

Service Manual

Panasonic
RADIO
Panasonic



FM-AM FM STEREO TABLE RADIO

MODEL RE-7392/RE-7392C

■ SPECIFICATIONS

Frequency Range:	FM 87.5~108 MHz AM 525~1605 kHz	Power Consumption:	7.5 W at 120V
Intermediate Frequency:	FM 10.7 MHz AM 455 kHz	Speakers:	Two 4" PM Dynamic Speaker
Sensitivity:	FM 5 μ V for 30 dB Quieting AM 50 μ V/m for 50 mW Output	Dimensions:	17 $\frac{5}{16}$ " (Wide) $\times$ 6 $\frac{1}{16}$ " (High) $\times$ 6 $\frac{1}{8}$ " (Deep)
Peak Music Power:	4 W	Weight:	6 lb. 3 oz.
Power Source:	AC 120V 60 Hz	Impedance:	Speaker8 Ω FM Antenna Terminal.....75 Ω Phono Jack500 Ω

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■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT					
Notes: 1. Set volume control to maximum or minimum (FM-IF). 2. Set tone control to treble . 3. Set balance control to center. 4. Set band selector switch to AM or FM. 5. Set power source voltage to 120 volts AC. 6. Output of signal generator should be no higher than necessary to obtain an output reading.					
SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING [DISTANCE]	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
CONNECTIONS	FREQUENCY				
AM ALIGNMENT					
Fashion loop of several turns of wire and radiate signal into loop of receiver.	550 kHz	550 kHz [Refer to fig. 1.]	Output meter across voice coil. (Left side)	L ₅ (OSC Coil)	Adjust for maximum output.
"	600 kHz	Tune to signal	"	(*) L ₄ (ANT Coil)	Adjust for maximum output. Adjust L ₄ by moving coil bobbin along ferrite core.
"	1500 kHz	1500 kHz [Refer to fig. 1]	"	C ₃₁ (OSC Trimmer) C ₂₈ (ANT Trimmer)	Adjust for maximum output. Repeat steps (1)~(3).
* Cement antenna bobbin with wax after completing alignment.					
FM-IF ALIGNMENT					
High side thru. 0.001 mfd to point TP ₂ . Common to chassis.	10.7 MHz (400 kHz SWP.)	Point of non-interference. (on/about 90 MHz).	Connect vert. amp. of scope to point TP ₃ . Common to chassis.	T ₁ (FM 1st IFT) T ₃ (FM 2nd IFT) (Primary)	Adjust for maximum amplitude and proper linearity between ±100 kHz markers. (Refer to fig. 2)
"	"	"	Connect vert. amp. of scope to point TP ₃ . Common to chassis.	T ₄ (FM 2nd IFT) (Secondary)	Adjust T ₄ so that 10.7 MHz marker appears at the center. (Refer to fig. 3)
FM-RF ALIGNMENT					
Connect to EXT FM antenna terminal through FM Dummy antenna. (Refer to fig. 4)	90 MHz	90 MHz [Refer to fig. 1]	Output meter across voice coil. (Left side)	L ₃ (FM OSC Coil) L ₁ (FM DET Coil)	(*) Adjust for maximum output.
"	106 MHz	106 MHz [Refer to fig. 1]	"	C ₁₁ (FM OSC Trimmer) C ₅ (FM DET Trimmer)	(*) Adjust for maximum output. Repeat steps (6) and (7).
* Three output responses will be present; proper tuning is the center frequency.					

■ DISTANCE ON DIAL SCALE

1. Tuning gang is now positioned at maximum capacity.
2. Cement the subsidiary pointer to chassis.
3. Mark the measurement points on the cord with pencil or pen and set the tip of the pointer at the starting mark on the cord.
4. Turn tuning gang so that each measurement point on the cord may coincide with the tip of the subsidiary pointer and adjust as per the instructions of ALIGNMENT.

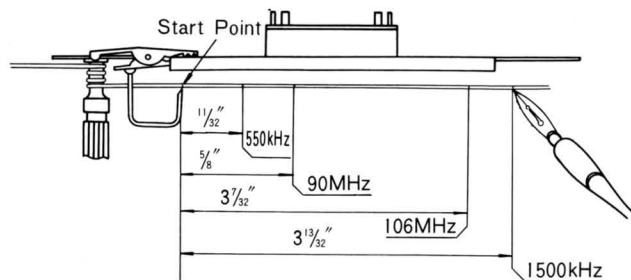


Fig. 1

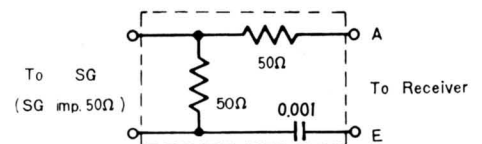
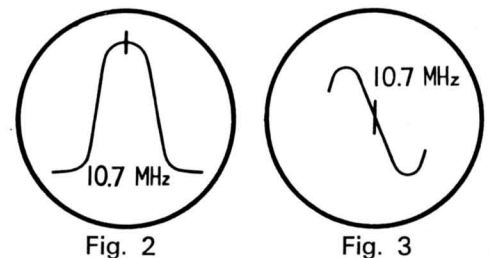


