

Service Manual

Radio Cassette
FM-LM-MW-SW Stereo **Cassette Recorder** **RX-FM25L**

(Black) (Silver) (Red)
(Blue) (Yellow) (White)



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This is the Service Manual
for the following areas.

Z ...For all European
areas except **E** **F**
I **G**.

E ...For United Kingdom.

F ...For France.

I ...For Italy and
Finland.

G ...For F.R. Germany.

Color Variation

Z	E	F	I	G
Black	Black	Black	Black	Black
Silver	Silver	Silver	Silver	Silver
Red	Red	Red	Red	Red
Blue	Blue	Red	Blue	Red
Yellow	Yellow	Yellow	Yellow	Yellow
White				

RX-FM25 MECHANISM SERIES

■ SPECIFICATIONS

General:

Power Requirement: AC; **Z** **F** **I** **G**220V, 50Hz
E240V, 50Hz
Battery: 9V (Six "C" Size Flashlight
Batteries)

(Panasonic UM-2 or equivalent)

Power Consumption: 16W (AC only)

Power Output: 7W (3.5W×2)...MPO

7W (3.5W×2)...RMS (max.)

Speaker: 10cm PM Dynamic Speaker (3Ω)

Output: Headphones; 32Ω, ϕ3.5

Dimensions: 440mm(W)×134mm(H)×107mm(D)

Weight: 2.2kg without batteries

Radio Section:

Radio Frequency Range: FM; 87.5~108MHz
LW; 150~285kHz (2000~1060m)
MW; 520~1610kHz (577~186m)
SW; 5.9~18MHz (50.8~16.7m)

Intermediate Frequency: FM; 10.7MHz
AM (LW/MW/SW); 455kHz
(470kHz...**E** only)

Sensitivity: FM; 3.3μV/50mW output
(-3dB Limit Sens)

LW; 151μV/m/50mW output

MW; 63μV/m/50mW output

SW; 6.3μV/50mW output

Tape Deck Section:

Frequency Response: 80~8,000Hz (with normal tape)

Recording System: DC bias, Magnet erase

Tape Speed: 4.8cm/s

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

Design and specifications are subject to change without notice.

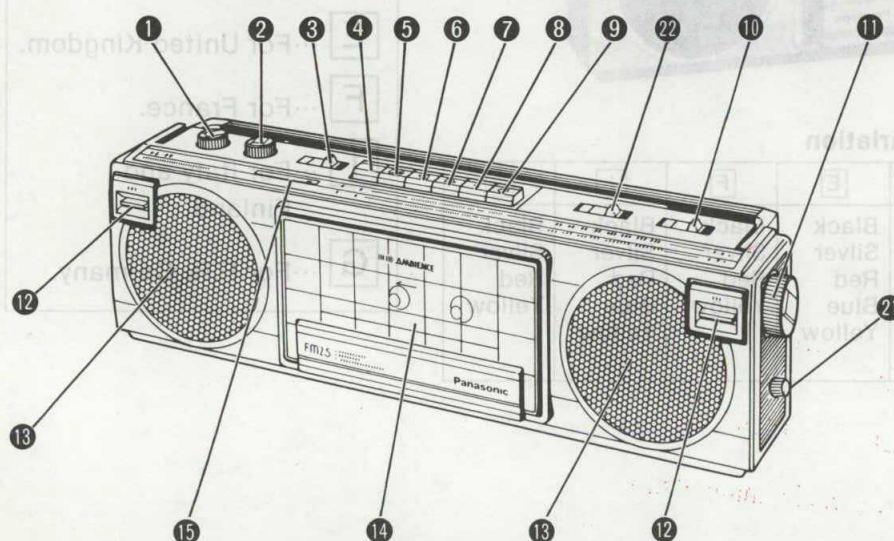
Panasonic

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

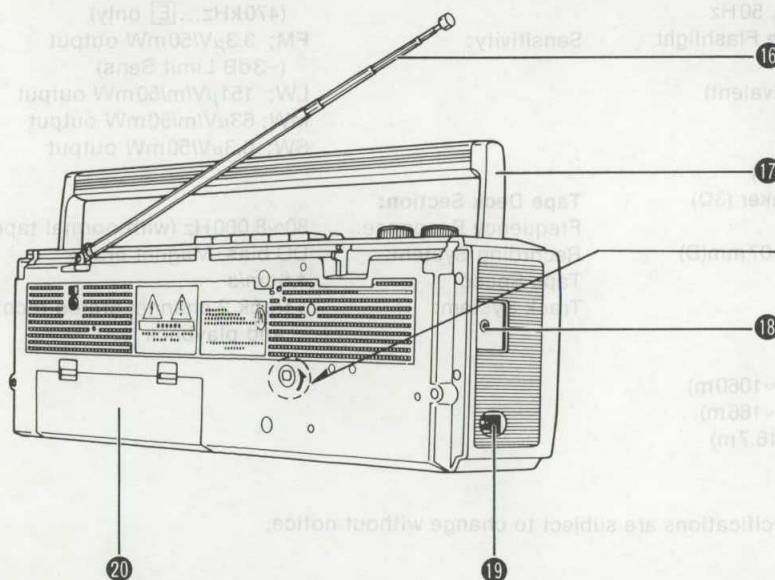
CONTENTS

ITEM	PAGE
■ Specifications	Cover
■ Location of Controls and Components	2
■ Disassembly Instructions	3
■ Cautions on Assembly	4
■ Schematic Diagram for Model RX-FM25L	5
■ Circuit Boards and Wiring Connection Diagram for Model RX-FM25L	7
■ Electrical Parts List	8
■ Measurements and Adjustments	9
■ Mechanism Parts Location	12
■ Cabinet Parts Location	13

LOCATION OF CONTROLS AND COMPONENTS



- 1 Volume Control (VOLUME)
- 2 Tone Control (TONE)
- 3 Function Selector (SELECTOR)
- 4 Pause Button (|| PAUSE)
- 5 Stop/Eject Button (□△ STOP/EJECT)
- 6 Fast Forward Button (⏭ FF)
- 7 Rewind Button (⏮ REWIND)
- 8 Playback Button (⏪ PLAY)
- 9 Record Button (Ⓢ RECORD)
- 10 Mode Selector (MODE)
- 11 Tuning Control (TUNING)
- 12 Built-in Microphones (MIC)
- 13 Built-in Speakers [10cm (3Ω)]
- 14 Cassette Compartment
- 15 FM Stereo Indicator (FM STEREO)
- 16 Telescopic Antenna
- 17 Handle
- 18 Headphones Jack (PHONES)
[32Ω/φ3.5]
- 19 AC Socket (AC IN ~)
- 20 Battery Compartment
- 21 Fine Tuning Control (FINE TUNING)
- 22 BAND Selector (BAND)



When the tape is caught in the pinch roller, etc. Release the tape by turning the pulley on the motor with the screwdriver in the direction of the arrow.

DISASSEMBLY INSTRUCTIONS

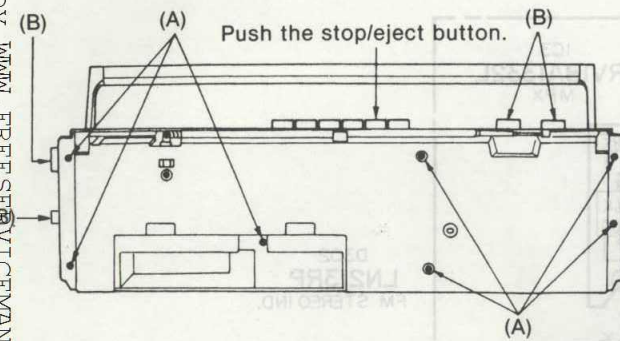


Fig. 1

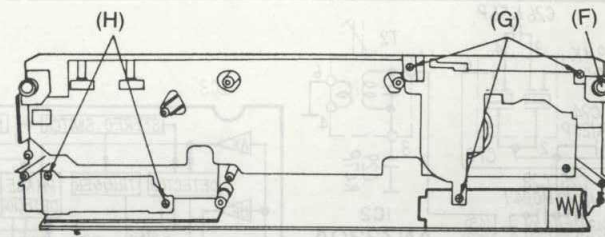


Fig. 3

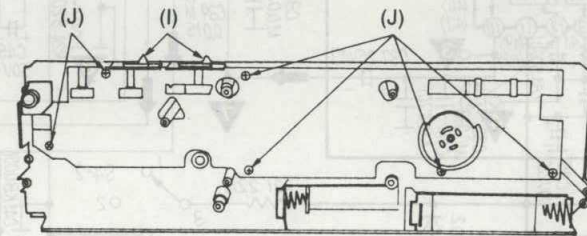


Fig. 4

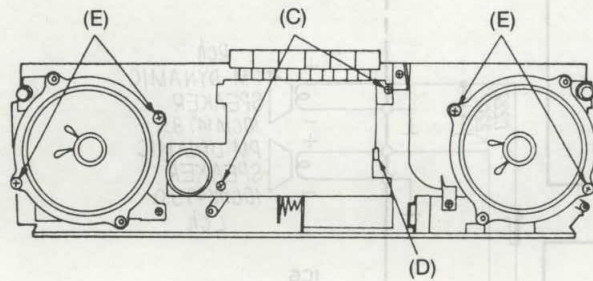
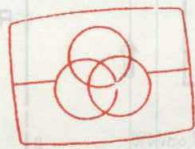


Fig. 2



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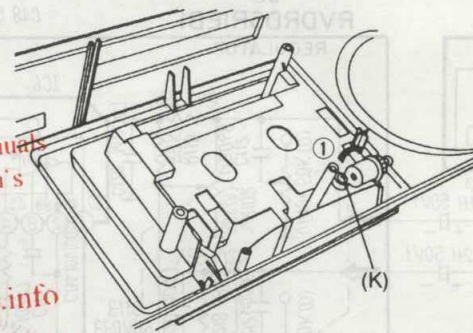
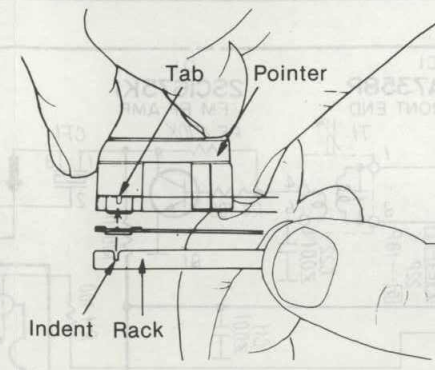


Fig. 5

Ref. No.	Shown in Fig. —	To remove —	Remove —
1	—		Remove the Battery Cover.
2	1	Front Cabinet	Screw (3×35) mm(A)×7
3	1		Knob .....(B)×4
4	1		Push the stop/eject button.
5	2	Mechanism Unit	Screw (3×12) mm .....(C)×2
6	2		Pull out the 3 pin socket (CP2). .....(D)×1
7	2	Speaker	Screw (3×12) mm .....(E)×4
8	—	Dial Chassis	Tuning capacitor fully closed.
9	3		Pull out the built-in microphone. ....(F)×1
10	3		Screw (3×12) mm .....(G)×3
11	3	Power Transformer	Screw (3×12) mm .....(H)×2
12	4	Main Circuit Board	Pull out the slide knob. ....(I)×2
13	4		Screw (3×12) mm .....(J)×6
14	5	Dumper Gear & Gear Holder	Screw (3×12) mm .....(K)×1
15	5		Pull out the gear holder in the direction of arrow ①.

