

JVC

SERVICE MANUAL

CD PORTABLE SYSTEM

RC-EZ31A



COMPACT
disc
DIGITAL AUDIO

Area Suffix	
US	----- Asia
UX	----- Middle East
A	----- Australia

SERVICE POLICY

No service part is available for this model.
Based on One to One exchange policy.

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Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorised in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, the Parts List of Service manual. Electrical components having such features are identified by the shading on the schematics and by (!) on the parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubing's, barriers and the like to be separated from live parts, high temperatures parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical Shock hazard testing)
After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
Do not use a line isolation transformer during this check.

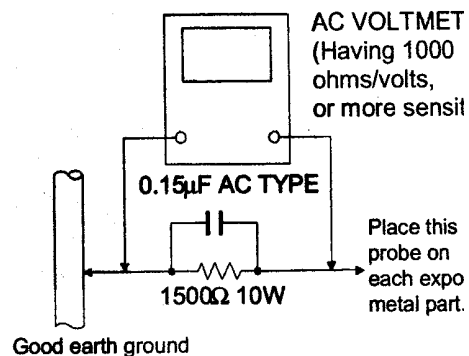
Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)

Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 ohm 10W resistor paralleled by a 0.15uF AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Voltage measured Any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If a mains voltage selector is provided, check setting for local voltage.

CAUTION Burrs formed during moulding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of performing repair of this system.

Preventing static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.1. Grounding to prevent damage by static electricity

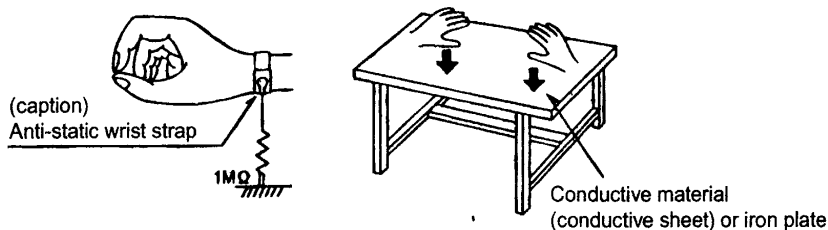
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players. Be careful to use proper grounding in the area where repairs are being performed.

1.1.1. Ground the workbench

1. Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

1.1.2. Ground yourself

1. Use an anti-static wrist strap to release static electricity built up in your body.



1.1.3. Handling the optical pickup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
2. Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

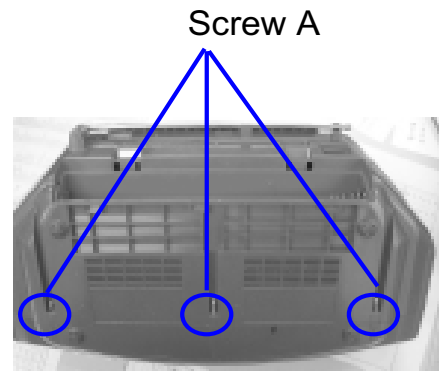
1.2. Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
2. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
3. Handle the flexible cable carefully as it may break when subjected to strong force.
4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not return it.

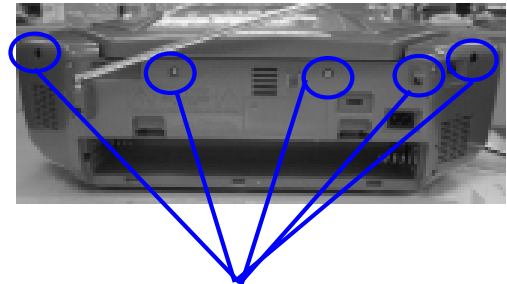
■ Disassembly Procedure

■ Remove the back cabinet

1. Open battery cover and remove 3 screws on the bottom cabinet. (Screw A)

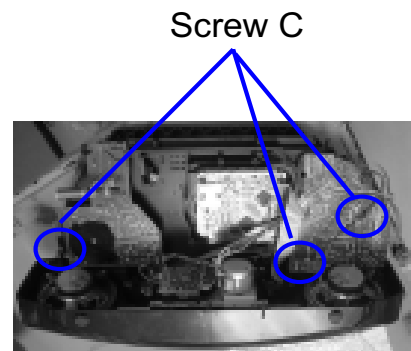


2. Remove 5 screws on back (Screw B)

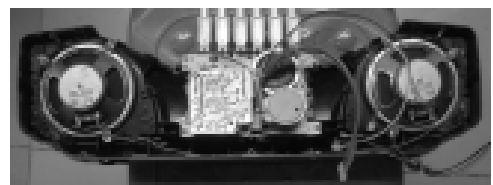
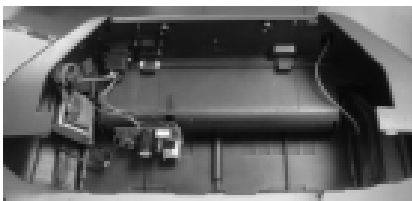
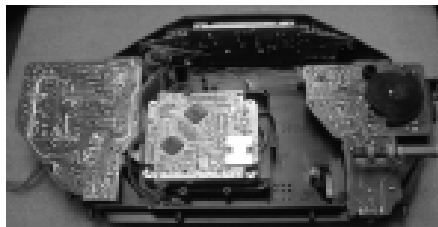