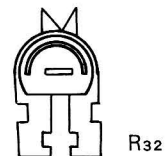
Fig. 4 FM Dummy Antenna

EQUIPMENT REQUIRED

- * Stereo Modulator.....Connect Stereo Modulator output to EXT. Mod. terminal of signal generator.
- * Signal GeneratorModulation Rate of 19 kHz Pilot Signal10%.
Modulation Rate by L+R Signal.....27% (Alignment Step 3)
Output Level.....30 dB or 60 dB (Alignment Step 2 & 3)
Frequency.....Approximately 98 MHz

- * Oscilloscope
- * VTVM
- * Dummy Antenna
- * Low Pass Filter

Note: When aligning, set R32 as illustrated in figure below.

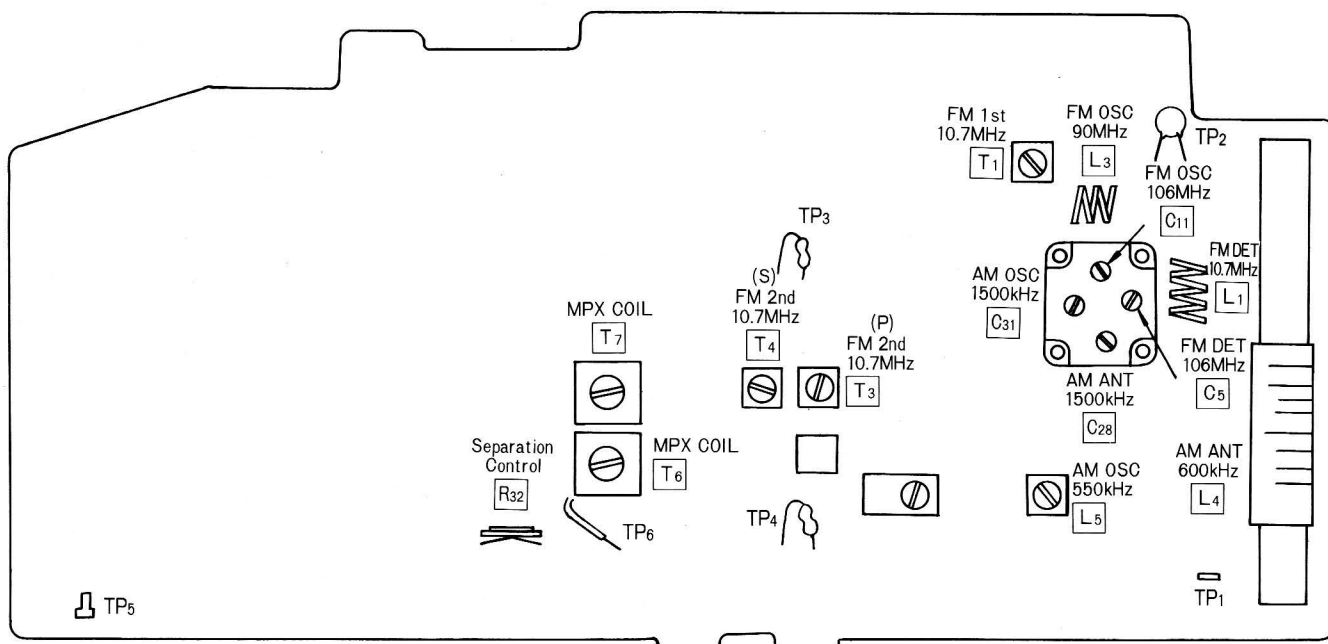


CONTROL SETTING & PROCEDURE

1. Set band selector switch to FM.
2. Set tone control to treble.
3. Set power source voltage to 120 volts AC.
4. Set tuning gang to approximately 98 MHz.
5. Set balance control to center, or Adjust so that output level from both units becomes equal. (Alignment Step 2 & 3).
6. Set volume control to audible level of speaker sound.

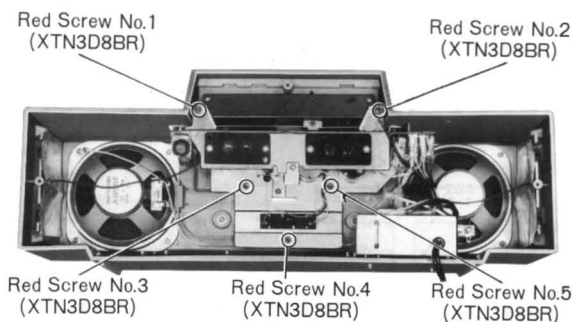
EQUIPMENT CONNECTIONS			ADJUSTMENT	REMARKS
SIGNAL GENERATOR	VTVM	OSCILLOSCOPE		
PILOT CIRCUIT ALIGNMENT				
Connect to EXT FM antenna terminal through dummy antenna.	—	Connect vert. amp. of scope to point TP₆ . Common to chassis.	T ₆ (MPX Coil)	Adjust T ₆ for maximum oscilloscope pattern of 19 kHz.
"	Connect across speaker voice coil of left.	Connect to terminals of VTVM.	T ₇ (MPX Coil)	Adjust T ₇ for maximum indication on VTVM from the left side output when the left side of Stereo modulator is modulated.
SEPARATION ALIGNMENT				
"	"	"	R ₃₂ (Separation control)	Adjust R ₃₂ for the minimum indication on VTVM from the left side output when the right side of Stereo modulator is modulated.