CAUTIONS ON ASSEMBLY

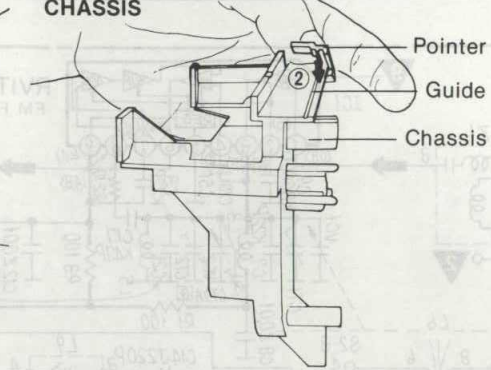
• POINTER AND RACK INSTALLATION



Insert the pointer with the tab aligned with the rack indent.

Fig. 6

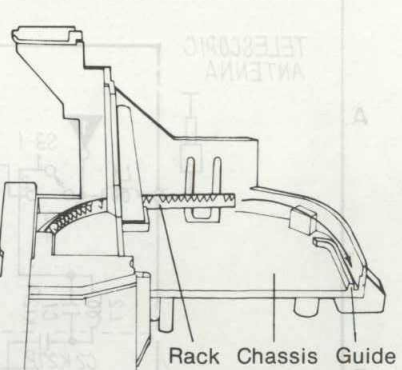
• MOUNTING THE POINTER ON THE CHASSIS



Slide the pointer boss onto the chassis guide as indicated by arrow ②.

Fig. 7

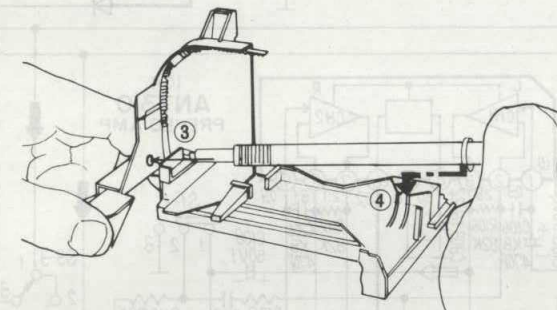
• RACK INSERTION



Insert the rack after aligning the rack with the chassis guide.

Fig. 8

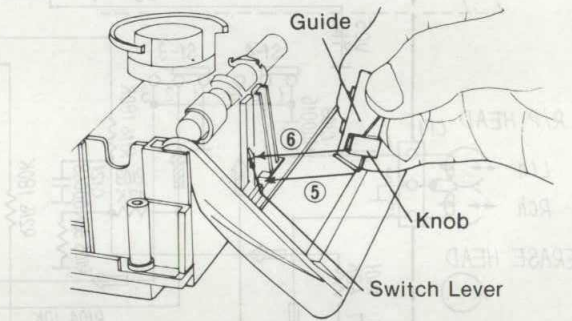
• WORM GEAR INSTALLATION



Insert the worm gear boss as indicated with arrow ③, and then insert the boss in the direction of arrow ④.

Fig. 9

• KNOB AND GUIDE INSTALLATION



Insert the guide in the direction of arrow ⑤, and insert the knob into the switch lever as indicated with arrow ⑥.

Fig. 10

■ DIAL SETTING METHOD

1. Turn the dial drum fully in the counterclockwise. (shown in arrow ⑦.)
2. Set the dial pointer at the start point. (shown in arrow ⑧.)
3. Assemble the dial chassis on the dial drum.

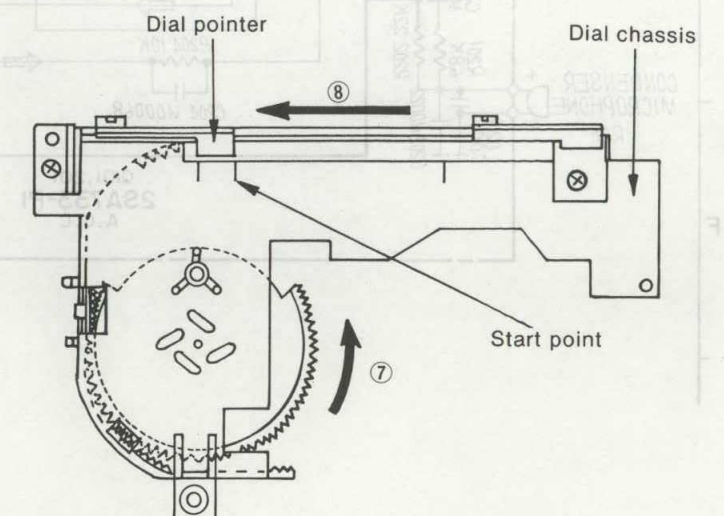
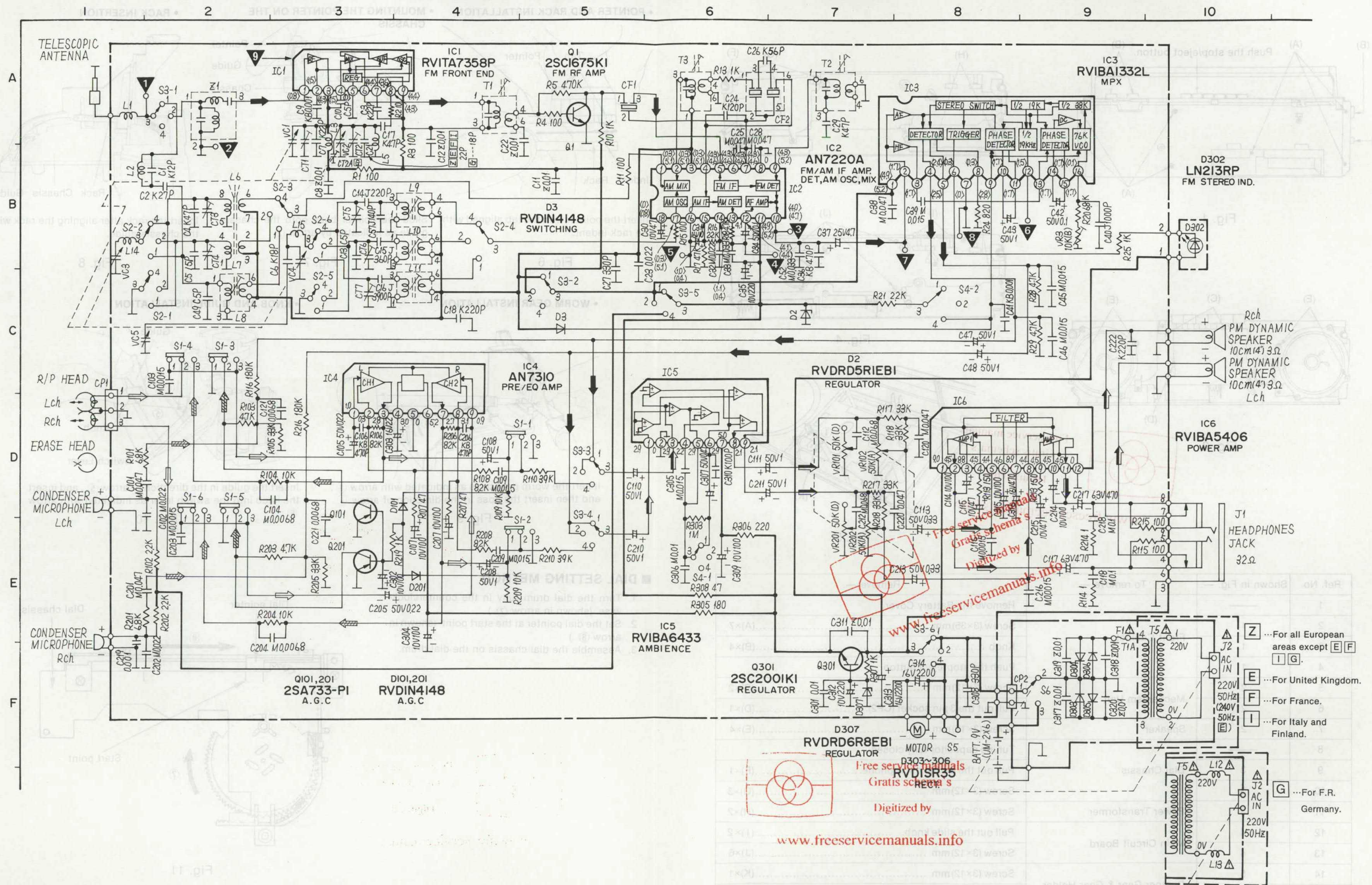
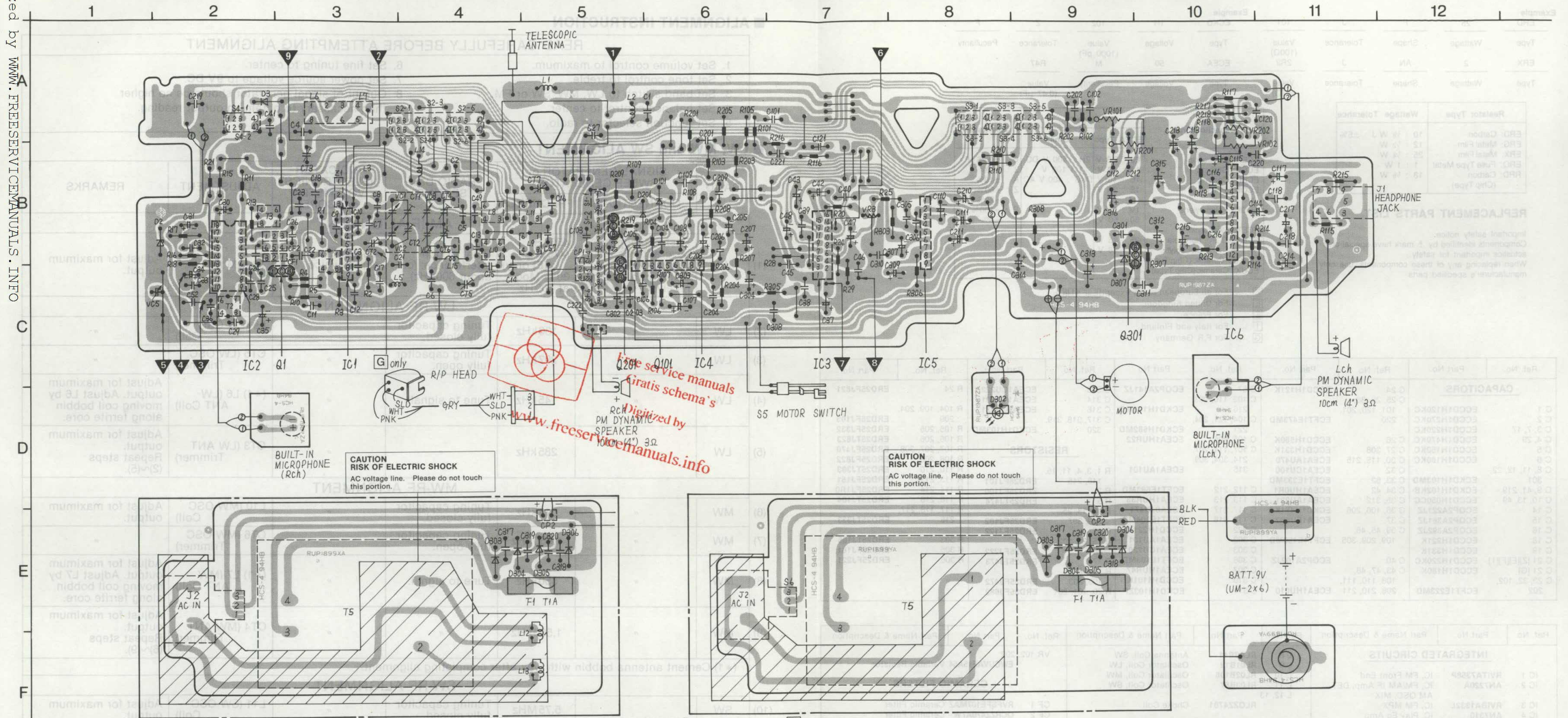


