD	Ceramic 0.001μF 50WV ±20%	1		
C114	ECCD1H010C	Ceramic 1pF 50WV ±0.25pF	1		
C115	ECCD1H100KV	Ceramic 10pF 50WV ±10%	1		
C116.117	ECCD1H070D	Ceramic 7pF 50WV ±0.5pF	2		
C118	ECKD1H223PF	Ceramic 0.022μF 50WV +100,-0%	1		
C201	ECQM1H473MZ	Polyester 0.047μF 50WV ±20%	1		
C202.203	ECCD1H180K	Ceramic 18pF 50WV ±10%	2		
C204	ECQS1391JZ	Styrol 390pF 100WV ±5%	1		
C205	ECKD1H223MD	Ceramic 0.022μF 50WV ±20%	1		
C206	ECCD1H270K	Ceramic 27pF 50WV ±10%	1		
C207	ECKD1H223MD	Ceramic 0.022μF 50WV ±20%	1		
C208	ECKD1H223PF	Ceramic 0.022μF 50WV +100,-0%	1		
C210	ECKD1H223MD	Ceramic 0.022μF 50WV ±20%	1		
C211	ECEA35V4R7	Electrolytic 4.7μF 35WV	1		
C212	ECKD1H223PF	Ceramic 0.022μF 50WV +100,-0%	1		
C213	ECEA16V10	Electrolytic 10μF 16WV	1		
C214	ECCD1H331K	Ceramic 330pF 50WV ±10%	1		
C215	ECCD1H270K	Ceramic 27pF 50WV ±10%	1		
C216	ECKD1H333PF	Ceramic 0.033μF 50WV +100,-0%	1		
C217	ECEA35V4R7	Electrolytic 4.7μF 35WV	1	○	
C218.219	ECKD1H223PF	Ceramic 0.022μF 50WV +100,-0%	2		
C220	ECEA16V10	Electrolytic 10μF 16WV	1		

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier
C221	ECEA50V1	Electrolytic 1μF 50WV	1		
C224	ECKD1H223PF	Ceramic 0.022μF 50WV +100,-0%	1		
C225.226	ECKD1H223PF	Ceramic 0.022μF 50WV +100,-0%	2		
C301	ECEA50V1	Electrolytic 1μF 50WV	1		
C302	ECQM1H473MZ	Polyester 0.047μF 50WV ±20%	1		
C303	ECQS1152JZ	Styrol 0.0015μF 100WV ±5%	1		
C304	ECAG16ER22	Electrolytic 0.22μF 16WV	1		
C306	ECAG16ER47	Electrolytic 0.47μF 16WV	1		
C307	ECEA50V1	Electrolytic 1μF 50WV	1		
C308.309	ECKD1H103MD	Ceramic 0.01μF 50WV ±20%	2		
C310.311	ECKD1H223MD	Ceramic 0.022μF 50WV ±20%	2		
C312	ECEA10V100	Electrolytic 100μF 10WV	1		
C313.314	ECKD1H472MD	Ceramic 0.0047μF 50WV ±20%	2		
C318	ECEA16V47	Electrolytic 47μF 16WV	1		
C401.402	ECQS1102JZ	Styrol 0.001μF 100WV ±5%	2		
C403.404	ECEA50M4R7	Electrolytic 4.7μF 50WV	2		
C405.406	ECKD1H102MD	Ceramic 0.001μF 50WV ±20%	2		
C407.408	ECEA16V10	Electrolytic 10μF 16WV	2		
C409.410	ECEA50V1	Electrolytic 1μF 50WV	2		
C411.412	ECQM1H153MZ	Polyester 0.015μF 50WV ±20%	2		
C413.414	ECKD1H102MD	Ceramic 0.001μF 50WV ±20%	1		
C415	ECEA6V470	Electrolytic 470μF 6WV	1		
C416	ECEA16V10	Electrolytic 10μF 16WV	1		
C417.418	ECAG16E1	Electrolytic 1μF 16WV	2		
C419.420	ECKD1H102MD	Ceramic 0.001μF 50WV ±20%	2		
C421.422	ECCD1H101K	Ceramic 100pF 50WV ±10%	2		
C423.424	ECAG16ER1	Electrolytic 0.1μF 16WV	2		
C425	ECEA16V33	Electrolytic 33μF 16WV	1		
C426.427	ECAG16ER68	Electrolytic 0.68μF 16WV	2		
C428.429	ECEA50V1	Electrolytic 1μF 50WV	2		
C430.431	ECQM1H393MZ	Polyester 0.039μF 50WV ±20%	2		
C432.433	ECQM1H103MZ	Polyester 0.01μF 50WV ±20%	2		
C434.435	ECQM1H473MZ	Polyester 0.047μF 50WV ±20%	2		
C436.437	ECAG16ER1	Electrolytic 0.1μF 16WV	2		
C438.439	ECQM1H393MZ	Polyester 0.039μF 50WV ±20%	2		
C440.441	ECEA16V10	Electrolytic 10μF 16WV	2		
C442.443	ECKD1H472MD	Ceramic 0.0047μF 50WV ±20%	2		
C501.502	ECAG16ER68	Electrolytic 0.68μF 16WV	2		
C503.504	ECCD1H471K	Ceramic 470pF 50WV ±10%	2		
C505.506	ECEA50V3R3	Electrolytic 3.3μF 50WV	2		
C507.508	ECQM1H223MZ	Polyester 0.022μF 50WV ±20%	2		
C509.510	ECQM1H152MZ	Polyester 0.0015μF 50WV ±20%	2		
C511.512	ECQM1H183MZ	Polyester 0.018μF 50WV ±20%	2		
C513.514	ECAG16E1	Electrolytic 1μF 16WV	2		
C515.516	ECEA50V1	Electrolytic 1μF 50WV	2		
C517.518	ECAG16ER1	Electrolytic 0.1μF 16WV	2		
C519	ECEA16V470	Electrolytic 470μF 16WV	1		
C520.521	ECCD1H471K	Ceramic 470pF 50WV ±10%	2		