■ ALIGNMENT POINTS



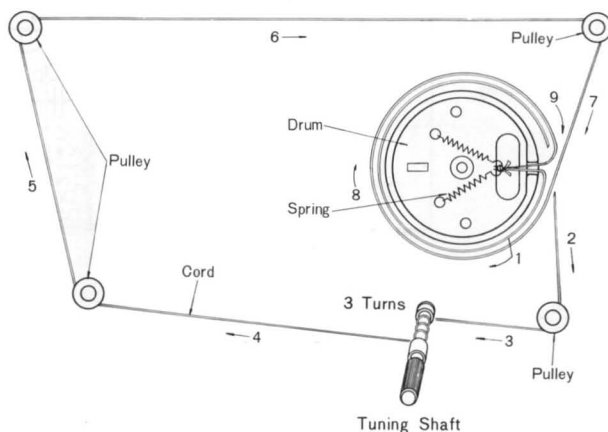
■ TO REMOVE CHASSIS

1. Remove five (5) control knobs from cabinet, after setting dial pointer to low end of dial scale.
2. Remove three (3) rear panel screws.
3. Remove dial cord from dial pointer.
4. Remove five (5) red chassis screws, nos. 1~5, as illustrated in figure.
5. To remove chassis completely, remove seven(7) plugs.
6. To reassemble, reverse the above procedure.



■ DIAL CORD INSTALLATION GUIDE

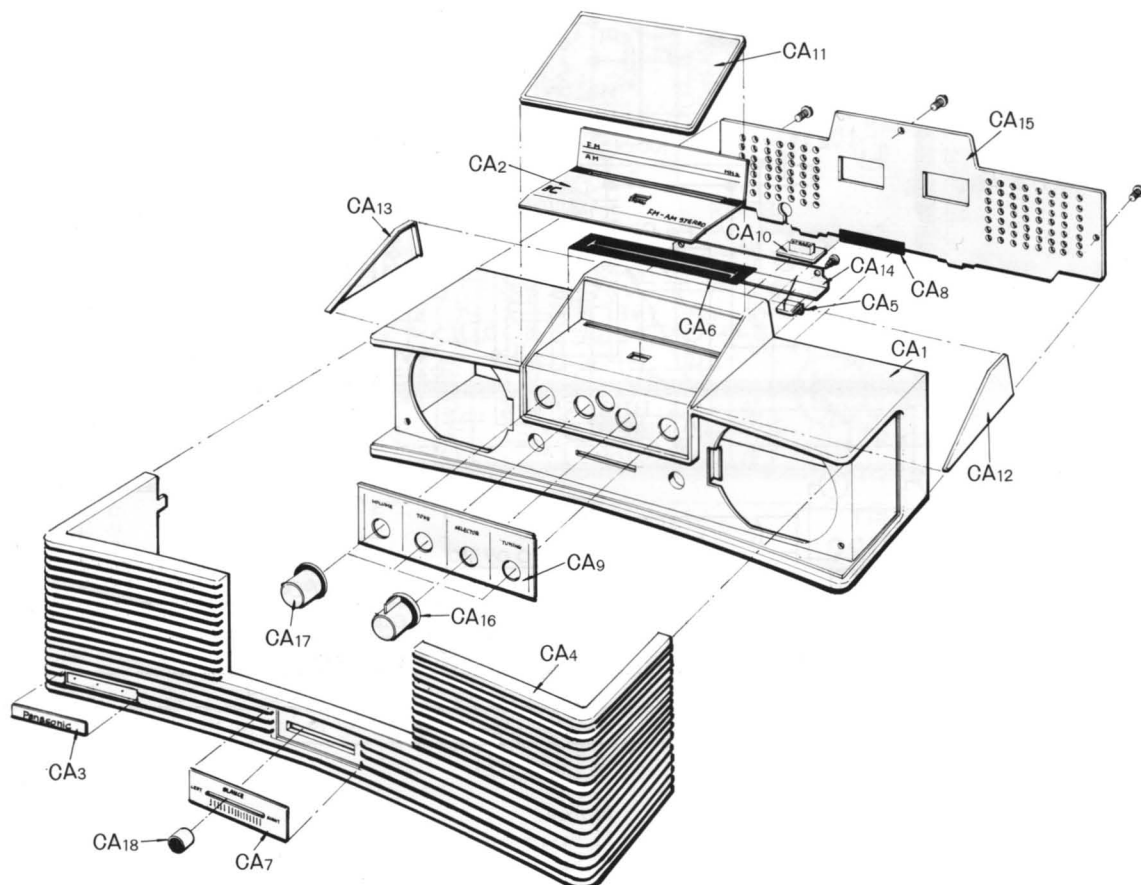
1. Dial cord length is $51\frac{3}{16}$ ".
2. Tuning gang is positioned at minimum capacity.
3. Arrows (1~9) correct order and direction of installation dial cord.
4. Cement dial cord ends.