Fig. 11

SCHEMATIC DIAGRAM MODEL RX-FM25L



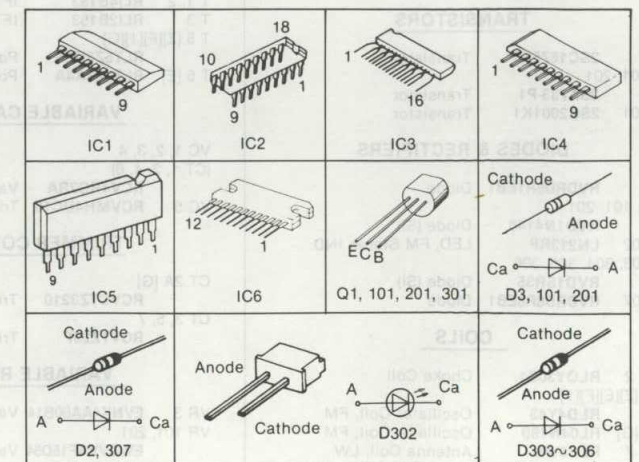
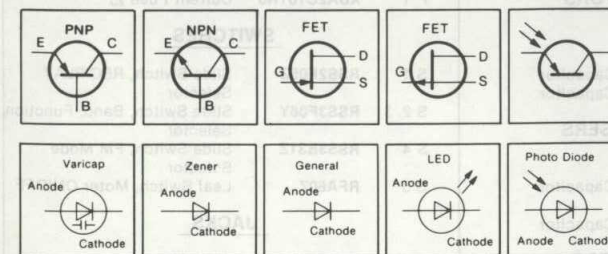
CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM MODEL RX-FM25L



Notes:

- S1-1~S1-6: Record/playback switch in "PLAY" position.
(1...Playback, 3...Record)
- S2-1~S2-6: Band select switch in "LW" position.
(1...SW, 2...MW, 4...LW)
- S3-1~S3-6: Function select switch in "AM" position.
(1...AM, 2...FM, 4...TAPE)
- S4-1, S4-2: Mode switch in "AMBIENCE" position.
(1...AMBIENCE, 2...FM STEREO, 4...FM MONO)
- S5: Motor switch in "OFF" position.
- S6: AC/DC in select switch in "AC IN" position.
- VR3: VCO adjustment VR.
- VR101, VR201: Tone control VR.
- VR102, VR202: Volume control VR.
- DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
< >...FM position, ()...AM position,
[]...Recording position,
No mark...Playback position.
- Battery current: No signal80mA
Maximum output (radio)800mA
Maximum output (tape)1,000mA
- 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.
- The mark (\blacktriangledown) shows test point e.g. \blacktriangledown = test point 1.
 - \blacksquare + B Voltage Line
 - \blacktriangleright Playback Signal
 - \blacktriangleleft FM Signal
 - \blacktriangleright Record Signal
 - \blacktriangleleft Playback and Radio Signal

- Z ...For all European areas except E F I G.
- E ...For United Kingdom.
- F ...For France.
- I ...For Italy and Finland.



ELECTRICAL PARTS LIST

Numbering System of Resistor

Example	ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value	(100Ω)
ERX	2	AN	J	2R2	
Type	Wattage	Shape	Tolerance	Value	(2.2Ω)

Resistor Type	Wattage	Tolerance
ERD: Carbon	10 : 1/8 W J	±5%
ERG: Metal Film	12 : 1/2 W	
ERX: Metal Film	25 : 1/4 W	
ERQ: Fuse 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.

Numbering System of Capacitor

Example	ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity	
ECEA	50	(1000 pF)	M	R47	
Type	Voltage	Peculiarity	Value		
			(0.47 μF)		

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%
	1H : 50 V		P : +100%, -0%
ECQP: Polypropylene	1V : 35 V		
	50 : 50 V		
ECET: Electrolytic	25 : 25 V		
ECEA□□□□: Non Polar Electrolytic	16 : 16 V		
QCUC: Ceramic (Chip Type)			
ECUX: Ceramic (Chip Type)			

ZFor all European areas except E F I G.
EFor United Kingdom.
FFor France.
IFor Italy and Finland.
GFor F.R. Germany.

Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.
CAPACITORS									
C 1	ECCD1H120KC	C 24	ECCD1H121K	C 57	ECQP2A141JZ	C 313	ECEA1CU222	R 24	ERD25FJ821
C 2	ECCD1H270KC	C 25, 28, 38,		C 103, 116, 203,		C 314	ECEA1CU101		
C 3, 7, 17	ECCD1H220KC	101, 120, 201,	ECFT1E473MD	216	ECKD1H152MD	C 316	ECEA1CU471	R 104, 109, 204,	ERD25FJ103
C 4, 29	ECCD1H470KC	220		C 104, 121, 204,		C 317, 318, 319,		209	ERD25FJ332
C 5	ECCD1H150KC			221	ECKD1H682MD	320	ECKD1H103MD	R 105, 205	ERD25TJ823
C 6	ECCD1H180KC	C 26	ECCD1H560K	C 105, 205	ECEA1HUR22			R 106, 206	ERD25FJ470
C 8, 11, 12, 22,		C 27, 308	ECCD1H331K	C 107, 114, 207,		RESISTORS			
301		C 30, 115, 215	ECEA1AU470	214, 304, 309,				R 107, 207, 308	ERD25FJ822
C 9, 41, 219	ECKD1H103MD	C 32	ECEA1CU100	315	ECEA1AU101	R 1, 3, 4, 11, 15,	ERD25FJ101	R 110, 210	ERD25TJ393
C 10, 13, 49	ECCD1H050CC	C 33, 52	ECFT1E333MD			115, 215	ERD25FJ100	R 113, 213	ERD25FJ151
C 14	ECQP2A221JZ	C 34, 42	ECEA1HU0R1	C 112, 212	ECFT1E683MD	R 2	ERD25TJ474	R 114, 214	ERD25FJ1R0
C 15	ECQP2A361JZ	C 35, 312	ECEA1AU221	C 113, 213	ECEA1HUR33	R 5		R 116, 216	ERD25TJ104
C 16	ECQP2A392JZ	C 36, 106, 206	ECKD1H471KB	C 117, 217	ECEA0JU471	R 10, 13, 25,		R 117, 118, 217,	
C 18	ECCD1H221K	C 37	ECEA1EU4R7	C 118, 218	ECFT1E104MD	219, 307	ERD25FJ102	218	ERD25TJ333
C 19	ECCD1H331K	C 39, 45, 46,		C 222	ECCD1H221K	R 12	ERD25FJ122		
C 21 [Z][E][F][I]	ECCD1H220KC	109, 209, 305	ECFT1E153MD	C 302	ECEA1AU101	R 16, 21, 102,	ERD25FJ222	R 303	ERD25TJ105
C 21 [G]	ECCD1H180K	C 40	ECQP2A102JZ	C 303	ECEA1CU220	202	ERD25TJ473	R 305	ERD25FJ181
C 23, 32, 102,	ECFT1E223MD	C 43, 47, 48,		C 306	ECFT1E103MD	R 17		R 306	ERD25FJ221
202		108, 110, 111,		C 307	ECEA1HUR47	R 18, 28, 29,			
		208, 210, 211	ECEA1HU010	C 310	ECCD1H101K	103, 203	ERD25FJ472		
				C 311	ECKD1H103ZF	R 20, 101, 201	ERD25FJ682		

