



# Technical Manual

## REMOTE CONTROL CENTER RR-700/RMR-90

### REMOTE CONTROL TRANSMITTER RRT-1

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Serial Nos. Beginning  
NE19661

**THE ROTEL CO., LTD.**  
**ROTEL ELECTRONICS CO., LTD.**  
**ROTEL OF AMERICA, INC.**  
**ROTEL HI FI LIMITED.**

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24 ERICA ROAD, STACEY BUSHES, MILTON KEYNES,  
BUCKINGHAMSHIRE, ENGLAND

## ERRATA

### A. Parts List (page 3)

1. X301 Ceramic Resonator  
Part No. 228641213 should read **224110008**.
2. Socket, AC Outlet,  
for Europe  
Part No. 648211316 should read **648211311**.  
for UK  
Part No. 648211311 should read **648211316**.
3. Polyethylene Bag for RR-700  
Part No. 855004255 should read **855004260**.

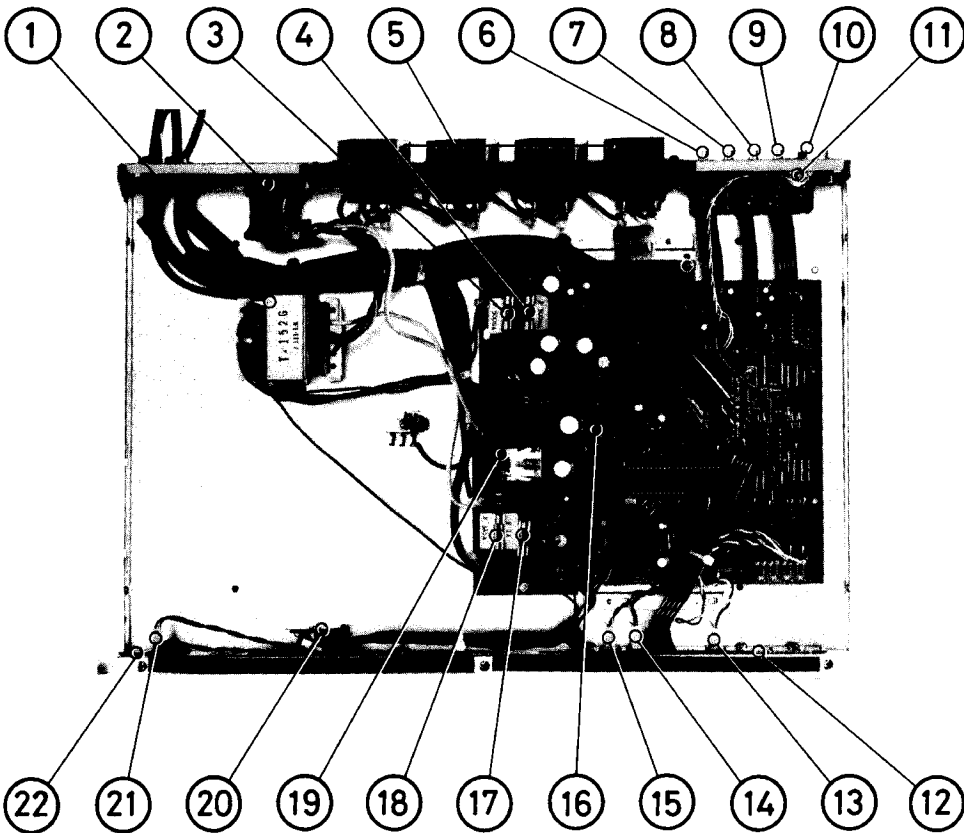
### B. Schematic Diagram and P-c Board Diagrams

1. AUX should read **PHONO**.
2. R305, 10K, which is connected to p-c board pin 9  
should read **R306, 10K**.
3. C001, 0.047 should read **C001, 0.022 (220/240V) or  
NSK-135 (120V)** (applicable to Schematic Diagram  
only).