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier
C522,523	ECKD1H102MD	Ceramic 0.001μF 50WV ±20%	2		
C524,525	ECKD1H102MD	Ceramic 0.001μF 50WV ±20%	2		
C526	ECKD1H102MD	Ceramic 0.001μF 50WV ±20%	1		
C601,602	ECCD1H220K	Ceramic 22pF 50WV ±10%	2		
C603,604	ECAG16E1	Electrolytic 1μF 16WV	2		
C605	ECEA16V33	Electrolytic 33μF 16WV	1		
C606	ECKD1H333PF	Ceramic 0.033μF 50WV +100, -0%	1		
C607,608	ECKD1H153MD	Ceramic 0.015μF 50WV ±20%	2		
C609,610	ECQM1H333MZ	Polyester 0.033μF 50WV ±20%	2		
C611	ECKD1H333PF	Ceramic 0.033μF 50WV +100, -0%	1		
C612	ECEA10V100	Electrolytic 100μF 10WV	1		
C613,614	ECKD1H102MD	Ceramic 0.001μF 50WV ±20%	2		
C701,702	ECAG16E1	Electrolytic 1μF 16WV	2		
C703,704	ECEA16V47	Electrolytic 47μF 16WV	2		
C705	ECEA35V47	Electrolytic 47μF 35WV	1		
C706	ECEA25V100	Electrolytic 100μF 25WV	1		
C707	ECQM1H473MZ	Polyester 0.047μF 50WV ±20%	1		
C708	ECEA35V47	Electrolytic 47μF 35WV	1		
C709	ECEA25V100	Electrolytic 100μF 25WV	1		
C710	ECEA35V10	Polyester 0.047μF 50WV ±20%	1		
C711,712	ECKD1H102MD	Ceramic 0.001μF 50WV ±20%	2		
C713,714	ECEA16V10	Electrolytic 10μF 16WV	2		
C823,824	ECQM1H473JZ	Polyester 0.047μF 50WV ±5%	2		
C825,826	ECEA16V10	Electrolytic 10μF 16WV	2		
C827,282	ECQM1H104KZ	Polyester 0.1μF 50WV ±10%	2		
C829,830	ECQM1H334KZ	Polyester 0.33μF 50WV ±10%	2		
C831	ECEA16V220	Electrolytic 220μF 16WV	1		
C832,833	ECEA50V1	Electrolytic 1μF 50WV	2		
C834	ECEA16V10	Electrolytic 10μF 16WV	1		
C835,836	ECEA50V1	Electrolytic 1μF 50WV	2		
C837,838	ECEA50V1	Electrolytic 1μF 50WV	2		
C839,840	ECEA50V3R3	Electrolytic 3.3μF 50WV	2		
C841	ECEA16V220	Electrolytic 220μF 16WV	1		
C842	ECEA10V100	Electrolytic 100μF 10WV	1		
C843	ECEA16V47	Electrolytic 47μF 16WV	1		
C844,845	ECAG16E1	Electrolytic 0.47μF 16WV	2		
C846	ECEA16V10	Electrolytic 10μF 16WV	1		
C847,848	ECCD1H331K	Ceramic 330pF 50WV ±5%	2		
C849	ECQM1H333MZ	Polyester 0.033μF 50WV ±20%	1		
C850	ECQM1H683MZ	Polyester 0.068μF 50WV ±20%	1		
C851	ECQM1H104KZ	Polyester 0.1μF 59WV ±10%	1		
C852	ECEA16V10	Electrolytic 10μF 16WV	1		
C853	ECAG16E1	Electrolytic 0.1μF 16WV	1		
C854	ECQS1182JZ	Styrol 0.0018μF 100WV ±5%	1		
C855	ECQS1471JZ	Styrol 470pF 100WV ±5%	1		
C856	ECAG16E1	Electrolytic 0.1μF 16WV	1		
C857	ECEA16V470	Electrolytic 470μF 16WV	1		