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS								
IC 1	RVITA7358P	IC, FM Front End	L 8	RLA3B41	Antenna Coil, SW	VR 102, 202		
IC 2	AN7220A	IC, FM/AM IF Amp, DET, AM OSC, MIX	L 9	RL01B12	Oscillator Coil, LW	EWCUVAF15A54	Variable Resistor	
IC 3	RVIBA1332L	IC, FM MPX	L 10	RL02B108	Oscillator Coil, MW	CERAMIC FILTERS		
IC 4	AN7310	IC, Play Eq Amp	L 11	RL03B87	Oscillator Coil, SW	CF 1	RVFSFE107MAZ	Ceramic Filter
IC 5	RVIBA6433	IC, Ambience	L 12, 13	RLQZ24701	Choke Coil	CF 2	QCRZ2470A7W	Ceramic Filter
IC 6	RVIBA5406	IC, Power Amp				CF 2	RVFSFZ455A	Ceramic Filter
TRANSISTORS								
Q 1	2SC1675K1	Transistor	T 1, 2	RLI4B153	IFT, FM	FILTER		
Q 101, 201	2SA733-P1	Transistor	T 3	RLI2B153	IFT, MW	Z 1	RXABPM6BAW	Component Combinations
Q 301	2SC2001K1	Transistor	T 5 [Z][F][I][G]	RLT5Z3G3A	Power Transformer Δ	FUSE		
			T 5 [E]	RLT5Z3A4A	Power Transformer Δ	F 1	XBA2C10TR0	Current Fuse Δ
DIODES & RECTIFIERS								
D 2	RVDRD5R1EB1	Diode	TRANSFORMERS					
D 3, 101, 201	RV1N4148	Diode (Si)	VC 1, 2, 3, 4 (CT 1, 2, 4, 6)	RCV4RC2RA	Variable Capacitor	SWITCHES		
D 302	LN213RP	LED, FM Stereo IND.	VC 5	RCVMH4UC16	Trimmer Capacitor	S 1	RSS2F05Z	Slide Switch, REC/PLAY Selector
D 303, 304, 305, 306	RV1SR35	Diode (Si)	TRIMMER CONDENSERS					
D 307	RVDRD6R8EB1	Diode	CT 2A [G]	RCVCTZ3210	Trimmer Capacitor	S 2, 3	RSS3F06Y	Slide Switch, Band, Function Selector
			CT 3, 5, 7	RCVTZ20F	Trimmer Capacitor	S 4	RSS3B31Z	Slide Switch, FM Mode Selector
COILS								
L 1, 2	RLQY30S1	Choke Coil	VARIABLE RESISTORS					
L 5 [Z][E][F][I]	RLD4Y43	Oscillator Coil, FM	VR 3	EVNK4AA00B14	Variable Resistor	J 1	RJJ1D27Z	Jack, Headphones
L 5 [G]	RL04N190	Oscillator Coil, FM	VR 101, 201	EWCVVAF15D54	Variable Resistor	J 2 [Z][F][I][G]	RJJ1A4Z	Jack, AC IN (with S6) Δ
L 6, 7	RLF6W9	Antenna Coil, LW				J 2 [E]	RJJ1A5Z	Jack, AC IN (with S6) Δ

MEASUREMENTS AND ADJUSTMENTS

ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT					
1. Set volume control to maximum.					
2. Set tone control to treble.					
3. Set band switch to LW, MW, SW or FM.					
4. Set balance control to center.					
5. Set function selector to radio.					
6. Set fine tuning to center.					
7. Set power source voltage to 9V DC.					
8. Output of signal generator should be no higher than necessary to obtain an output reading.					

LW, MW and SW ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
AM-IF ALIGNMENT						
(1) MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455kHz (470kHz ...[E] only) 30% Mod. at 400Hz	Point of non-interference. (on/ about 600kHz)	Output meter across voice coil.	T3 (AM IFT)	Adjust for maximum output.
LW-RF ALIGNMENT						
(2) LW	"	136kHz	Tuning capacitor fully closed.	"	L9 (LW OSC Coil)	"
(3) LW	"	297 kHz	Tuning capacitor fully open.	"	CT5 (LW OSC Trimmer)	"
(4) LW	"	145kHz	Tune to signal.	"	(* 1) L6 (LW ANT Coil)	Adjust for maximum output. Adjust L6 by moving coil bobbin along ferrite core.
(5) LW	"	285kHz	"	"	CT3 (LW ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).
MW-RF ALIGNMENT						
(6) MW	"	511kHz	Tuning capacitor fully closed.	"	L10 (MW OSC Coil)	Adjust for maximum output.
(7) MW	"	1,650kHz	Tuning capacitor fully open.	"	CT6 (MW OSC Trimmer)	"
(8) MW	"	550kHz	Tune to signal.	"	(* 1) L7 (MW ANT Coil)	Adjust for maximum output. Adjust L7 by moving coil bobbin along ferrite core.
(9) MW	"	1,500kHz	"	"	CT4 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (6)~(9).
(* 1) Cement antenna bobbin with wax after completing alignment.						
SW-RF ALIGNMENT						
(10) SW	Connect to test point ▼ through ceramic capacitor (10pF). Negative side to test point ▼.	5.75 MHz	Tuning capacitor fully closed.	"	L11 (SW OSC Coil)	Adjust for maximum output.
(11) SW		18.8MHz	Tuning capacitor fully open.	"	CT7 (SW OSC Trimmer)	"
(12) SW		5.9MHz	Tune to signal.	"	L8 (SW ANT Coil)	Adjust for maximum output. Repeat steps (10)~(12).

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. 0.001μF to test point 9. Negative side to test point 2.	10.7MHz (SWP.)	Point of non-interference. (on/about 90MHz)	Connect vert. amp. of scope to test point 3. Negative side to test point 5.	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 2.)
2) FM	"	"	"	"	T2 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 3.)

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
FM-RF ALIGNMENT						
FM	Connect to test point ▼ through FM dummy antenna. Negative side to test point ▼.	86.2MHz (87.5MHz... [G] only)	Variable capacitor fully closed.	Output meter across voice coil.	L5 (FM OSC Coil)	(* 2) Adjust for maximum output.
FM		109.2MHz (108MHz... [G] only)	Variable capacitor fully open.	"	CT2 (FM OSC Trimmer)	"
FM		106MHz	Tune to signal.	"	CT1 (FM ANT Trimmer)	(* 2) Adjust for maximum output. Repeat steps (3)~(5).
CT2A adjustment to center before FM-RF ALIGNMENT. (For F.R. Germany)						
(*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.	98MHz, 60dB Connect to test point ∇ through FM dummy antenna. Negative side to test point ∇ .	∇ ... (+) ∇ ... (-)	VR3	19kHz	Adjust VR3, for 19kHz (± 100 Hz) reading on electronics counter.

TAPE ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Azimuth	QZZCFM (8kHz, -20dB)	Headphones Jack (32 Ω)	Maximum output.	Azimuth screw	Playback mode FM Mode switch \rightarrow Stereo (Refer to Fig. 4)
Tape Speed	QZZCWAT (3kHz)	"	3000 \pm 90Hz	Motor Volume	Playback mode (Refer to Fig. 5)