■ Remove the top panel

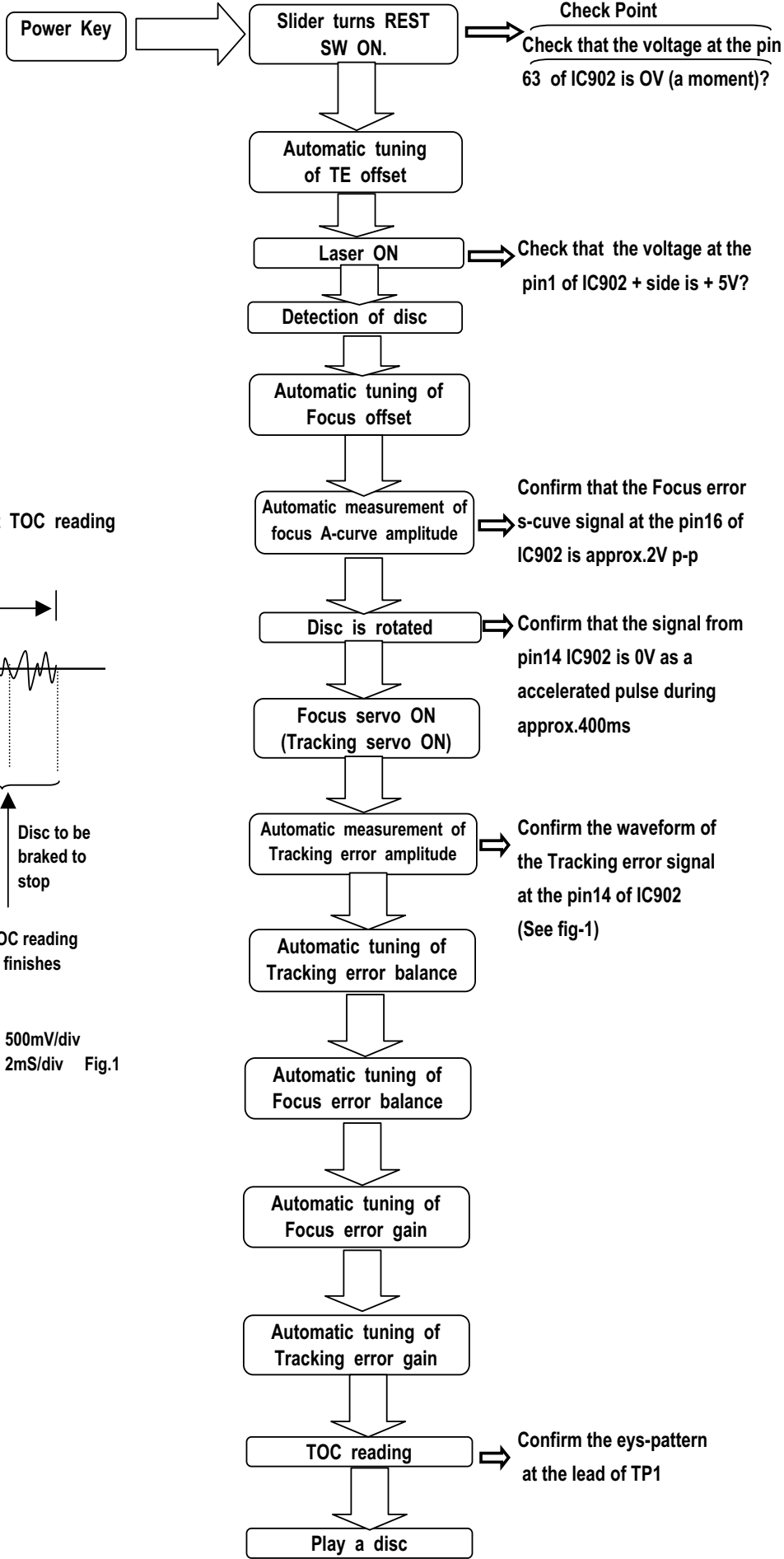
1. Remove 3 screws to take out the top panel with the board. (Screw C)