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier
C858	ECEA16V33	Electrolytic 33μF 16WV	1		
C861,862	ECAG16E1	Electrolytic 0.33μF 16WV	2		
C863,864	ECEA50V1	Electrolytic 1μF 50WV	2		
C865,866	ECQS1392JZ	Styrol 0.0039μF 100WV ±5%	2		
C867,868	ECQS1332JZ	Styrol 0.0033μF 100WV ±5%	2		
C869,870	ECQS1222JZ	Styrol 0.0022μF 100WV ±10%	2		
C871,872	ECEA16V10	Electrolytic 10μF 16WV	2		
C873,874	ECQS1562JZ	Styrol 0.0056μF 100WV ±5%	2		
C875,876	ECQS1472JZ	Styrol 0.0047μF 100WV ±5%	2		
C877,878	ECQM1H273FZ	Polyester 0.027μF 50WV ±1%	2		
C879,880	ECEA16V10	Electrolytic 10μF 16WV	2		
C901	ECEA10V100	Electrolytic 100μF 10WV	1		
C903,904	ECET35R332SU	Electrolytic 3300μF 35WV	2		
C906	ECKDDL101MB	Ceramic 100pF 250WV ±20%	1		
C907	ECKD1H103PF	Ceramic 0.01μF 50WV +100, -0%	1		
C908	ECEA16V2200	Electrolytic 2200μF 16WV	1		
C920	ECKDAL103PE	Ceramic 0.01μF 250WV +100, -0%	1		
C921	ECEA25V220	Electrolytic 220μF 25WV	1		
C922	ECEA16V100	Electrolytic 100μF 16WV	1		
C923	ECEA35V470	Electrolytic 470μF 35WV	1		
VARIABLE RESISTORS					
VR301	EVT44A00B53	5kΩ	1		
VR302	EVLTOAA00B13	1kΩ B	1		
VR401,402	EVL33AA00B24	20kΩ B	2		
VR403,404	EVH6UA067B14	Rec Volume 10kΩ B	2		
VR405,406	EVL33AA00B53	5kΩ B	2		
VR501,502	EWK6GA031A54	Bass Tone 50kΩ A	2		
VR503,504	EWK6GA031A54	Treble 50kΩ A	2		
VR505	EVH8VA038G54	Balance 50kΩ G	1		
VR506,507	EWFO3A037A15	Volume 100kΩ A	1		
VR801,802	EVL33AA00B24	20kΩ B	2		
VR803,804	EVL33AA00B14	10kΩ B	2		
VR805	EVL33AA00B13	1kΩ B	1		