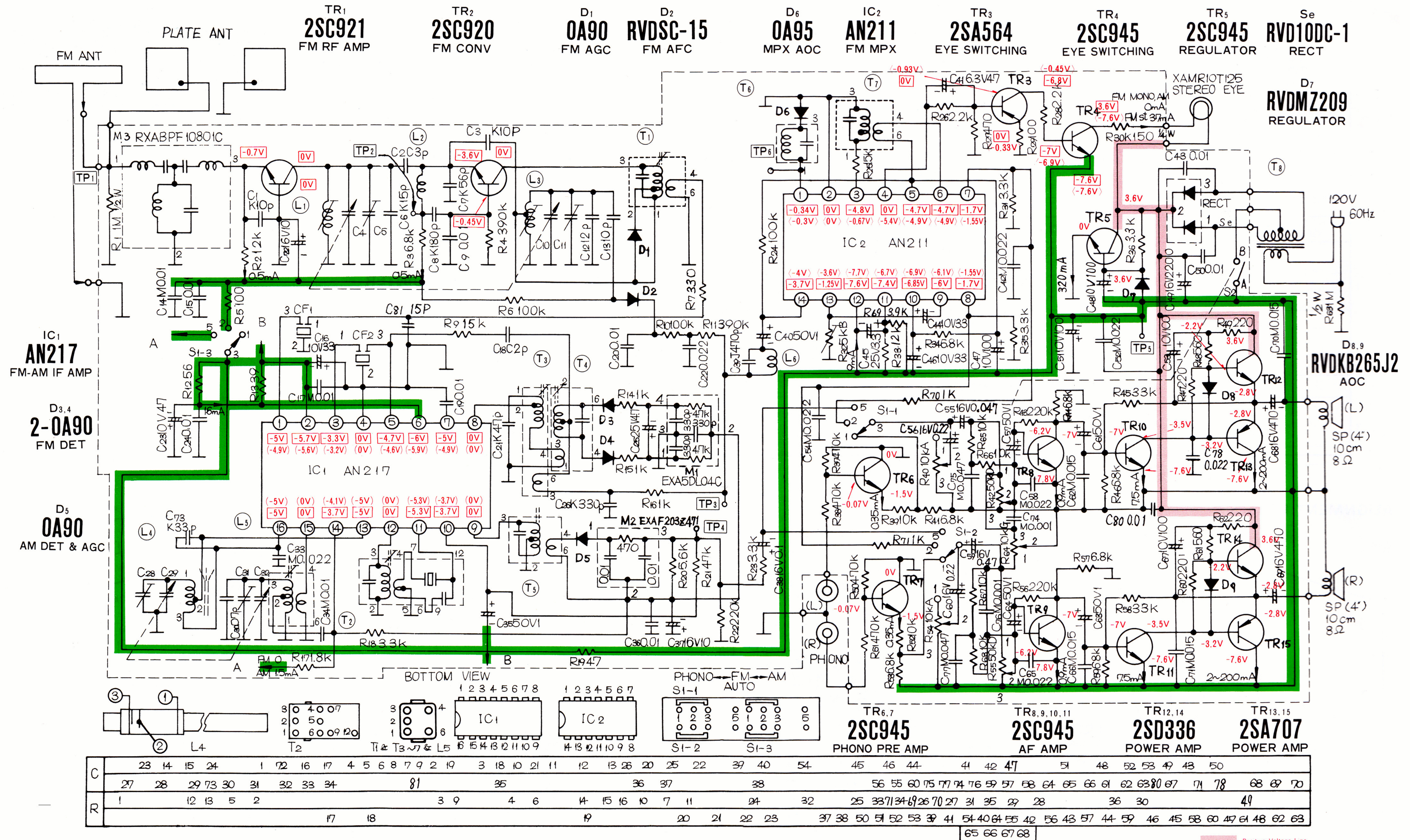
■ TO MOUNT DIAL POINTER

1. Set tuning gang to fully closed position.
2. Set dial pointer to start point of dial scale.
3. Attach dial cord to dial pointer.