ALIGNMENT POINTS

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

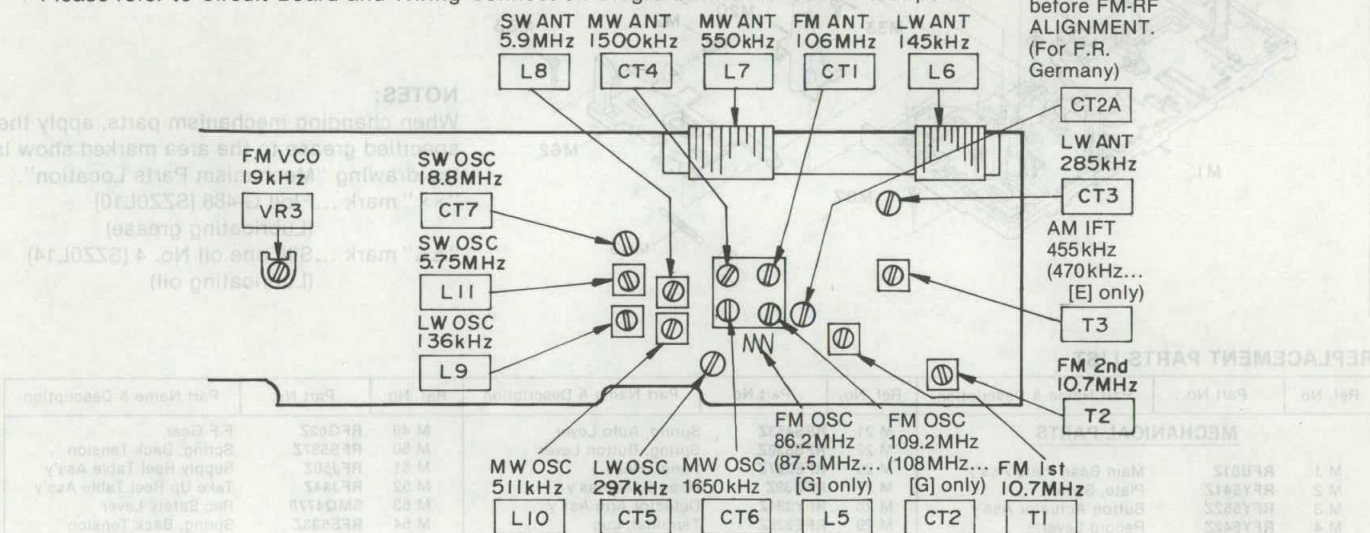


Fig. 1

Head azimuth adjustment screw

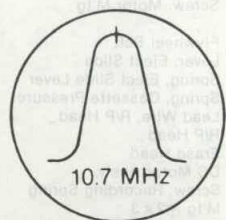


Fig. 2

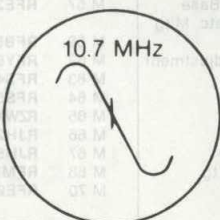


Fig. 3

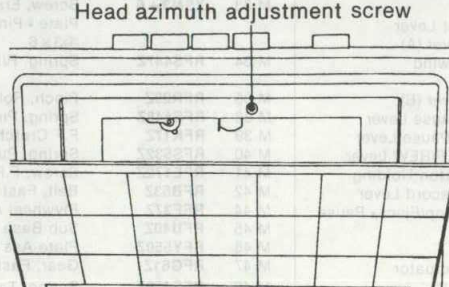


Fig. 4

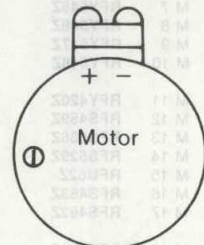
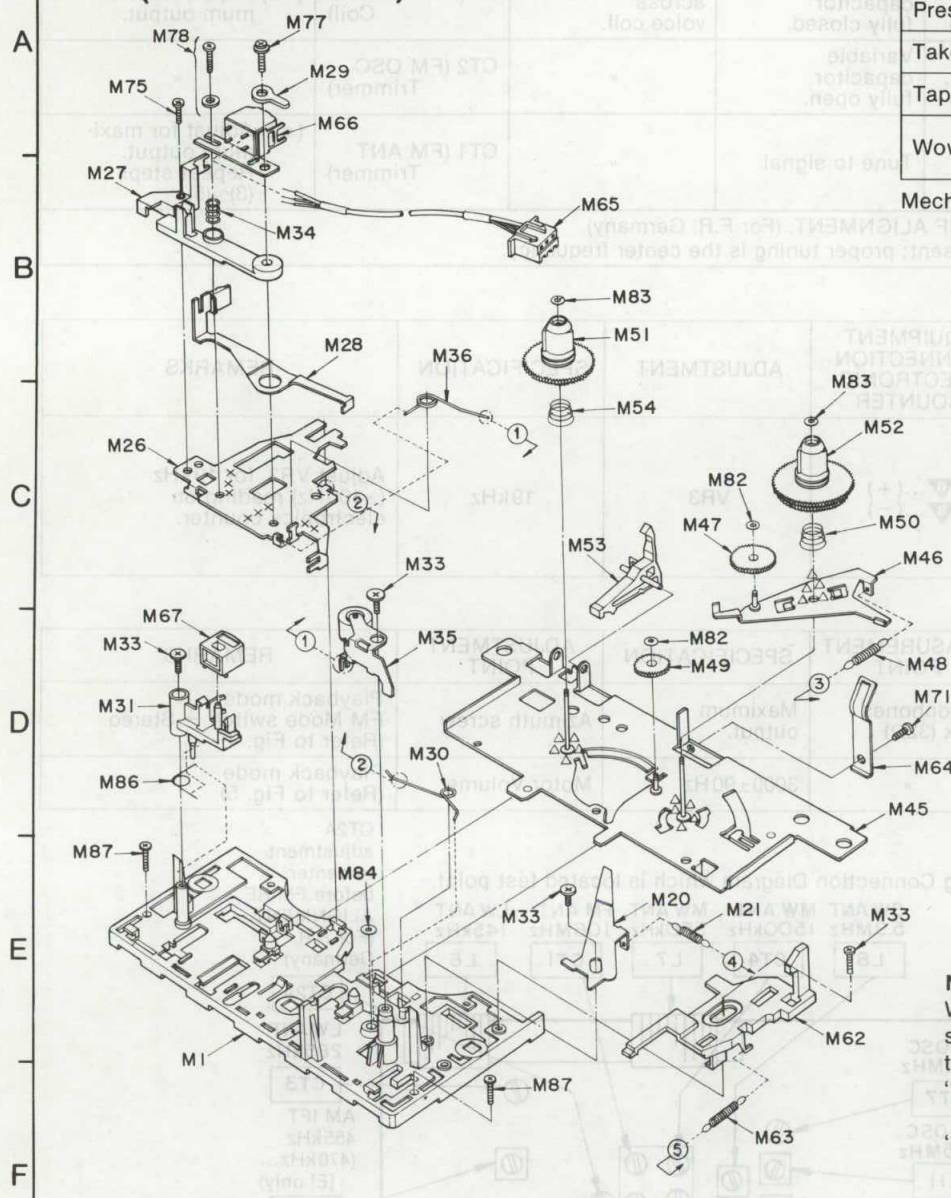


Fig. 5

MECHANISM PARTS LOCATION

(FRONT VIEW)



SPECIFICATIONS

Pressure of pressure roller	250~350g
Takeup tension	25~65g-cm
Tape speed fluctuation	±3%
Wow & flutter	Less than 0.2% (WRMS)

Mechanism Operation: Auto Stop

NOTES:

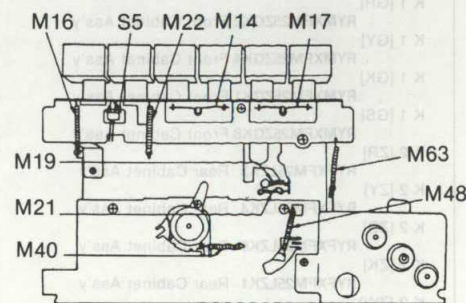
When changing mechanism parts, apply the specified grease to the area marked show in the drawing "Mechanism Parts Location".

"x" mark ...Fioil G-488 [SZZ0L10]
(Lubricating grease)

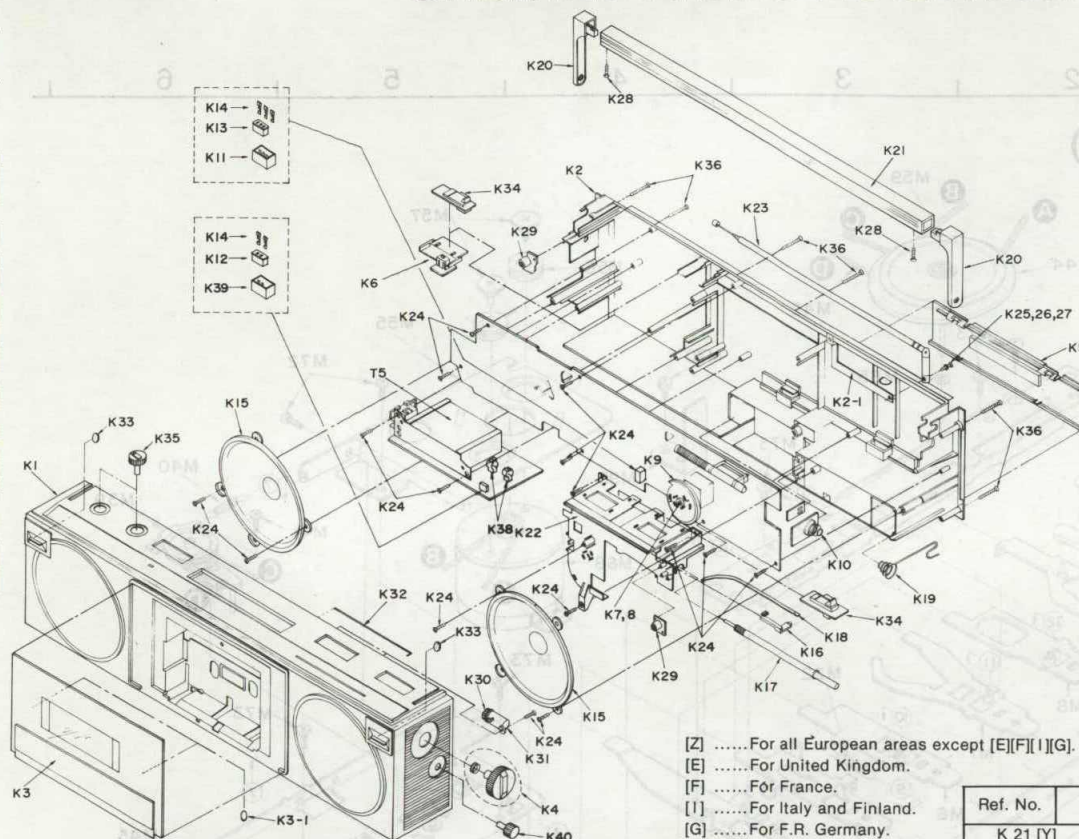
"△" mark ...Silicone oil No. 4 [SZZ0L14]
(Lubricating oil)

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
MECHANICAL PARTS			M 21	RFS453Z	Spring, Auto Lever	M 49	RFG62Z	F.F Gear
M 1	RFU61Z	Main Base Plate Ass'y	M 22	RFS530Z	Spring, Button Lever	M 50	RFS537Z	Spring, Back Tension
M 2	RFY541Z	Plate, Switch	M 26	RFE227Z	Panel, Head	M 51	RFJ50Z	Supply Reel Table Ass'y
M 3	RFY552Z	Button Actuator Ass'y	M 27	RFU39Z	Head Base Ass'y	M 52	RFJ44Z	Take Up Reel Table Ass'y
M 4	RFY542Z	Record Lever	M 28	RFY394Z	Detector Arm Ass'y	M 53	SMQ4778	Rec Safety Lever
M 5	RFY543Z	Playback Lever	M 29	RFE228Z	Terminal, Lug	M 54	RFS533Z	Spring, Back Tension
M 6	RFY544Z	Rewind Lever	M 30	RFS531Z	Spring, Head Panel	M 55	RFD219Z	Bracket, Motor
M 7	RFY545Z	F.F Lever	M 31	RFY397Z	Erase Head Base	M 56	RFI27Z	Rubber, Motor
M 8	RFY546Z	Stop/Eject Lever	M 33	XSN3 + 6	Screw, Erase Head Base	M 57	RFE231Z	Screw, Motor M'tg
M 9	RFY547Z	Pause Lever (A)			Plate • Pinch Rolle etc. M'tg ③x 6			
M 10	RFY548Z	Lever, Rewind	M 34	RFS447Z	Spring, R/P Head Adjustment			
M 11	RFY420Z	Pause Lever (B)	M 35	RFR29Z	Pinch, Roller Ass'y	M 59	RFB54Z	Flywheel Belt
M 12	RFS459Z	Spring, Pause Lever	M 36	RFS448Z	Spring, Pinch Lever	M 62	RFY551Z	Lever, Eject Slide
M 13	RFS536Z	Stopper, Pause Lever	M 39	RFK17Z	F.F Crutch Ass'y	M 63	RFS454Z	Spring, Eject Slide Lever
M 14	RFS529Z	Spring, F.F/REW Lever	M 40	RFS532Z	Spring, Pulley Ass'y	M 64	RFS534Z	Spring, Cassette Pressure
M 15	RFU62Z	Plate, Button Holding	M 41	RFE172Z	Screw, F.F Crutch M'tg	M 65	RZWXFM25MKS	Lead Wire, R/P Head
M 16	RFS463Z	Spring, Record Lever	M 42	RFB53Z	Belt, Fast Wind	M 66	RJH2E9Y	R/P Head
M 17	RFS462Z	Spring, Stop/Eject • Pause Lever	M 44	RFF37Z	Flywheel Ass'y	M 67	RJH5S3Z	Erase Head
M 18	RFX101Z	Stopper	M 45	RFU40Z	Sub Base Plate	M 68	RFM54Z	DC Motor Ass'y
M 19	RFS466Z	Spring, Actuator	M 46	RFY550Z	Plate Ass'y, Take Up Gear	M 70	RFE229Z	Screw, Recording Spring M'tg ②x 3
M 20	RFY549Z	Lever, Auto	M 47	RFG61Z	Gear, Fast Wind	M 71	XTN2 + 3B	Screw, Cassette Retainer Spring M'tg ②x 3
			M 48	RFS450Z	Spring, Take Up Gear Plate	M 72	XTN2 + 4B	Screw, Motor Bracket M'tg ②x 4



CABINET PARTS LOCATION



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
----------	----------	-------------------------