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier
VARIABLE CAPACITORS					
CV101, 102, 103, 201, 202	RCVCV55J117A	Tuning Capacitor w/Trimmer (CT101, 102, 201, 202)	2		
CT103	RCVCTY12B218	Trimmer Capacitor	2		
			1		
SWITCHES					
S1-1~4	RSR6D042A-H	Function Switch	1		
S2	RST51YAS-H	AFC Switch	1		
S3	RST51YAS-H	Loudness Switch	1		
S4	ESL2174T	Power Switch	1		
S5-1~4	RST53YAS-H	SP Switch	1		
S6	RST51YAS-H	Monitor Switch	1		
S7	RST51YAS-H	Dolby Switch	1		
S8-1~6	SSL16	Tape Select Switch	1		
S11-1~2	SSS28	W.D. Switch	1		
ST1~12	ESD86023	R/P Switch	1		
CABINET AND CHASSIS					
1	SKA2060	Cabinet Assembly	1		
		Cabinet Body	(1)		
		Bracket, Cabinet	(1)		
		Shield Paper A	(1)		
		Plate	(1)		
2	SYU314	Bottom Board	1		
		Shield Paper B	(1)		
		Foot	(1)		
3	SYL6-1	Escutcheon Assembly	4		
4	SYF308	Escutcheon	1		
		Badge Panasonic Cap Right	(1)		
		Badge Panasonic Cap Left	(1)		
		Transparent Cover	(1)		
		Deck Cover	(1)		
		Bracket Transparent Indicator, Stereo	(1)		

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier
5	SYE488	Cassette Lid A Assembly	1		
		Cassette Lid A	(1)		
		Spring Cassette Lid	(1)		
		Tape Pressure B	(2)		
6	SYE516	Cassette Lid B Assembly	1		
		Cassette Lid B	(1)		
		Ornament, Cassette Lid B	(1)		
7	SGE730-1	Cassette Blind Board	1		
8	SBC252	Button Playback	6		
9	SBC254	Button, REC	1		
10	SKD3920	Dial Scale	1		
11	SGE696	Sheet, Meter	1		
12	SDH200	Reflector Sheet	1		
13	RBN390ZA	Knob, Tuning	1		
14	SBN722	Knob, Volume	1		
15	RBN389ZA	Knob, Selector	4		
16	RBN392ZA	Knob, REC Volume	2		
17	RBE15YA	Knob, Power	1		
18	RBE15ZA	Knob, Lever	6		
19	SMN868	Rear Panel	1		
20	SDT9304	Shaft, Tuning	1		
21	SXE120	Eject Arm Assembly	1		
22	SHS9178	Reset Button Cover	1		
23	SDP178	Pointer, Dial	1		
24	SMZ6058-1	Shading Cover	7		
25	RDD323ZA	Drum, Dial	1		
26	RDS309	Spring, Dial	1		
27	SHR102	Power Cord Clamp	1		
28	RHR969ZA	Latch	16		
29	RHG109	Rubber, Ferrite Antenna	3		
30	SHG9100	Rubber, Cushion	2		
31	SHG1081	Rubber, Lamp	1		
32	SMQ1550	Counter Cover	1		
33	RJA10A	AC Power Cord	1		
34	SJU84	Headphone Jack	1		
35	RJJ48A	Mic Jack	2		
36	SWK270	Plug w/Lead 3P	1		
37	SWK272	Plug w/Lead 3P Deck	1		
38	SWK254	Plug w/Lead 6P Deck	2		
39	SWK258	Plug w/Lead 6P Deck	12		
40	SJF4404	Terminal Board ANT	3		
41	RJF1059ZA	Terminal Board 1P	1		
42	SJF3408	Terminal Board 4P	1		
43	SJF3404	Terminal Board 4P	1		
44	SJSA66-1	AC Outlet	2		
45	SJF106-1	Fuse Holder	1		
46	ESA20135B	Remote Wire Assembly	1		
47	SJF3204	Terminal Board 2P	1		

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier	
PACKING						
PA1	SPN2810	Carton Inside	1	○		
PA2	SPN2562	Pad Right Side	1			
PA3	SPN2564-1	Pad Left Side	1	○		
OTHERS						
1	SQX5828	Instruction Book	1	○		

EXPLODED VIEW OF CASSETTE DECK (SJD96)