■ CABINET PARTS LOCATIONS



Schematic Diagram - Model RE-7392/RE-7392C



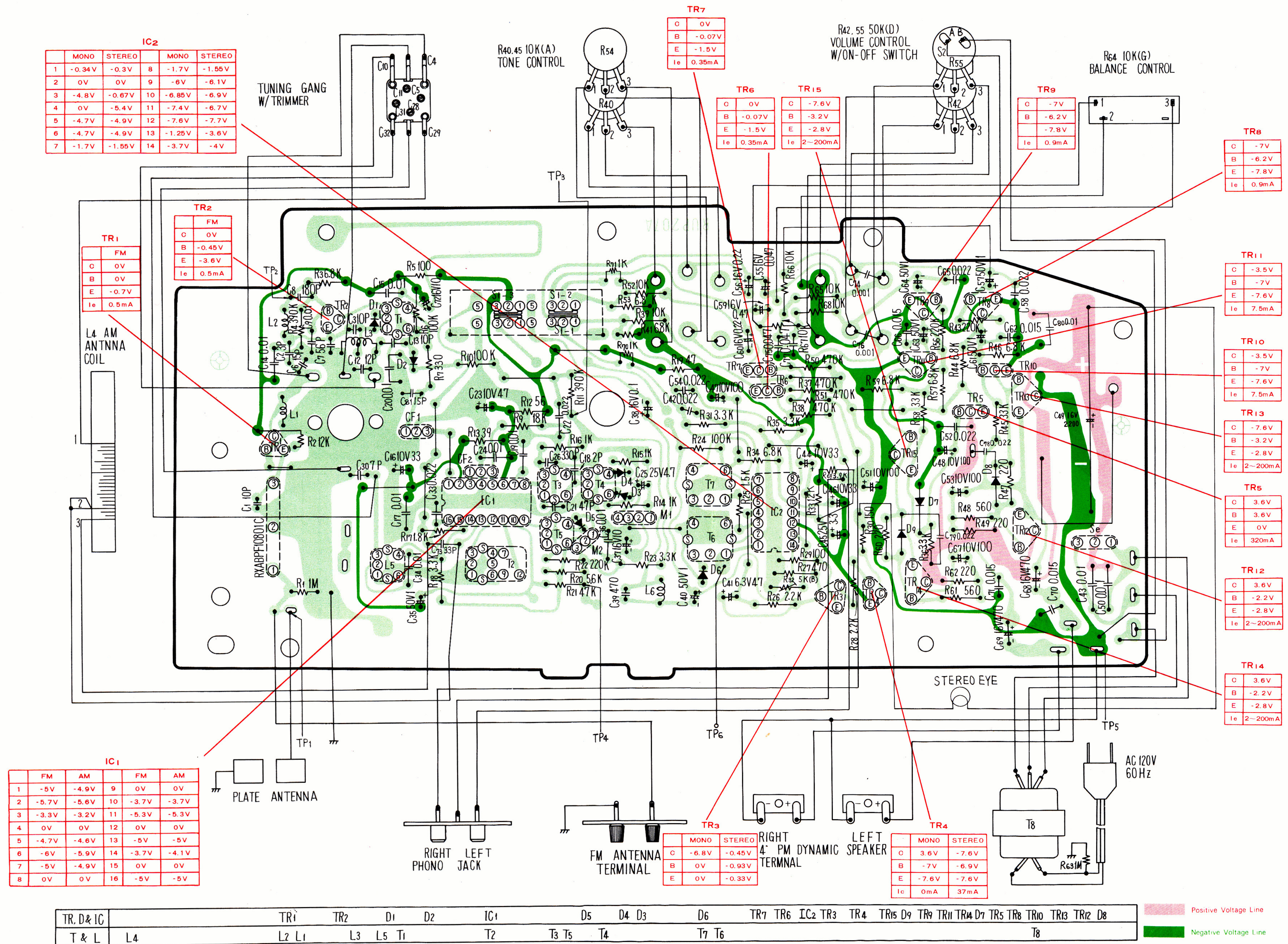
Notes:

- S₁₋₁~S₁₋₃: Band selector switch in "PHONO" position.
- S₂: Power source switch in "OFF" position.
- DC voltage measurements are taken with circuit tester 10kΩ/V

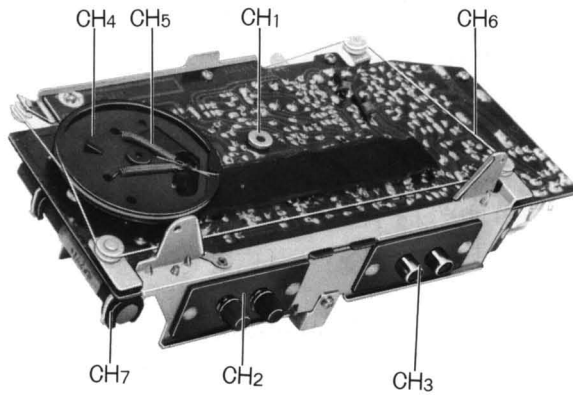
from chassis.