# Chassis Layout (Top View)

## Installation du châssis (vue de dessus)

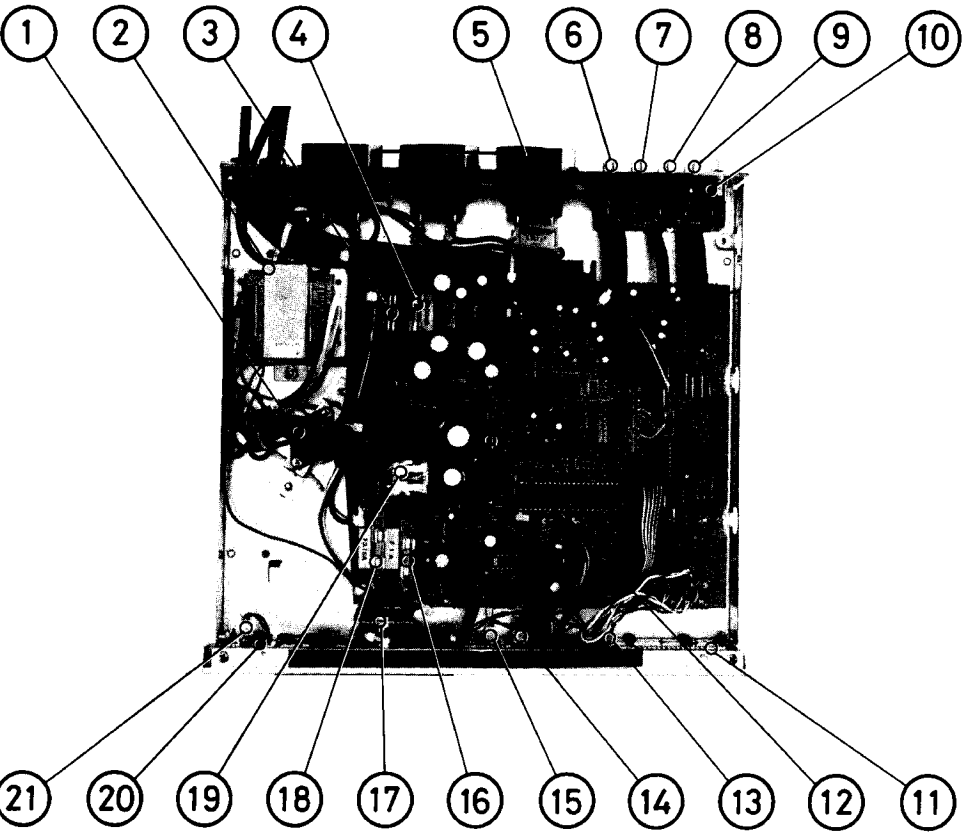
RR-700



1. POWER TRANSFORMER
2. VOLTAGE SELECTOR
3. F302, SECONDARY FUSE
4. F303, SECONDARY FUSE
5. AC OUTLETS
6. OUTPUT JACK
7. TAPE OUT JACK
8. TAPE IN JACK
9. TUNER JACK
10. INPUT JACK
11. TUNER/RECEIVER SWITCH
12. FUNCTION SWITCH PCB
13. MUTING INDICATOR
14. TUNER INDICATOR
15. TAPE INDICATOR
16. RY302, TURNTABLE RELAY
17. F304, SECONDARY FUSE
18. F301, PRIMARY FUSE
19. RY301, POWER RELAY
20. TARGET EYE PCB
21. POWER INDICATOR
22. POWER SWITCH PCB

Photo: European specification

RMR-90



1. VOLTAGE SELECTOR
2. POWER TRANSFORMER
3. F302, SECONDARY FUSE
4. F303, SECONDARY FUSE
5. AC OUTLETS
6. OUTPUT JACK
7. TAPE OUT JACK
8. TAPE IN JACK
9. TUNER JACK
10. INPUT JACK
11. FUNCTION SWITCH PCB
12. RY302, TURNTABLE RELAY
13. MUTING INDICATOR
14. TUNER INDICATOR
15. TAPE INDICATOR
16. F304, SECONDARY FUSE
17. TARGET EYE PCB
18. F301, PRIMARY FUSE
19. RY301, POWER RELAY
20. POWER SWITCH PCB
21. POWER INDICATOR