CABINET PARTS

K 1 [ZW]	RYMXFM25L8WT	Front Cabinet Ass'y
K 1 [ZR][FF][IR]	RYMXFM25LZK2	Front Cabinet Ass'y
K 1 [ZY][FY][IV]	RYMXFM25LZK4	Front Cabinet Ass'y
K 1 [ZK][FK][IK]	RYMXFM25LZK1	Front Cabinet Ass'y
K 1 [ZS][FS][IS]	RYMXFM25L8SL	Front Cabinet Ass'y
K 1 [ZB][IB]	RYMXFM25LZK6	Front Cabinet Ass'y
K 1 [ER]	RYMXFM25ZEK2	Front Cabinet Ass'y
K 1 [EY]	RYMXFM25ZEK4	Front Cabinet Ass'y
K 1 [EB]	RYMXFM25ZEK6	Front Cabinet Ass'y
K 1 [EK]	RYMXFM25ZEK1	Front Cabinet Ass'y
K 1 [ES]	RYMXFM25ZEK8	Front Cabinet Ass'y
K 1 [GR]	RYMXFM25ZGK2	Front Cabinet Ass'y
K 1 [GY]	RYMXFM25ZGK4	Front Cabinet Ass'y
K 1 [GK]	RYMXFM25ZGK1	Front Cabinet Ass'y
K 1 [GS]	RYMXFM25ZGK8	Front Cabinet Ass'y
K 2 [ZR]	RYFXFM25LZK2	Rear Cabinet Ass'y
K 2 [ZY]	RYFXFM25LZK4	Rear Cabinet Ass'y
K 2 [ZB]	RYFXFM25LZK6	Rear Cabinet Ass'y
K 2 [ZK]	RYFXFM25LZK1	Rear Cabinet Ass'y
K 2 [ZW]	RYFXFM25ZK91	Rear Cabinet Ass'y
K 2 [ZS]	RYFXFM25LZK8	Rear Cabinet Ass'y
K 2 [ER]	RYFXFM25ZEK2	Rear Cabinet Ass'y
K 2 [EY]	RYFXFM25ZEK4	Rear Cabinet Ass'y
K 2 [EB]	RYFXFM25ZEK6	Rear Cabinet Ass'y

Ref. No.	Part No.	Part Name & Description
K 2 [EK]	RYFXFM25ZEK1	Rear Cabinet Ass'y ▲
K 2 [ES]	RYFXFM25ZEK8	Rear Cabinet Ass'y ▲
K 2 [FR][IR]	RYFXFM25ZFK2	Rear Cabinet Ass'y
K 2 [FY][IY]	RYFXFM25ZFK4	Rear Cabinet Ass'y
K 2 [FK][IK]	RYFXFM25ZFK1	Rear Cabinet Ass'y
K 2 [FS][IS]	RYFXFM25ZFK8	Rear Cabinet Ass'y
K 2 [IB]	RYFXFM25ZIK6	Rear Cabinet Ass'y
K 2 [GR]	RYFXFM25ZGK2	Rear Cabinet Ass'y
K 2 [GY]	RYFXFM25ZGK4	Rear Cabinet Ass'y
K 2 [GK]	RYFXFM25ZGK1	Rear Cabinet Ass'y
K 2 [GS]	RYFXFM25ZGK8	Rear Cabinet Ass'y
K 2-1	RJT1019Z	Ant Contact Plate
K 3	RYQXFM25LZKS	Cassette Lid Ass'y
K 3-1	RUS527Z	Spring, Cassette
K 4 [S][R][B][Y][W]	RYTXFM25MKS1	Tuning Knob Ass'y
K 4 [K]	RYTXFM25MKSUN	Tuning Knob Ass'y
K 5 [R]	RYNXFM25LZK1	Battery Cover
K 5 [Y]	RYNXFM25LZK8	Battery Cover
K 5 [B]	RYNXFM25LZK7	Battery Cover
K 5 [K]	RYNXFM25LZK4	Battery Cover
K 5 [W]	RYNXFM25LZK2	Battery Cover
K 5 [S]	RYNXFM25MKSS	Battery Cover
K 6	RME380Z	LED Holder
K 7	XSN26 + 8	Screw, Dial Drum M'tg
K 8	XWA26B	Washer, Dial Drum M'tg
K 9	RDG5781Z	Dial Drum
K 10	RJC610Z	Battery Spring (—)
K 11	RJP3G4Y	Plug (3P)
K 12	RJS2L3Z	Socket (2P)
K 13	RJS3L3Z	Socket (3P)
K 14	RJT707Z	Terminal, Socket
K 15	RAS10P22Z	Speaker
K 16	RDP287Z	Dial Pointer
K 17	RDT9139Z	Worm Gear
K 18	RDV16Z	Gear Belt
K 19	RJC946Y	Terminal, Battery (+, —)
K 20	RKX330Z8	Arm, Handle
K 21 [R]	RKX331Z91	Handle

Notes:

[ZK]	.....For all European areas except [E][F][I][G]. (Black)
[ZS]	.....For all European areas except [E][F][I][G]. (Silver)
[ZR]	.....For all European areas except [E][F][I][G]. (Red)
[ZB]	.....For all European areas except [E][F][I][G]. (Blue)
[ZY]	.....For all European areas except [E][F][I][G]. (Yellow)
[ZW]	.....For all European areas except [E][F][I][G]. (White)
[EK]	.....For United Kingdom. (Black)
[ES]	.....For United Kingdom. (Silver)
[ER]	.....For United Kingdom. (Red)
[EB]	.....For United Kingdom. (Blue)
[EY]	.....For United Kingdom. (Yellow)
[FK]	.....For France. (Black)
[FS]	.....For France. (Silver)
[FR]	.....For France. (Red)
[FY]	.....For France. (Yellow)
[IK]	.....For Italy and Finland. (Black)
[IS]	.....For Italy and Finland. (Silver)
[IR]	.....For Italy and Finland. (Red)
[IB]	.....For Italy and Finland. (Blue)
[IY]	.....For Italy and Finland. (Yellow)
[GK]	.....For F.R. Germany. (Black)
[GS]	.....For F.R. Germany. (Silver)
[GR]	.....For F.R. Germany. (Red)
[GY]	.....For F.R. Germany. (Yellow)
[K]	.....Black
[S]	.....Silver
[R]	.....Red
[B]	.....Blue
[Y]	.....Yellow
[W]	.....White

Ref. No.	Part No.	Part Name & Description
K 21 [Y]	RKX331Z4	Handle
K 21 [B]	RKX331Z6	Handle
K 21 [K]	RKX331Z1	Handle
K 21 [W]	RKX331Z92	Handle
K 21 [S]	RKX331Z7	Handle
K 22	RUA623Y	Chassis, Dial Pointer
K 23	XEARR225EAY	Telescopic Antenna
K 24	XTV3 + 12G	Screw, Speaker etc, M'tg
K 25	XSN3 + 12S	Screw, Telescopic Antenna M'tg
K 26	XWA3B	Washer, Telescopic Antenna M'tg
K 27	XWG3	Washer, Telescopic Antenna M'tg
K 28	XTC3 + 8CFN	Screw, Handle M'tg
K 29	RJM151Z	Condenser Microphone
K 30	RDG6729Z	Dumper Gear
K 31	RME337Z	Holder, Dumper Gear
K 32	RUS534Z	Spring, Cassette Holder
K 33	RHG720Y	Rubber Cushion, MIC
K 34 [R][Y][B][W][S]	RBC719Z	Knob, Function, Mode
K 34 [K]	RBC719Z1	Knob, Function, Mode
K 35 [R][Y][B][W][S]	RBN670X2	Knob, Vol, Tone
K 35 [K]	RBN670X	Knob, Vol, Tone
K 36	XTN3 + 35GFZ	Screw, Front Cabinet M'tg
K 38	QTF1054	Fuse Holder
K 39	RJP2G4Y	Plug (2P)
K 40 [R][Y][B][W][S]	RBN668Y	Knob, Fine Tuning
K 40 [K]	RBN668Y1	Knob, Fine Tuning
ACCESSORIES		
A 1 [Z][F][I][G]	RJA20Z	Power Cord Δ
A 1 [E]	RJA43Z	Power Cord Δ
A 2	RQX4671Z	Instruction Book
PACKINGS		
P 1	RPK2140Z	Gift Box
P 2	RPN9506Z	Pad Complete
P 3	XZB55X35A02	Polyethylene Cover
P 4	RPN4748Z	Accessory Box
P 5	RPE582Z	Soft Cover

ACCESSORIES

PACKINGS

DEUTSCH

■ TECHNISCHE DATEN

Allgemeines:

Stromversorgung:

Leistungsaufnahme:

Ausgangsleistung:

Lautsprecher:

Ausgang:

Abmessungen:

Gewicht:

Tonbandteil:

Frequenzgang:

Aufnahmesystem:

Bandgeschwindigkeit:

Spurlage:

Wechselstrom:

220 V, 50 Hz

240 V, 50 Hz

Batterien: 9 V (sechs Batterien der Größe "C")

(Panasonic UM-2 oder entsprechende)

16 W (bei Netzbetrieb)

7 W (3,5 W×2) MPO

7 W (3,5 W×2) max. eff.

10 cm, dynamischer PM-Lautsprecher (3 Ω)

HEADPHONES: 32 Ω, Ø 3,5

440(B)×134(H)×107(T) mm

2,2 kg ohne Batterien

UKW: 87,5~108 MHz

LW: 150~285 kHz (2000~1060 m)

MW: 520~1610 kHz (577~186 m)

KW: 5,9~18 MHz (50,8~16,7 m)

UKW: 10,7 MHz

LW, MW, KW: 455 kHz (470 kHz ... nur [E])

UKW: 3,3 µV/50 mW Ausgang (−3 dB Grenzeempfindlichkeit)

LW: 151 µV/m/50 mW Ausgang

MW: 63 µV/m/50 mW Ausgang

KW: 6,3 µV/50 mW Ausgang

Änderungen des Designs und der technischen Daten vorbehalten.

BEZEICHNUNGEN IN DER SCHEMATISCHEN DARSTELLUNG

- Bemerkungen:

1. S1-1~S1-6:

2. S2-1~S2-6:

3. S3-1~S3-6:

4. S4-1, S4-2:

5. S5:

6. S6:

7. VR3:

8. VR101, VR201:

9. VR102, VR202:

10. Alle Gleichspannungen sind mit einem Elektronik-Voltmeter vom negativen Batterianschluß aus zu messen.

< > ... Stellung FM, () ... Stellung AM, [] ... Stellung Aufnahme, keine Markierung ... Stellung Wiedergabe.
- Aufnahme/Wiedergabeschalter auf "PLAY".

(1...PLAYBACK, 3...RECORD)

Wellenbereichsschalter auf "LW".

(1...SW, 2...MW, 4...LW)

Funktionsschalter auf "AM".

(1...AM, 2...FM, 4...TAPE)

Betriebsartschalter auf "AMBIENCE".

(1...AMBIENCE, 2...FM STEREO, 4...FM MONO)

Motorschalter auf "OFF".

Wahlschalter für Wechselstrom- und Gleichstrombetrieb auf "AC IN".

Regelwiderstand für VCO-Einstellung.

Regelwiderstand für Klangregelung.

Regelwiderstand für Lautstärkeregelung.