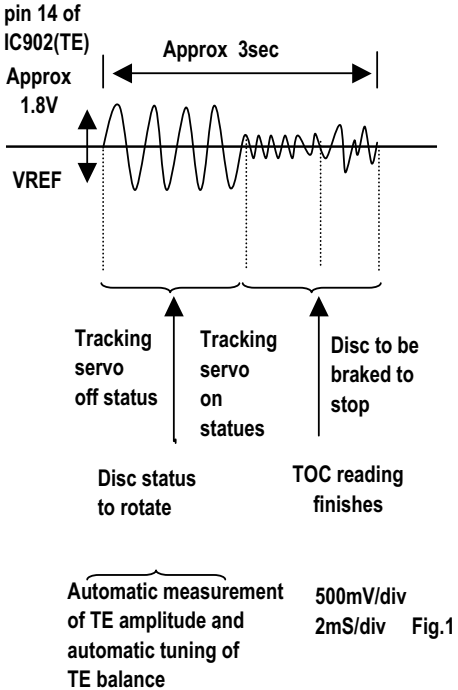
■ Then the unit is disassembled



Flow of functional operation until TOC read



Tracking error waveform at TOC reading



■ Voltage Charts

IC No.	IC902 LC78601RE CD PLAY																			
pin NO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage(v)	0.10	2.47	1.71	0.02	1.52	4.95	2.22	0.02	2.50	2.26	0.02	2.67	0.05	0.05	11.31	0.02	4.94	2.51	2.51	0.02
pin NO:	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage(v)	4.93	4.95	4.91	0.02	0.02	0.02	0.02	2.92	2.47	2.48	2.48	2.48	2.48	2.48	2.48	4.12	4.12	4.12	0.02	4.95
pin NO:	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Voltage(v)	4.93	4.93	4.93	4.93	0.10	0.07	4.91	4.94	4.95	0.02	4.94	4.32	4.93	1.98	3.96	0.00	1.98	0.02	0.02	2.12
pin NO:	61	62	63	64																
Voltage(v)	2.19	4.95	4.95	4.85																

IC No.	IC901 LA9242M CD PLAY																			
pin NO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage(v)	2.56	2.56	2.54	2.54	2.49	2.52	2.52	2.52	2.53	2.52	2.52	2.53	2.45	2.53	2.60	2.56	2.53	2.51	2.53	2.52
pin NO:	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage(v)	2.52	0.02	2.48	2.48	2.48	2.53	2.77	2.52	2.54	2.20	2.18	2.51	2.51	4.49	0.02	1.40	0.07	4.93	2.36	2.67
pin NO:	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Voltage(v)	2.33	2.45	2.27	2.50	0.02	2.52	2.53	0.00	0.08	2.47	4.91	4.94	0.02	4.85	0.02	4.94	2.52	2.53	2.39	2.41
pin NO:	61	62	63	64																
Voltage(v)	2.23	3.79	0.22	4.94																

IC No.	IC902 MM1469 CD PLAY																			
Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DC12V	3.55	3.13	2.15	2.15	6.60	5.18	2.18	0.10	2.19	2.19	3.65	3.15	0.10	6.85	0.90	0.90	3.50	3.30	2.20	2.20
Item	21	22	23	24	25	26	27	28												
DC12V	7.34	7.34	2.20	2.20	2.20	3.40	3.40	0.10												

IC No.	IC101 SA2111 TUNER FM																			
pin NO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage(v)	0.85	0.00	0.31	5.44	0.51	5.63	5.10	5.63	0.00	0.00	0.67	4.86	1.08	1.08	5.63	4.68	0.70	1.62	0.55	5.63
pin NO:	21	22	23	24																
Voltage(v)	5.63	5.63	5.63	5.63																
IC No.	IC101 SA2111 TUNER AM																			
pin NO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage(v)	0.00	0.00	1.04	5.61	0.12	5.64	4.98	5.64	0.00	0.61	0.64	5.07	1.08	1.08	5.64	5.64	0.70	1.13	1.03	5.64
pin NO:	21	22	23	24																
Voltage(v)	5.67	5.64	5.64	5.64																

IC No.	IC501 TC-4052 TUNER																			
pin NO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage(v)	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	5.85				
IC No.	IC501 TC-4052 CASS PLAY																			
pin NO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage(v)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.98	0.00	0.00	0.00	0.00	0.00	0.00	5.82				
IC No.	IC501 TC-4052 CD PLAY																			
pin NO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage(v)	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	3.95	0.20	0.00	0.00	0.00	0.00	5.66				