Photo: European specification

**Note:** Marking on transformer and installation manner of the transformer may differ from the photo above.

## Remote Control Center RR-700/RMR-90

Schematic Location	Description	Part No.	
<b>TRANSISTORS, DIODES AND IC'S</b>			
Q101	2SC1571 (G or H)	301201237	
Q301 to 305, 307 to 309, 311 to 315, 319 to 322, 323*1	2SC536NP (F or G), or 2SC1815 (GR), or 2SC828 (R or S)	301201234	
Q306, 316, 317 318,		2SA608 (F or G)	301001185
Q310		2SC2274 (E or F)	301201231
D101		NJ1643A, Photo	300717001
D102, 303, 304, 305 to 308, 310 to 330, 341		MA-150 (Si),	300111016
D301, 302	1K188, (Ge)	300111008	
D309	WZ-150, Zener, 15V, 0.5W	300313027	
D331 to 334	SR1K-4, or DS135D, Rectifier	300919024 300919051	
D335	KBP-02, Rectifier	300919027	
D336, 339, 340	GL-9PR24, LED, (RED)	300414048	
D337, 338	GL-9NG24, LED' (GRN)	300414047	
IC301	HA1197, Control Signal Amp	303452234	
IC302, 303	HD14066BP, Switching	303452270	
IC304	NJM4558DD, Audio Amp	303452152	
IC305	HA12022, Volume Control	303452286	
IC306	$\mu$ PC78L05, Regulator	303452271	
IC307	TC9134P, Controller	303452272	
IC308	TC9135P, Function Control	303452258	
IC309	HD14027BP, Tape	303452269	
<b>OTHERS</b>			
L301	Coil, 38kHz Tune	228641213	
T001	Power Transformer (G-type) T-152G, for RR-700 T-155G, for RMR-90	207001535 207001537	
	Power Transformer (D-type) CSA Spec Only T-152D, for RR-700 T-155D, for RMR-90	204001535 204001537	
RY301	Relay, Power, MS24D2-0(M)	240111226	
RY302	Relay, Turntable, L-14	240111253	
F301	Fuse, 7A, for 120V Area Fuse, F3.15A, for 220/240V Area	341222700 345252315	
F302, 303	Fuse, 0.5A, for 120V Area Fuse, F500mA, for 220/240V Area	341222050 345252050	
F304	Fuse, 1A, for 120V Area Fuse, F1A, for 220/240V Area	341222100 345252100	
X301	Ceramic Resonator, 455kHz	228641213	
S1 to 7	Key Board Switch, UP, DOWN, etc.	615212297	
S8*1	Slide Switch, Tuner/Receiver	613000043	
C001	Noise Canceller, NSK-135, for 120V Area PME256MB522, for 220/240V Area	470101118 470101136	
	Main Circuit Ass'y for RR-700 120V Spec 220V/240V Spec	141010216 141010217	
	Main Circuit Ass'y for RMR-90 120V Spec 220V/240V Spec	141010221 141010222	

Schematic Location	Description	Part No.
	Fuse Clip, $\phi$ 6.3	648211257
	Fuse Clip, $\phi$ 5.2	648211256
	LED Socket, w/Wire (BRN), L=150	648211274
	LED Socket w/Wire (RED), L=150	648211275
	LED Socket w/Wire (ORG), L=150	648211276
	LED Socket w/Wire (YLW), L=150	648211277
	LED Socket w/Wire (GRN), L=300*1	648211296
	LED Socket w/Wire (GRN), L=200*2	648211287
	Pin Jack Board, 4P	624304204
	Pin Jack Board, 2P	624303202
	Voltage Selector*3	648211247
	Socket, AC Outlet, for U.S.A. Canada etc.	648211255
	for Europe	648211316
	for UK	648211311
	Cord Stopper, Control Cord Mtg	675201116
	Power Cord Mtg	675201114
	Power Cord Mtg, UK only	675201115
	Cord Ass'y w/DIN 10P Plug*1	791001157
	Cord Ass'y w/DIN 8P Plug	791001158
	Cord Ass'y w/DIN 3P Plug	791001167
	Signal Cord Ass'y	791001112
	Power Supply Cord, for U.S.A. etc.	796301115
	for Europe, etc.	796301148
	for UK, wo/Plug	796301130
	Insulation Cover*4 Noise Canceller	792011220
	Insulation Cover*3, Voltage Selector	792011218
	Optical Filter	114902393
	Front Panel Ass'y, for RR-700	111911583
	Front Panel Ass'y, for RMR-90	111911588
	Bonnet, for RR-700	138011327
	Bonnet, for RMR-90	138011331
	Button, UP, DOWN	116210107
	Button, Function	116210110
	Foot	673402027
	Collar, Rubber, $\phi$ 7 x $\phi$ 10 x H8	770302120
	Fiber Board w/Al Foil	991001179
	Rubber Sheet, for RR-700	990201353
	Rubber Sheet, for RMR-90	990201233
	Songe, 180 x 8 x 1, Front Panel	990201337
	Felt, 220 x 6 x 1, Rear Panel	990201148
	Sponge, $\phi$ 4.5 x $\phi$ 14 x t3	990201343
	Sponge, 20 x 6 x 12, for RR-700	990201350
	Sponge, 20 x 6 x 8, for RMR-90	990201349
	Polyethylene Bag, for RR-700	855004255
	for RMR-90	855004050
	for Owner's Manual	855002332
	Owner's Manual, RR-700	833201417
	Owner's Manual, RMR-90	833201421
	Packing Case, RR-700	812001454
	Packing Case, RMR-90	812001457