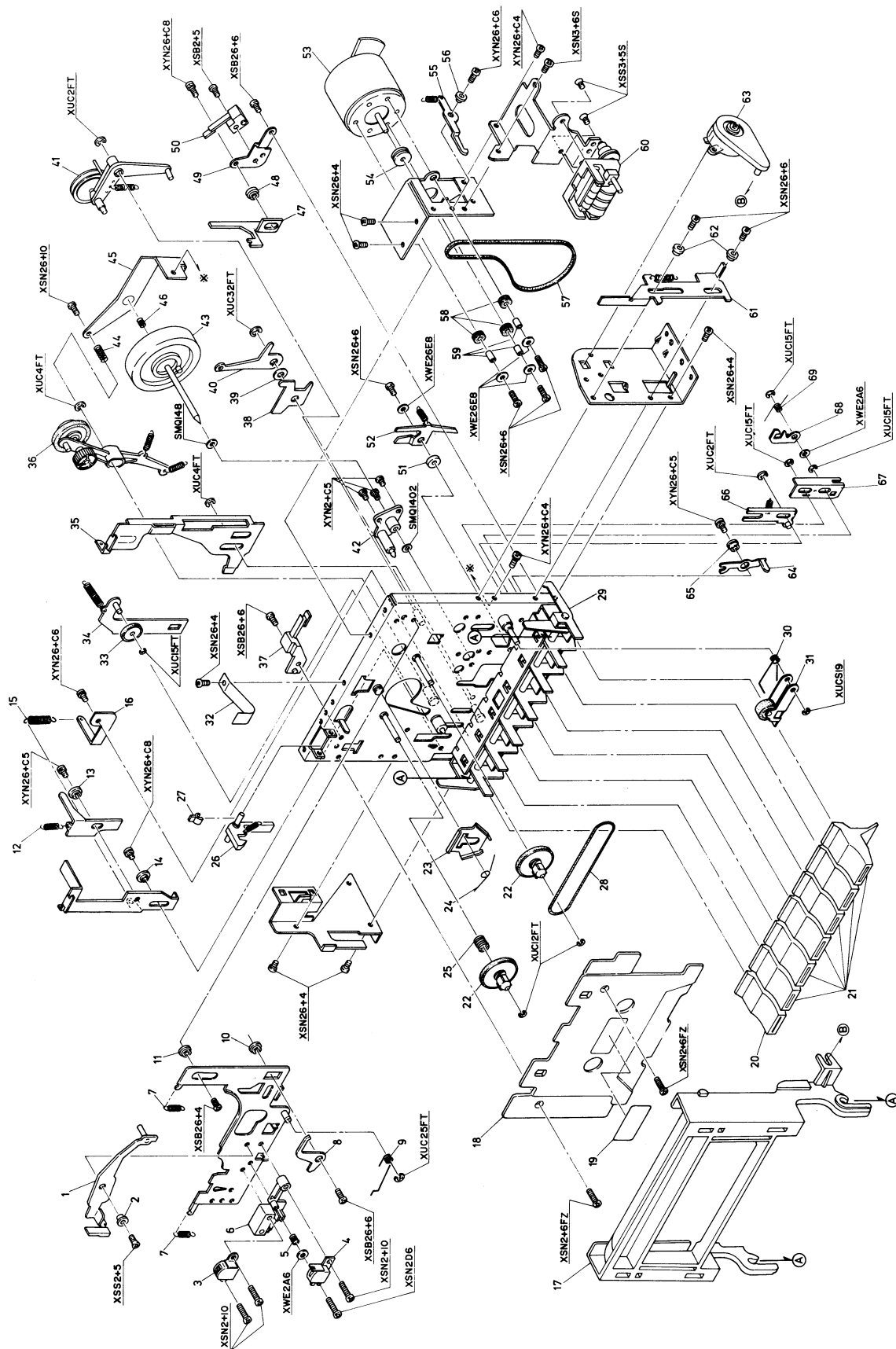


FIG. 25

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier	Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks	Supplier
CASSETTE TAPE DECK (SJD-96)											
1	SMQ1390	Lever Assembly, Auto Stop	1			47	SMQ1530	Play Lever	1		
2	SMQ1392	Spacer, Auto Stop Lever	1			48	SMQ1524	Spacer, Play Lever	1		
3	SJH14	Erase Head	1			49	SMQ1528	Bracker, Amp. Switch	1		
4	WY-436AS	R/P Head	1			50	SMQ1380	Leaf Switch, Tape Amp. ON-OFF	1		
5	SMQ678	Spring, R/P Head	1			51	SMQ1438	Spacer, Auto Stop Lever	1		
6	SMQ1362-1	Head Base	1			52	SMQ1436-1	Lever, Auto Stop Drive w/Spring	1		
7	SMQ1360	Spring A, Head Panel	1			53	MHI-5F2CHU	Motor	1		
8	SMQ1770	Eject Stopper	2			54	SMQ1802	Motor Pulley	1		
9	SMQ1444	Spring B, Head Panel	1			55	SMQ1786	Eject Hook w/Spring	1		
10	SMQ1374	Spacer A, Head Panel	1			56	SMQ1426	Spacer, Eject Hook	1		
11	SMQ1398	Spacer B, Head Panel	1			57	SMQ1788	Main Belt	1		
12	SMQ1772	Spring, REC Slide Lever	1			58	SMQ716	Rubber Cushion, Motor	3		
13	SMQ1426	Spacer, REC Slide Lever	1			59	SMQ718	Spacer, Motor	3		
14	SMQ1774	Spacer, REC Slide Lever	1			60	SMQ1792	Tape Counter	1		
15	SMQ1638	Spring, REC Slide Lever	1			61	SMQ1800	Lever, Eject Slide w/Spring	1		
16	SMQ1652	Spring Hanger	1			62	SMQ1426	Spacer A, Eject Slide Lever	2		
17	SYE488	Cassette Holder Assembly	1			63	SXE120	Dumper Assembly	1		
18	SGE730	Cover	1			64	SMQ1410	Pause Lever	1		
19	SDH200	Fluorescent Paper	1			65	SMQ1412	Spacer, Pause Lever	1		
20	SBC254	Push Button, REC	1			66	SMQ1414	Pause Slide Lever A w/Spring	1		