□.....FM position ().....AM position
 < >.....FM stereo position

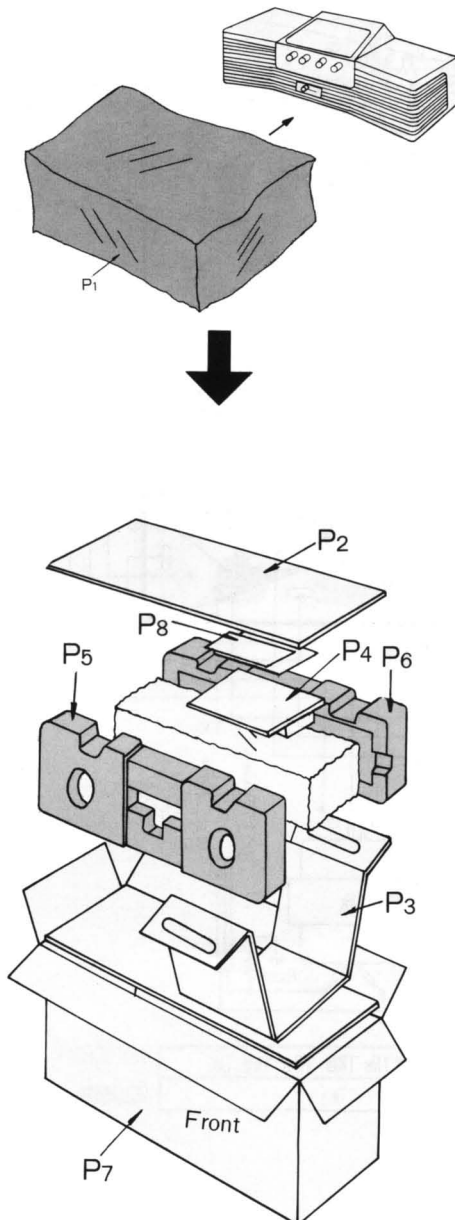
Circuit Board Wiring View-Model RE-7392/RE-7392C



■ CHASSIS PARTS LOCATIONS



■ PACKING PARTS LOCATIONS



■REPLACEMENT PARTS LIST

NOTES : 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.
2. Ⓝ indicates the New Parts.
3. A—C rank: A rank parts will cover 80% of repair needs.
A+B rank parts will cover 95% of repair needs.
C rank parts are less necessary.