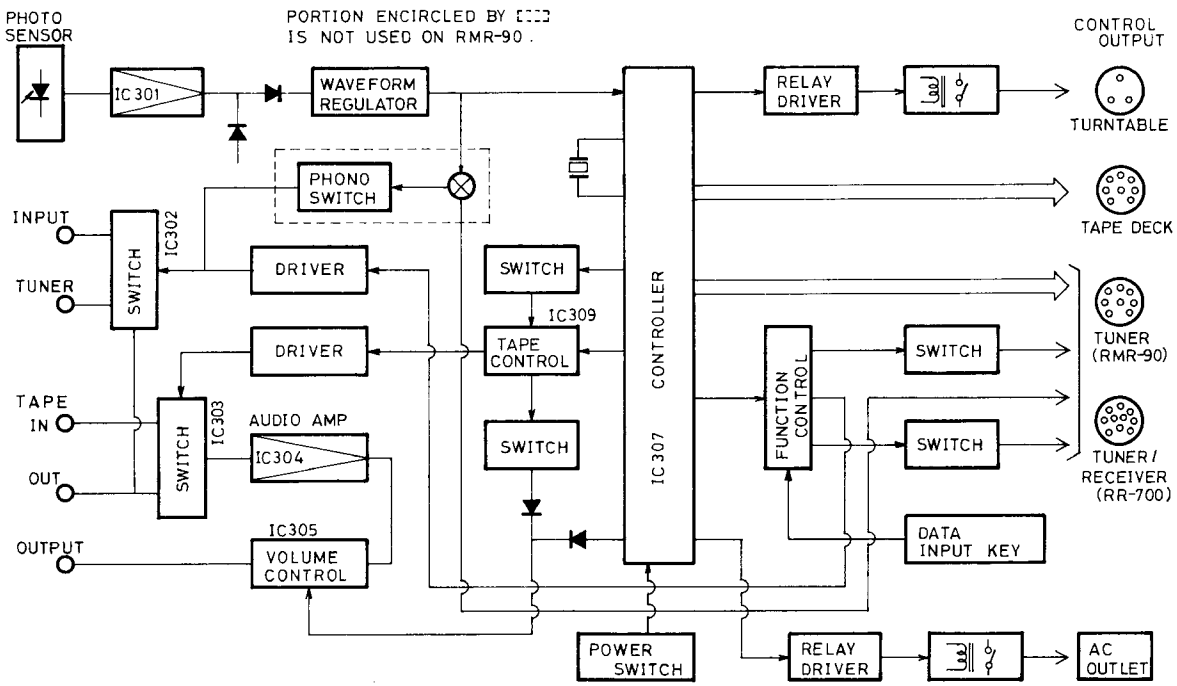
Schematic Location	Description	Part No.
	Stylofoam Moulding, RR-700	815001285
	Stylofoam Moulding, RMR-90	815001286
	Screw, M2 x 4 (BLZ), Bind	705222004
	Screw, M3 x 6 (Ni), Bind	705213006
	Screw, M3 x 8 (BLZ), Bind	705223008
	Screw, M4 x 8 (BLZ) w/FW, Bind*1	755224008
	Screw, M3 x 6 (Ni), countersunk	701213006
	Screw, TP3 x 8 (Ni)	726213008
	Screw, TP3 x 8 (BLZ)	726223008
	Screw, TP3 x 10 (BLZ)	726223010
	Screw, TP3 x 6 (Ni), Oval-countersunk	722213006
	Screw, TP3 x 8 (Ni), Oval-countersunk	722213008
	Screw, Tap-tight, 2.6 x 6 (BLK), Bind*2	765222606
	Screw, Tap-tight, 3 x 8 (Ni), Bind	765213008
	Screw, M3 x 5.5 (BLZ), Flat	770911166
	Insertion, M3, L=12	770911268
	GND Screw	770911282
	Nut, M3, Hexagonal	770402201
	Washer, Flat, M3	770500003
	Washer, Spring, M3	770500010

**Notes:**  
\*1 Not used on model RMR-90.  
\*2 Not used on model RR-700.  
\*3 Not used for CSA version.  
\*4 Not used on 120 V units.

### Remote Control Transmitter RRT-1

Schematic Location	Description	Part No.
<b>TRANSISTORS, DIODES AND IC</b>		
Q101, 102	2SAG08NP (F or G),	301001185
Q103	2SC2274 (E or F),	301201231
D101	LN221RP, LED (RED)	300414050
D102, 103	MA150, (Si),	300111016
D104, 105	NJL1102L, LED (INFRARED)	300414049
IC101	TC9132P, Remote Control Sender	303452273
<b>OTHERS</b>		
X101	Ceramic Resonator, 455kHz	224110008
S101 to 121	Key Board Switch	615212297
	Transmitter P-c Board Ass'y	141811225
	Mould Case w/Optical Filter	114902394
	Panel Ass'y	111911599
	Button, Key Switch	116210108
	Contact Plate, Battery	648211317
	Sponge, 30 x 30 x 3	990201356
	Rubber	990201357
	Polyethylene Bag	855001030
	Screw, TP 3 x 6	726213006