21	SBC252	Push Button	1			67	SMQ1416	Pause Slide Lever B	1		
22	SMQ1626	Reel Table	2			68	SMQ1376	Pause Click Lever	1		
23	SMQ1354	Brake Arm	1			69	SMQ1418	Spring, Pause Click Lever	1		
24	SMQ1358	Spring, Brake Arm	1								
25	SMQ462	Spring, Supply Reel	1								
26	SMQ1323	Lever, REC Safety w/Spring	1								
27	SMQ1706	Stopper, REC Safety Lever	1								
28	SMQ1776	Belt, Counter	1								
29	SMQ1798	Push Button, Frame Assembly	1								
30	SMQ1366	Spring, Pressure Roller	1								
31	SMQ1364	Pressure Roller	1								
32	SMQ1780	Spring, Tape Holder	1								
33	SMQ1386	Rewind Idler	1								
34	SMQ1408	Rewind Arm Assembly w/Spring	1								
35	SMQ1406	Operation Plate, Brake	1								
36	SMQ1382-1	FF. Arm Assembly w/Spring	1								
37	SMQ1378	Leaf Switch, Motor ON-OFF	1								
38	SMQ1430	Rewind Lever	1								
39	SMQ1434	Nylon Washer	1								
40	SMQ1482	FF. Lever	1								
41	SMQ1672	Clutch Assembly w/Spring	1								
42	SMQ1370-1	Bearing, Flywheel	1								
43	SMQ1782	Flywheel	1								
44	SMQ678	Spring, Flywheel Retainer	1								
45	SMQ1404	Retainer, Flywheel	1								
46	SMQ1784	Thrust Spring, Flywheel	1								

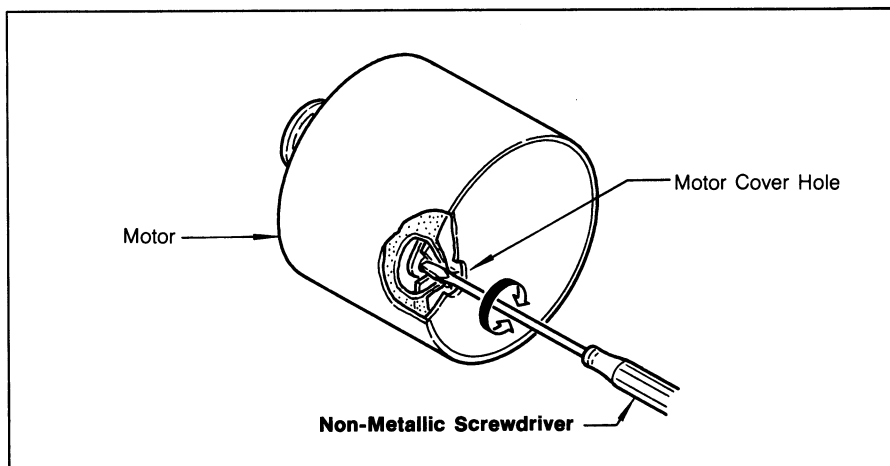
Technical Information

Subject: Adjustment Method of Motor Speed

MODEL: RA-6500, RA-6500(C), RA-6700

■ Adjust Motor Speed of Cassette Tape Deck

1. Remove cassette tape deck. (Refer Disassembly Instructions of Service Manual.)
2. Insert **non-metallic screwdriver** to motor cover hole.
3. Fast adjust: clockwise.
Slow adjust: counterclockwise.



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