Ref.No.	Part No.	Description	Per Set (Pcs.)	Remarks
TRANSISTORS AND DIODES				
IC1	AN217	IF Amplifier	1	A
IC2	AN211	MPX Amplifier	1	A
TR1	2S0921	FM RF Amplifier	1	A
TR2	2S0920	FM Converter	1	A
TR3	2SA564	Eye Switching	1	A
TR4, 5, 6, 7, 8, 9, 10 & 11	2S0945	Eye Switching, Regulator Phono Pre-Amplifier, 1st AF Amplifier, 2nd AF Amplifier Power Amplifier	8	A
TR12,14	2SD336	Power Amplifier	2	A
TR13,15	2SA707	Power Amplifier	2	A
D1,5	0A90	FM AGC, AM Detector & AGC	2	A
D2	RVDSC-15	FM AFC	1	A
D3,4	2-0A90	FM Detector	1 pair	A
D6	0A95	Operation Compensator	1	A
D7	RVDMZ209	Regulator	1	A
D8,9	RVDKB265J2	Operation Compensator	2	A
RECTIFIER				
Se	RVD10DC1	Rectifier	1	A
COILS AND TRANSFORMERS				
L1	RLD4Y54	FM Detector Coil	1	A
L2	RLQY15G5-0	FM Choke Coil	1	B
L3	RL04Y53	FM Oscillator Coil	1	A
L4	RLF2V14	AM Antenna Coil	1	Ⓝ A
L5	RL02B87-M	AM Oscillator Coil	1	Ⓝ A
L6	RLM1X1-Y	SCA Coil	1	A
T1	RLI4B153-M	FM 1st IF Transformer	1	A
T2	RLI7W103-T	AM 1st IF Transformer	1	A
T3	RLI4B551-M	FM 2nd IF Transformer, Primary	1	A
T4	RLI4B552-M	FM 2nd IF Transformer, Secondary	1	A
T5	RLI2B415-T	AM 2nd IF Transformer	1	A
T6	RLM1C18	MPX Coil	1	Ⓝ A
T7	RLM1C19	MPX Coil	1	Ⓝ A
T8	RLT5K65-W	Power Transformer	1	Ⓝ A
CF1,2	RVFCF10S12CB	Ceramic Filter	2	Ⓝ A
RESISTORS				
R1,63	ERC12GM105	1MΩ, ½Watt, Solid	2	B
R13	ERD18SJ390	39Ω, ½Watt, Carbon	1	B
R19	ERD18SJ470	47Ω, ½Watt, Carbon	1	B
R12	ERD18SJ560	56Ω, ½Watt, Carbon	1	B
R5,29	ERD18SJ101	100Ω, ½Watt, Carbon	2	B
R47,49,60,62	ERD18SJ221	220Ω, ½Watt, Carbon	4	B
R27	ERD18SJ471	470Ω, ½Watt, Carbon	1	B
R48,61	ERD18SJ561	560Ω, ½Watt, Carbon	2	B
R14,15,16	ERD18SJ102	1KΩ, ½Watt, Carbon	3	B
R25	ERD18SJ152	1.5KΩ, ½Watt, Carbon	1	B
R17	ERD18SJ182	1.8KΩ, ½Watt, Carbon	1	B
R26,28	ERD18SJ222	2.2KΩ, ½Watt, Carbon	2	B
R9	ERD18SJ153	15KΩ, ½Watt, Carbon	1	B
R18,23,31,35,36	ERD18SJ332	3.3KΩ, ½Watt, Carbon	5	B
R7	ERD18SJ331	330Ω, ½Watt, Carbon	1	B
R20	ERD18SJ562	5.6KΩ, ½Watt, Carbon	1	B
R3,34,41,44,46,57,59	ERD18SJ682	6.8KΩ, ½Watt, Carbon	7	B
R39,52,65,66,67,68	ERD18SJ103	10KΩ, ½Watt, Carbon	6	B
R33	ERD18SJ123	12KΩ, ½Watt, Carbon	1	B
R45,58	ERD18SJ333	33KΩ, ½Watt, Carbon	2	B
R6,10,24	ERD18SJ104	100KΩ, ½Watt, Carbon	3	B
R22,43,56	ERD18SJ224	220KΩ, ½Watt, Carbon	3	B
R4	ERD18SJ394	390KΩ, ½Watt, Carbon	1	B
R37,38,50,51	ERD18SJ474	470KΩ, ½Watt, Carbon	4	B
R30	ERD18TJ151	150Ω, ½Watt, Carbon	1	B
R21	ERD18TJ473	47KΩ, ½Watt, Carbon	1	B
R11	ERD18TJ394	390KΩ, ½Watt, Carbon	1	B
R69	ERD18TJ392	3.9KΩ, ½Watt, Carbon	1	B
R2	ERD18VJ123	120KΩ, ½Watt, Carbon	1	B
R70,71	ERD18VJ102	1KΩ, ½Watt, Carbon	2	B
R53	ERD18VJ682	6.8KΩ, ½Watt, Carbon	1	B
VARIABLE RESISTORS				
R64	EVAQ3AB02G14	10KΩ (G), Balance Control	1	Ⓝ A
R40,54	EVFN0AL30A14	10KΩ (A), Tone Control	1	Ⓝ A
R42,55	EVFN1DL30D54	50KΩ (D), Volume Control	1	Ⓝ A
R32	EVLTOAA00B14	10KΩ (B), Separation Control	1	A
CAPACITORS				
C18	ECCD05020C	2mmf, 50WV, Ceramic	1	C
C2	ECCD05030C	3mmf, 50WV, Ceramic	1	C
C30	ECCD05070DC	7mmf, 50WV, Ceramic	1	C
C8	ECCD05181K	180mmf, 50WV, Ceramic	1	C
C26	ECCD05331K	330mmf, 50WV, Ceramic	1	C
C9,15,19,20,24,36	ECKE05103P	0.01mfd, 50WV, Ceramic	6	C