## Block Diagram Schéma synoptique



BLOCK DIAGRAM MODEL RR-700 / RMR-90

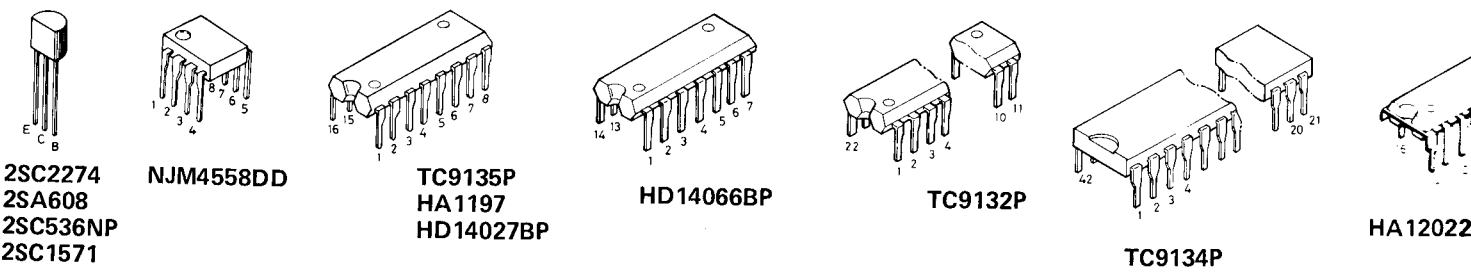
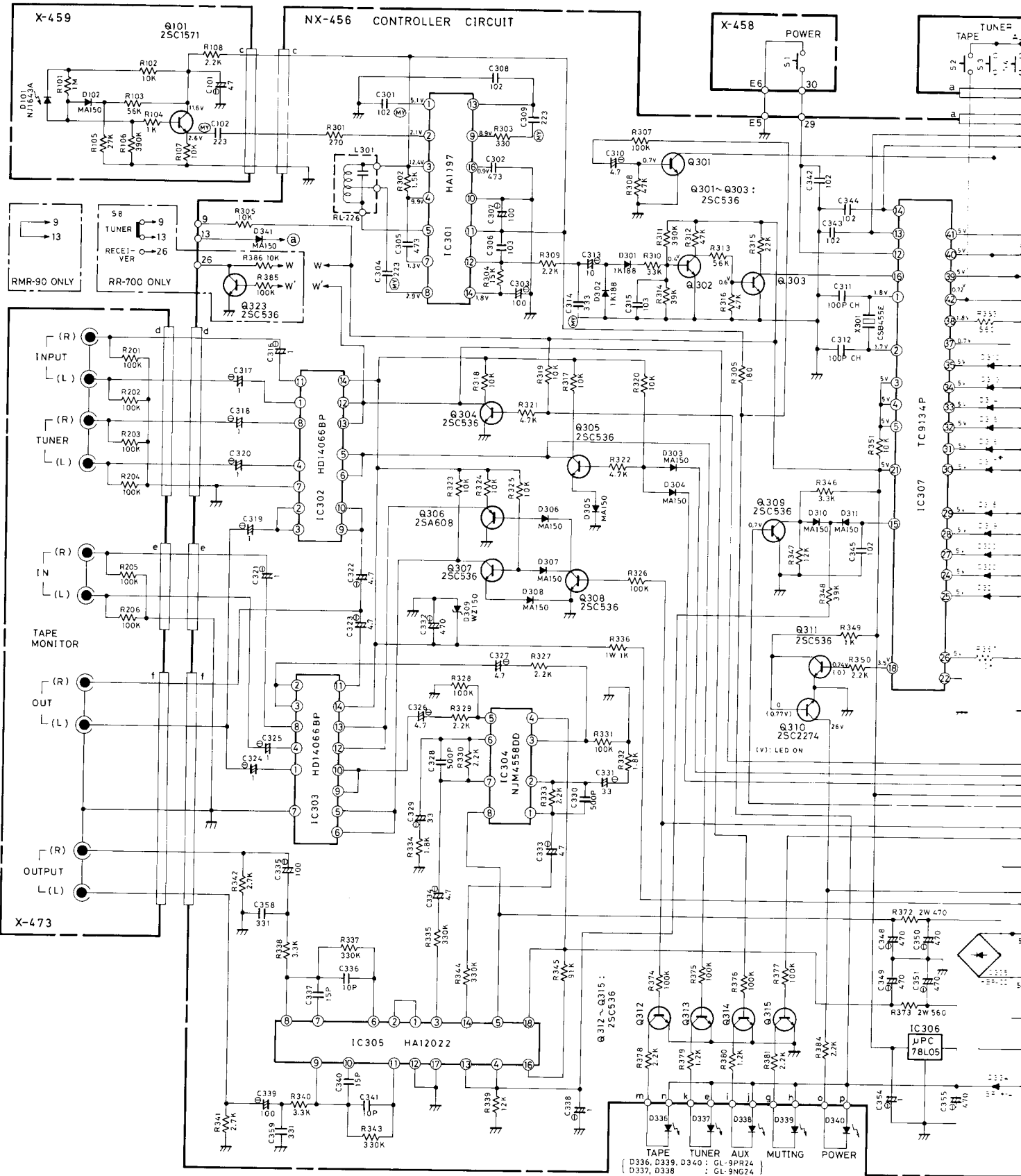
### Addendum