11. Batteriestrom: kein Signal 80 mA

Maximalausgang (Radio) 800 mA

Maximalausgang (Tonband) 1000 mA

12. Wichtiger Sicherheitshinweis

Bauteile, die mit Δ gekennzeichnet sind, haben spezielle, für die Sicherheit wichtige Eigenschaften und dürfen daher nur gegen die vom Hersteller spezifizierten Teile ausgetauscht werden.

13. Die Markierung (▼) kennzeichnet Prüfpunkte, z.B. ▼=Prüfpunkt 1.

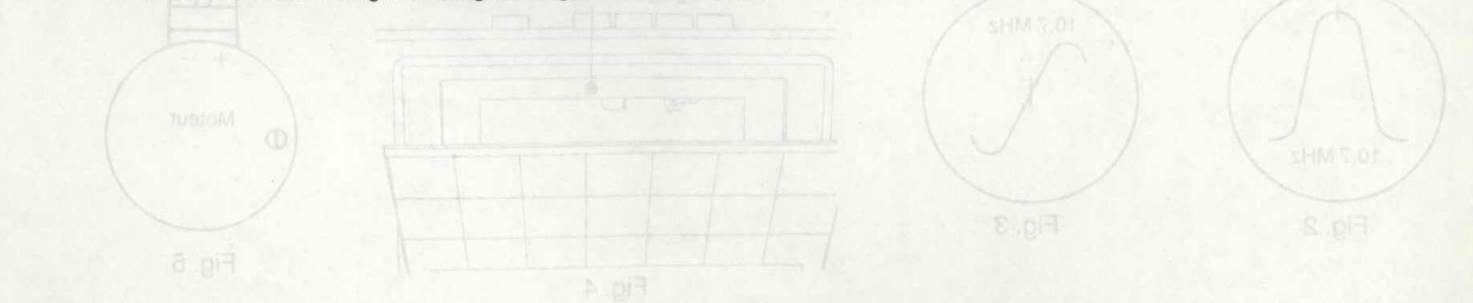
+ B Spannungsleitung

Wiedergabesignal

UKW-Signal

Aufnahmesignal

Wiedergabe- und Radiosignal



MESSUNGEN UND ABGLEICH

■ VORGANGSWEISE BEIM ABGLEICH

BITTE DIESEN ABSCHNITT VOR DEM ABGLEICH SORGFÄLTIG DURCHLESEN

1. Den Lautstärkeregler in die Maximalposition stellen.

2. Den Klangregler in die Höhenposition stellen.

3. Den Wellenbereichsschalter auf LW, MW, KW oder UKW stellen.

4. Den Balanceregler auf die Mittelposition stellen.

5. Den Funktionsschalter auf Radio stellen.

6. Den Feinabstimmregler auf die Mittelposition stellen.

7. Eine Gleichspannung von 9 V anlegen.

8. Der Ausgang des Signalgenerators darf nicht höher sein, als für eine Ausgangsanzeige erforderlich ist.

■ LW-, MW- und KW-ABGLEICH

WELLENBAND	SIGNALGENERATOR oder WOBELGENERATOR	STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (ELEKTRONIK-VOLTMETER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN
------------	-------------------------------------	-----------------------------	---	----------	-------------

MM-ZF-ABGLEICH

(1)	MW	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Empfängerschleife abstrahlen.	455 kHz (470 kHz ... nur [E]) 30% Modulation bei 400 Hz	Abstimmungspunkt, wo keine Interferenz auftritt (etwa bei 600 kHz)	Ausgangsmesser parallel zur Lautsprecherspule	T3 (MW-ZF-Transformator)	Auf maximalen Ausgang einstellen.
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LW-HF-ABGLEICH

(2)	LW	"	136 kHz	Abstimmkondensator voll geschlossen	"	L9 (LW-Oszillatorschaltung)	"
(3)	LW	"	297 kHz	Abstimmkondensator voll geöffnet	"	CT5 (LW-Oszillatortrimmer)	"
(4)	LW	"	145 kHz	Auf Signal abstimmen.	"	(*) L6 (LW-Antennenspule)	Auf maximalen Ausgang einstellen. L6 durch Verschieben der Spule am Ferritkern einstellen.
(5)	LW	"	285 kHz	"	"	CT3 (LW-Antennentrimmer)	Auf maximalen Ausgang einstellen. Schritte (2)~(5) wiederholen.

MW-HF-ABGLEICH

(6)	MW	"	511 kHz	Abstimmkondensator voll geschlossen	"	L10 (MW-Oszillatorschaltung)	Auf maximalen Ausgang einstellen.
(7)	MW	"	1650 kHz	Abstimmkondensator voll geöffnet	"	CT6 (MW-Oszillatortrimmer)	"
(8)	MW	"	550 kHz	Auf Signal abstimmen.	"	(*) L7 (MW-Antennenspule)	Auf maximalen Ausgang einstellen. L7 durch Verschieben der Spule am Ferritkern einstellen.
(9)	MW	"	1500 kHz	"	"	CT4 (MW-Antennentrimmer)	Auf maximalen Ausgang einstellen. Schritte (6)~(9) wiederholen.

(*) Nach beendetem Abgleich den Antennen-Spulenkörper mit Wachs befestigen.

KW-HF-ABGLEICH

(10)	KW	"	5,75 MHz	Abstimmkondensator voll geschlossen	"	L11 (KW-Oszillatorschaltung)	Auf maximalen Ausgang einstellen.
(11)	KW	Über einen Keramik-Kondensator (10 pF) an Meßpunkt ▼ anschließen. Die negative Seite an Meßpunkt ▼ anschließen.	18,8 MHz	Abstimmkondensator voll geöffnet	"	CT7 (KW-Oszillatortrimmer)	"
(12)	KW	"	5,9 MHz	Auf Signal abstimmen.	"	L8 (KW-Antennenspule)	Auf maximalen Ausgang einstellen. Schritte (10)~(12) wiederholen.

■ 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 µF 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	"	"	"	T2 (2. UKW-ZF-Transformator)	Auf maximale Amplitude einstellen. (Siehe Abb. 3.)

WELLENBAND	SIGNALGENERATOR oder WOBELGENERATOR		STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (ELEKTRONIK-VOLTMETER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN	
	ANSCHLÜSSE	FREQUENZ					
UKW-HF-ABGLEICH							
(3)	UKW		86,2 MHz (87,5 MHz ... nur [G])	Regelkondensator voll geschlossen.	Ausgangsmesser parallel zur Lautsprecherspule	L5 (UKW-Oszillatorschaltung)	(*) Auf maximalen Ausgang einstellen.
(4)	UKW	Durch eine UKW-Blindantenne an Meßpunkt ▼ anschließen. Die negative Seite an Meßpunkt ▼ anschließen.	109,2 MHz (108 MHz ... nur [G])	Regelkondensator voll geöffnet	"	CT2 (UKW-Oszillatortrimmer)	"
(5)	UKW		106 MHz	Auf Signal abstimmen.	"	CT1 (UKW-Antennentrimmer)	(*) Auf maximalen Ausgang einstellen. Schritte (3)~(5) wiederholen.
Vor dem UKW-HF-ABGLEICH CT2A auf die Mittelposition einstellen. (für BRD) (*) Drei Ausgangsfrequenzen sind vorhanden, die richtige Abstimmung ist die Mittelfrequenz.							

■ KANALTRENNUNGSABGLEICH

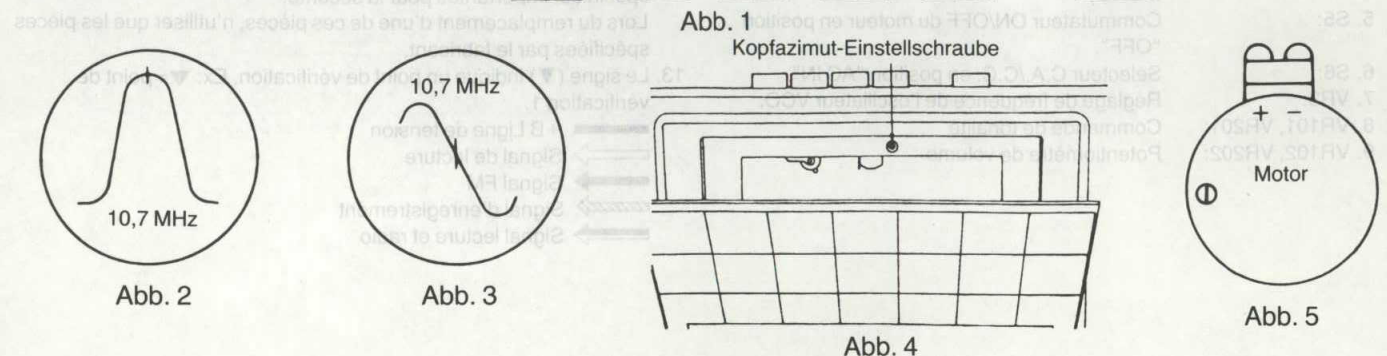
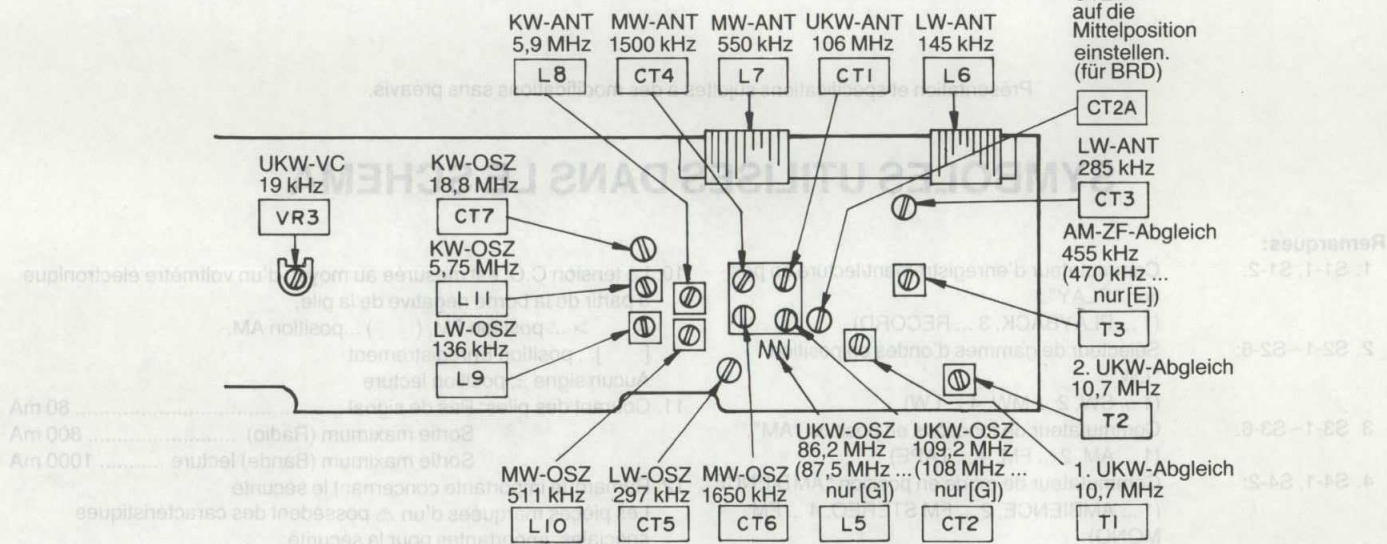
GEGENSTAND	SOURCE-ANSCHLUSS DES UKW-SIGNALGENERATORS	GERÄTEANSCHLUSS (ELEKTRONIK-ZÄHLER)	EINSTELLUNG	SPEZIFIKATION	BEMERKUNGEN
Einstellung des Pilotons	98 MHz, 60 dB Durch UKW-Blindantenne an Meßpunkt ▼ anschließen. Negative Seite an Meßpunkt ▼ anschließen.	▼...(+) / ▼...(-)	VR3	19 kHz	VR3 auf Anzeige auf dem Elektronik-Zähler von 19 kHz (±100 Hz) einstellen.