Ref.No.	Part No.	Description	Per Set (Pcs.)	Remarks
C14,17,34	ECKE05103MY	0.01mfd, 50WV, Ceramic	3	C
C22	ECKE05223P	0.022mfd, 50WV, Ceramic	1	C
C43,50	ECKD5103P	0.01mfd, 500WV, Ceramic	2	C
C1,3,13	ECMS05100K-H	10mmf, 50WV, Mica	3	C
C12	ECMS05120K-H	12mmf, 50WV, Mica	1	C
C6,81	ECMS05150K-H	15mmf, 50WV, Mica	2	C
C73	ECMS05330K-H	33mmf, 50WV, Mica	1	C
C21	ECMS05470K-H	47mmf, 50WV, Mica	1	C
C7	ECMS05560K-H	56mmf, 50WV, Mica	1	C
C39	ECOS1471JZ	470 mmf, 125WV, Styrol	1	C
C74,76	ECQG05102MZ-N	0.001mfd, 50WV, Polyester	2	C
C62,66,70,71	ECQG05153MZ-N	0.015mfd, 50WV, Polyester	4	C
C33,42,52,54,58,65,78,79	ECQG05223MZ-N	0.022mfd, 50WV, Polyester	8	C
C75,77,55,59	ECQG05473MZ-N	0.047mfd, 50WV, Polyester	4	C
C80	ECQG05103P	0.01mfd, 50WV, Polyester	1	C
C38	ECAG16ER1-Y	0.1mfd, 16WV, Electrolytic	1	B
C56,60	ECAG16ER22	0.22mfd, 16WV, Electrolytic	2	B
C35,40,57,61,63,64	ECEA50V1	1mfd, 50WV, Electrolytic	6	B
C45	ECEA25V3R3	3.3mfd, 25WV, Electrolytic	1	B
C25	ECEA25V4R7	4.7mfd, 25WV, Electrolytic	1	B
C37,72	ECEA10V10	10mfd, 10WV, Electrolytic	2	B
C16,44,46	ECEA10V33	33mfd, 10WV, Electrolytic	3	B
C23	ECEA10V47	47mfd, 10WV, Electrolytic	1	B
C41	ECEA6V47	47mfd, 6.3WV, Electrolytic	1	B
C47,48,51,53,67	ECEA10V100	100mfd, 10WV, Electrolytic	5	B
C68,69	ECEA16V470	470mfd, 16WV, Electrolytic	2	B
C49	ECEB16V2200	2200mfd, 16WV, Electrolytic	1	B
VARIABLE CAPACITOR				
C4,10,29,32	PVC2LX20T3L	Tuning Gang, W/Trimmer (C5,11,28,31)	1	A
COMPONENT COMBINATIONS				
M1	EXA5DL04C	330mmf × 3, 4.7KΩ × 2	1	B
M2	EXAF203Z471	0.01mmf × 2, 470Ω	1	B
M3	RXABPF10801C	Coils & Capacitor	1	B
SWITCH				
S1-1~S1-3	RSR37A	Band Selector Switch	1	Ⓝ A
SPEAKERS				
SP 1, 2	EAS10P81SB	4" PM Dynamic Speaker, 8Ω	2	Ⓝ A
CABINET				
CA1	RYARE7392M	Cabinet (Complete)	1	Ⓝ A
CA2	Ⓝ RKM133A	Cabinet Only	1	Ⓝ C
CA3	Ⓝ RKD155A	Scale, Dial	1	Ⓝ B
CA4	Ⓝ RGB68A	Badge, PANASONIC Mark	1	C
CA5	Ⓝ RGG10A	Grille, Cabinet Front	1	B
CA6	Ⓝ RDP60AS	Pointer, Dial	1	Ⓝ A
CA7	Ⓝ RSH320A	Sheet, Dial Scale	1	Ⓝ C
CA8	Ⓝ RGK243A	Indicating Plate, BALANCE Mark	1	Ⓝ C
CA9	Ⓝ RUV373	Cover, Balance Control	1	C
CA10	Ⓝ RGK203A	Indicating Plate, Volume Mark	1	Ⓝ B
CA11	Ⓝ RGL6A	Panel Light, STEREO Mark	1	Ⓝ C
CA12	Ⓝ RGP120A	Panel, Dial	1	Ⓝ B
CA13	Ⓝ RGX285A	Ornament (Right Side)	1	Ⓝ B
CA14	Ⓝ RGX287A	Ornament (Left Side)	1	Ⓝ B
CA15	Ⓝ RUC29A	Pointer Guide	1	Ⓝ B
CA16	Ⓝ RKU90A	Rear Panel, Cabinet (Model RE-7392)	1	Ⓝ B
CA17	Ⓝ RKU90B	Rear Panel, Cabinet (Model RE-7392C)	1	Ⓝ B
CA18	Ⓝ XTW3D12BFZ	Screw, Rear Panel M'tg	3	B
CA19	Ⓝ RBN119A	Knob, Band Selector	1	Ⓝ A
CA20	Ⓝ RBN118A	Knob, Volume Tone & Tuning	3	Ⓝ A
CA21	Ⓝ RBD31A1	Knob, Balance	1	Ⓝ A
CHASSIS				
CH1	XAMR10T150	Lamp, STEREO Eye, 6.3V 0.04A	1	A
CH2	RHG918B	Rubber, Lamp M'tg	1	Ⓝ C
CH3	RJA9C	AC Cord, Power Source	1	B
CH4	RHR111	Grommet, AC Cord M'tg	1	C
CH5	RHR108A	Wire Nut, AC Cord	2	C
CH6	RJF4209-2	Terminal, EXT. FM Antenna	1	B
CH7	RJF3226	Jack, Phone	1	B
CH8	RDD620A	Drum, Dial	1	Ⓝ B
CH9	RDS4170A	Spring, Dial	2	A
CH10	RDT5294A	Shaft, Tuning	1	Ⓝ A
CH11	RDZ05A	Cord, Dial, 51½"	1	B
CH12	RHG109	Rubber, Core Antenna M'tg	2	C
CH13	XTN3D8BR	Red Screw, Chassis M'tg	5	B
PACKING				
P1	RPH109A	Soft Cover	1	Ⓝ C
P2	RPN889A	Top Pad	2	Ⓝ C
P3	RPN888B	Cover	1	Ⓝ C
P4	RPN937A	Pad	1	Ⓝ C
P5	RPN9066A	Pad (Complete)	1	Ⓝ C
P6	Ⓝ RPN886A	Pad A (Supply as RPN9066A)	(1)	Ⓝ C
P7	Ⓝ RPN887A	Pad B (Supply as RPN9066A)	(1)	Ⓝ C
P8	RP641A	Carton Box (Model RE-7392)	1	C
P9	RP6679A	Carton Box (Model RE-7392C)	1	C
P10	RQX5339A	Instruction Book	1	Ⓝ B