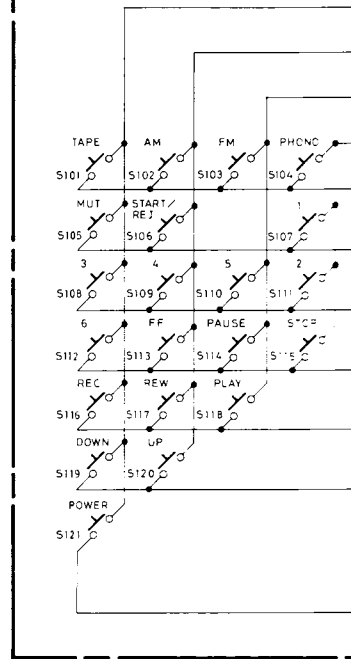
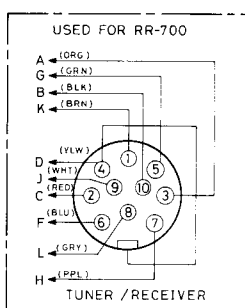
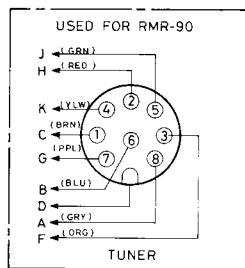
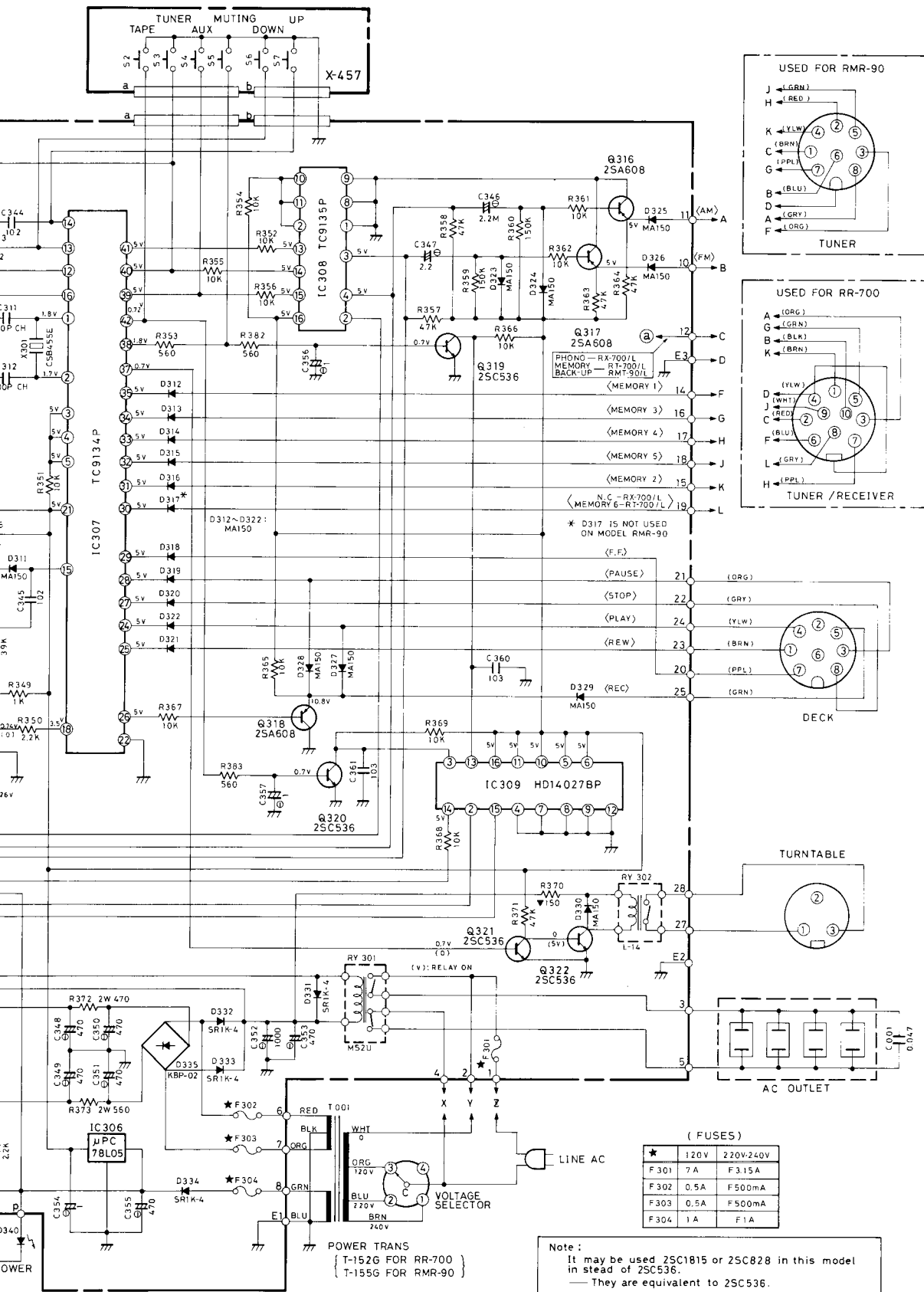
1. A ceramic capacitor, 0.1 mfd, 50 V is additionally installed between pin 21 of IC307 (TC-9134) and grounding.  
Reason: To prevent malfunction of IC307, possibly resulting from spark induction when the relay is turned on or off.