■ TONBAND-ABGLEICH

GEGENSTAND	EINGANG	MESSPUNKT	SPEZIFIKATION	EINSTELLUNGSPUNKT	BEMERKUNGEN
Azimet	OZZCFM (8 kHz, -20 dB)	Kopfhörerbuchse (32 Ω)	Maximaler Ausgang	Azimutschraube	Wiedergabe UKW-Empfangsartschalter → Stereo (Siehe Abb. 4)
Bandgeschwindigkeit	OZZCWAT (3 kHz)	"	3000±90 Hz	Motorpegel	Wiedergabe (Siehe Abb. 5)

■ ABGLEICHPUNKTE

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



RX-FM25L SUPPLEMENT

FRANCAIS

Alimentation: c.a. 220 V, 50 Hz
 c.a. 240 V, 50 Hz
Pile: 9 V (six piles sèches de dimension C)
(Panasonic UM-2 ou équivalent)
Consommation: 16 W (secteur uniquement)
Puissance de sortie: 7 W (2×3,5 W) MPO
7 W (2×3,5 W) RMS (max.)
Enceinte acoustique: Haut-parleur dynamique de 10 cm à aimant permanent (3 Ω)
Sortie: HEADPHONES: 32 Ω, Ø 3,5
Dimensions: 440(L)×134(H)×107(P) mm
Poids: 2,2 kg sans piles

Section radio:
Gamme de fréquence radio: FM: 87,5 à 108 MHz
GO: 150 à 285 kHz (2000 à 1060 m)
PO: 520 à 1610 kHz (577 à 186 m)
OC: 5,9 à 18 MHz (50,8 à 16,7 m)
Fréquence intermédiaire: FM: 10,7 MHz
AM: (GO/PO/OC): 455 kHz (470 kHz ... [E] uniquement)
Sensibilité: FM: 3,3 µV pour une sortie de 50 mW
(−3 dB sensibilité limite)
GO: 151 µV/m pour une sortie de 50 mW
PO: 63 µV/m pour une sortie de 50 mW
OC: 6,3 µV/pour une sortie de 50 mW

Section platine magnétophone:
Réponse de fréquence: 80 à 8000 Hz (bande normale)
Système d'enregistrement: Polarisation C.C., effacement magnétique
Vitesse de bande: 4,8 cm/s
Pistes: Enregistrement et lecture stéréo 4 pistes, 2 canaux

Free service manuals
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Présentation et spécifications sujettes à des modifications sans préavis.

SYMBOLES UTILISES DANS LE SCHEMA

- Remarques:
- S1-1, S1-2: Commutateur d'enregistrement/lecture en position "PLAY".
(1 ... PLAYBACK, 3 ... RECORD)
 - S2-1~S2-6: Sélecteur de gammes d'ondes en position "LW".
(1 ... SW, 2 ... MW, 4 ... LW)
 - S3-1~S3-6: Commutateur de fonctions en position "AM".
(1 ... AM, 2 ... FM, 4 ... TAPE)
 - S4-1, S4-2: Commutateur de mode en position "AMBIENCE".
(1 ... AMBIENCE, 2 ... FM STEREO, 4 ... FM MONO)
 - S5: Commutateur ON/OFF du moteur en position "OFF".
 - S6: Sélecteur C.A./C.C. en position "AC IN".
 - VR3: Réglage de fréquence de l'oscillateur VCO.
 - VR101, VR201: Commande de tonalité
 - VR102, VR202: Potentiomètre de volume
 - La tension C.C. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
< > ... position FM, () ... position AM, [] ... position Enregistrement
Aucun signe ... position lecture
 - Courant des piles: Pas de signal 80 mA
Sortie maximum (Radio) 800 mA
Sortie maximum (Bande) lecture 1000 mA
 - Remarque importante concernant le sécurité
Les pièces marquées d'un Δ possèdent des caractéristiques spéciales, importantes pour la sécurité.
Lors du remplacement d'une de ces pièces, n'utiliser que les pièces spécifiées par le fabricant.
 - Le signe (▼) indique un point de vérification. Ex: ▼=point de vérification 1.
+B Ligne de tension
→ Signal de lecture
→ Signal FM
▨ Signal d'enregistrement
→ Signal lecture et radio

MESURES ET REGLAGES

INSTRUCTIONS D'ALIGNEMENT

AVANT DE PROCEDER AUX ALIGNEMENTS, LIRE ATTENTIVEMENT CE QUI SUIV					
1. Régler le potentiomètre de volume au maximum. 2. Régler la commande de tonalité sur aigus. 3. Régler le sélecteur de gammes d'ondes sur GO, PO, OC ou FM. 4. Régler la commande de balance au centre. 5. Régler le sélecteur de fonctions sur "radio".			6. Régler la commande de syntonisation fine sur la position centrale. 7. Régler la tension d'alimentation sur 9 V C.C. 8. Régler la sortie du générateur étalonné de façon à ne pas surcharger les circuits.		

ALIGNEMENT GO, PO et OC

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)	PO	Faire une boucle de plusieurs tours de fil et émettre le signal dans la boucle du récepteur.	455 kHz (470 kHz ... [E] uniquement) modulation de 30% à 400 Hz	Point de non-interférence. (à environ 600 kHz)	Outputmètre branché à la bobine mobile.	T3 (AM IFT)	Régler pour une sortie maximum.
ALIGNEMENT HF sur GO							
(2)	GO	"	136 kHz	Condensateur d'accord entièrement fermé	"	L9 (bobine d'oscillateur GO)	"
(3)	GO	"	297 kHz	Condensateur d'accord entièrement ouvert	"	CT5 (trimmer d'oscillateur GO)	"
(4)	GO	"	145 kHz	Syntoniser sur le signal	"	(*1) L6 (bobine d'antenne GO)	Régler pour une sortie maxi- mum. Régler L6 en déplaçant la bobine le long du noyau en ferrite.
(5)	GO	"	285 kHz	"	"	CT3 (trimmer d'antenne GO)	Régler pour une sortie maximum. Refaire les étapes (2) à (5).
ALIGNEMENT HF sur PO							
(6)	PO	"	511 kHz	Condensateur d'accord entièrement fermé	"	L10 (bobine d'oscillateur PO)	Régler pour une sortie maxi- mum
(7)	PO	"	1650 kHz	Condensateur d'accord entièrement ouvert	"	CT6 (trimmer d'oscillateur PO)	"
(8)	PO	"	550 kHz	Syntoniser sur le signal	"	(*1) L7 (bobine d'antenne PO)	Régler pour une sortie maxi- mum. Régler L7 en déplaçant la bobine le long du noyau en ferrite.
(9)	PO	"	1500 kHz	"	"	CT4 (trimmer d'antenne PO)	Régler pour une sortie maximum. Refaire les étapes (6) à (9).
(*1) Après avoir achevé l'alignement, sceller la bobine d'antenne à la cire.							
ALIGNEMENT HF sur OC							
(10)	OC	Brancher au point ▼ par un condensateur en céramique (10 pF). Côté négatif au point ▼.	5,75 MHz	Condensateur d'accord entièrement fermé	"	L11 (bobine d'oscillateur OC)	Régler pour une sortie maximum.
(11)	OC		18,8 MHz	Condensateur d'accord entièrement ouvert	"	CT7 (trimmer d'oscillateur OC)	"
(12)	OC		5,9 MHz	Syntoniser sur le signal	"	L8 (bobine d'antenne OC)	Régler pour une sortie maximum. Refaire les étapes (10) à (12).

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	"	"	"	"	T2 (FM 2ème IFT) Régler pour une amplitude maximum. (Voir fig. 3.)

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		REGLAGE DU CADRAN RADIO	INDICATEUR (VOLTMETRE OU OSCILLOSCOPE ELECTRONIQUES)	REGLAGE	OBSERVATIONS
	BRANCHEMENT	FREQUENCE				
ALIGNEMENT HF sur FM						
FM	Brancher au point ▼ via une antenne fictive FM. Côté négatif au point ▼.	86,2 MHz (87,5 MHz ... [G] uniquement)	Condensateur variable entièrement fermé.	Outputmètre branché à la bobine mobile.	L5 (bobine d'oscillateur FM)	(*2) Régler pour une sortie maximum.
FM		109,2 MHz (108 MHz ... [G] uniquement)	Condensateur variable entièrement ouvert.	"	CT2 (trimmer d'oscillateur FM)	"
FM		106 MHz	Syntoniser sur le signal.	"	CT1 (trimmer d'antenne FM)	(*2) Régler pour une sortie maximum. Refaire les étapes (3) à (5).
Avant de procéder à l'ALIGNEMENT HF sur FM, régler CT2A au centre. (Pour Allemagne de l'Ouest) (*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	98 MHz, 60 dB Brancher au point ▼ via une antenne fictive FM. Côté négatif au point ▼.	▼ ... (+) ▼ ... (-)	VR3	19 kHz	Régler VR3 pour 19 kHz (±100 Hz) en effectuant la lecture sur le compteur électronique.

REGLAGE DE LA BANDE

ELEMENT	ENTREE	POINT DE MESURE	SPECIFICATION	POINT DE REGLAGE	OBSERVATIONS
Azimet	QZZCFM (8 kHz, −20 dB)	Casque Jack (32 Ω)	Sortie maximum	Vis d'azimet	Mode de lecture Commutateur de mode FM → Stéréo (Voir fig. 4.)
Vitesse de bande	QZZCWAT (3 kHz)	"	3000±90 Hz	Moteur Volume	Mode de lecture (Voir fig. 5.)

POINTS D'ALIGNEMENT

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