# Schematic Diagram

# Diagramme schématique

# MAIN UNIT RR-700/RMR-90 UNITE PRINCIPALE RR-700/RMR-90





( FUSES )

★	120V	220V-240V
F 301	7 A	F 3.15 A
F 302	0.5 A	F 500 mA
F 303	0.5 A	F 500 mA
F 304	1 A	F 1 A

Note:  
It may be used 2SC1815 or 2SC828 in this model in stead of 2SC536.  
— They are equivalent to 2SC536.

MODEL RR-700 / RMR 90

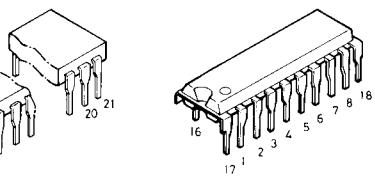
**RESISTORS**

Unless otherwise specified, resistors are 1/4 watts, low noise type carbon film type with a tolerance of 5%.  
K . . . . . Kilohm  
M . . . . . Megohm  
▼ . . . . . Uninflamable carbon film resistor, 1/2 watts

**CAPACITORS**

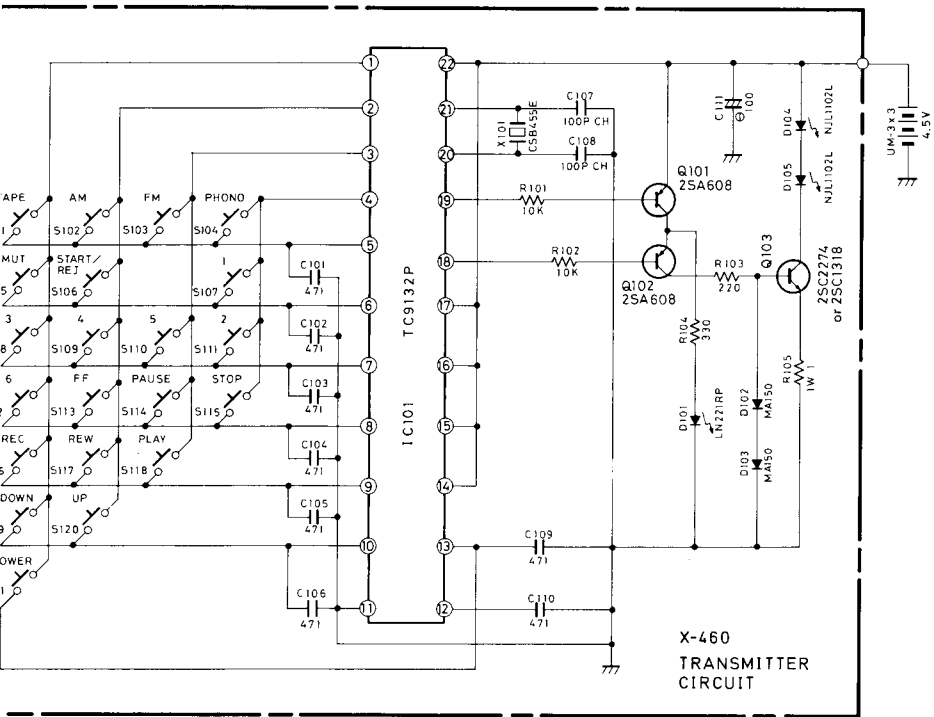
Unless otherwise specified, all capacitance values are expressed in mfd.  
MY . . . . . Mylar film capacitor  
T . . . . . Tantalum capacitor  
E . . . . . Electrolytic capacitor  
Non mark . . . . . Ceramic capacitor

- Voltage read with VTVM across the point shown and the chassis ground (line voltage: 120V)
- Voltage reading tolerance: ±20%



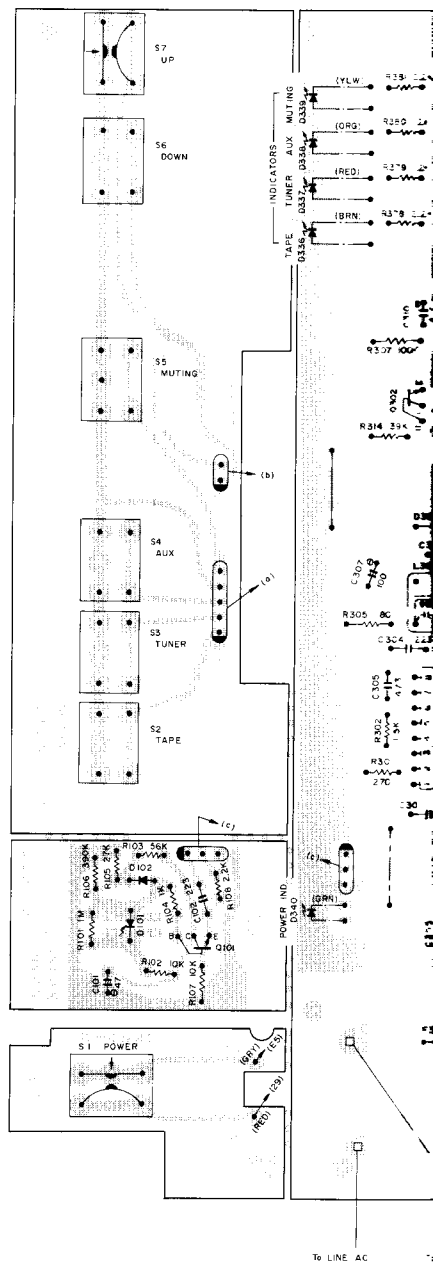
HA12022

**SMITTER UNIT RRT-1  
E EMETTEUR RRT-1**



**CONTROL CENTER CIRCUIT RR-700  
CIRCUIT DU UNITE PRINCIPALE RR-700**

Schematic Diagram  
RRT-1  
1981, 6, 18 TERAYAMA



GUIDE OF REMOTE CONTROL TERMINALS					
	PIN No.	FUNCTIONS		COLOR OF WIRE	
		RR-700	RMR-90	RR-700	RMR-90
TUNER/RECEIVER	10	FM		BLK	BLU
	11	AM		ORG	GRY
	12	PHONO/MEMORY BACK-UP	MEMORY BACK-UP	RED	BRN
	14	MEMORY 1		BLU	ORG
	15	MEMORY 2		BRN	YLW
	16	MEMORY 3		GRN	PPL
TAPE DECK	17	MEMORY 4		PPL	RED
	18	MEMORY 5		WHT	GRN
	19	MEMORY 6 (RT-700/-L ONLY)	NOT USED	GRY	—
	20	F.F		PPL	
	21	PAUSE		ORG	
TURN-TABLE	22	STOP		GRY	
	23	REW		BRN	
	24	PLAY		YLW	
	25	REC		GRN	
TURN-TABLE	27	START/REJECT		ORG	
	28			BRN	

Note: Pin 12 on RR-700:  
When switch S8 on the rear panel is set to "RECEIVER": PHONO  
When switch S8 is set to "TUNER": MEMORY BACK-UP

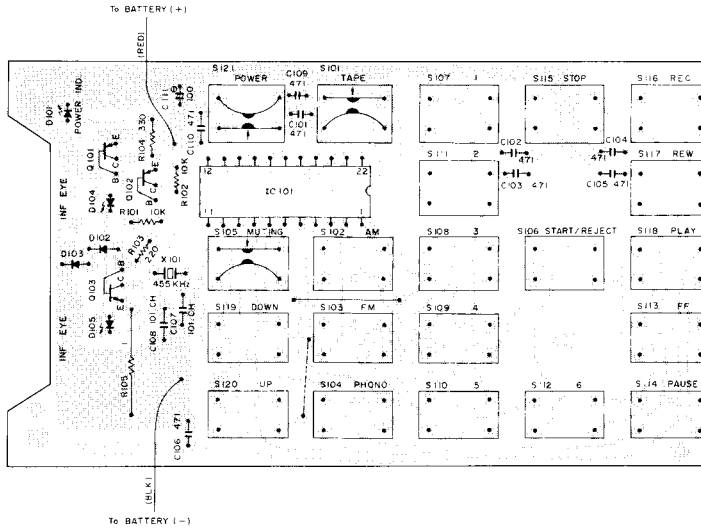
capacitance values are

itor  
tor  
citor  
or

ross the point shown and  
ge: 120V)  
20%



# REMOTE CONTROL TRANSMITTER CIRCUIT RRT-1 CIRCUIT DU UNITE EMETTEUR RRT-1



# CONTROL CENTER CIRCUIT RR-700/RMR-90 CIRCUIT DU UNITE PRINCIPALE RR-700/RMR-90

- Notes:
- \*1 and   are used on model RR-700 only.
  - For RR-700, \*2 is connected to TUNER/RECEIVER SWITCH. For RMR-90, pin 9 is short-circuited to pin 13.