IC No.	IC301 UTC8227 TUNER																	
pin NO:	1	2	3	4	5	6	7	8	9	10	11	12						
Votage(v)	12.00	3.56	11.90	0.00	0.57	0.00	0.00	0.57	3.95	12.22	3.64	13.30						
IC No.	IC301 UTC8227 CASS PLAY																	
pin NO:	1	2	3	4	5	6	7	8	9	10	11	12						
Votage(v)	12.00	4.00	11.80	0.00	0.57	0.00	0.00	0.57	4.30	10.00	4.00	13.30						
IC No.	IC301 UTC8227 CD PLAY																	
pin NO:	1	2	3	4	5	6	7	8	9	10	11	12						
Votage(v)	11.10	3.50	10.60	0.00	0.54	0.00	0.00	0.57	3.82	10.68	3.377	11.60						

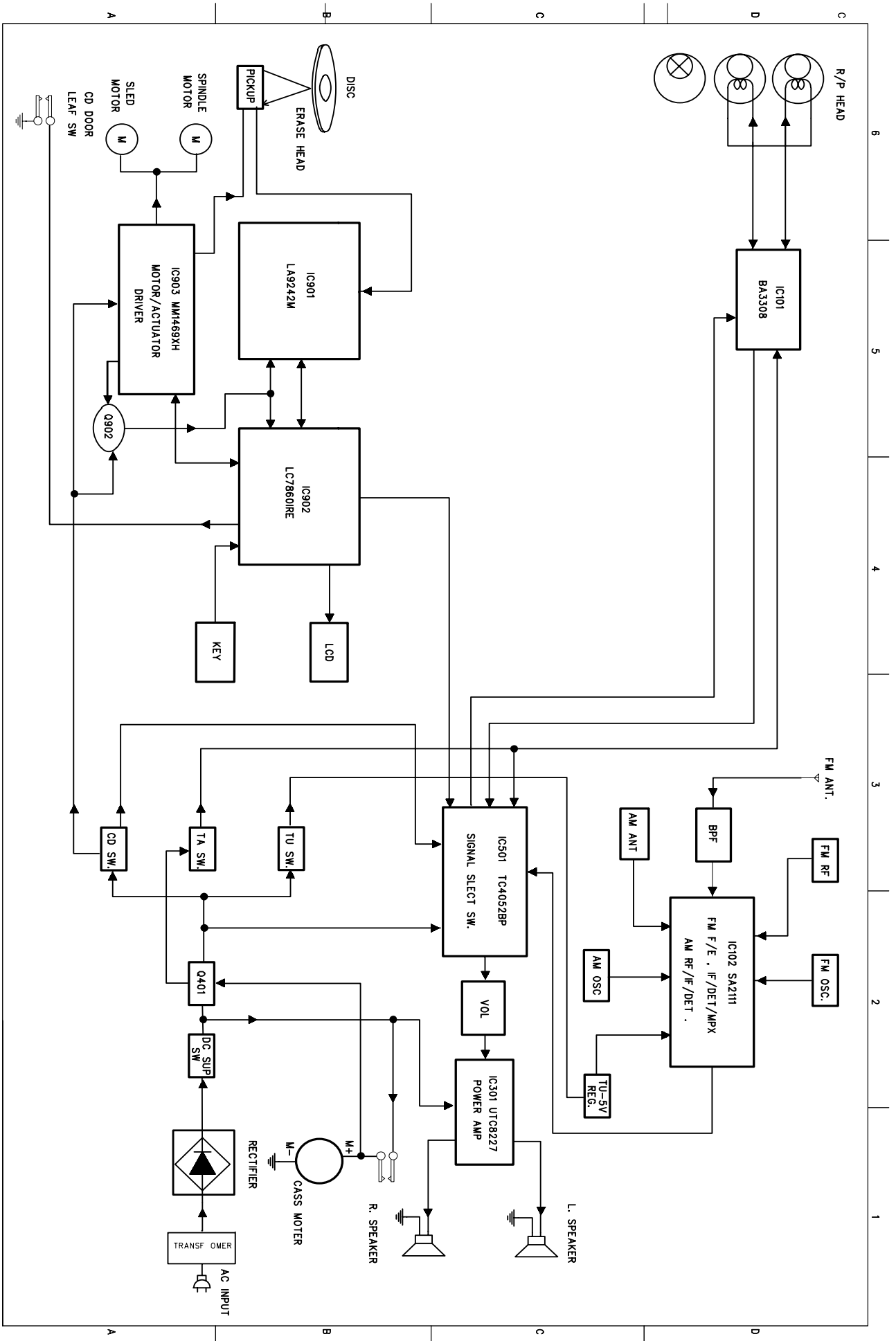
IC No.	IC201 BA3308 CASS PLAY																	
pin NO:	1	2	3	4	5	6	7	8	9									
Votage(v)	1.77	0.00	1.78	0.00	0.00	8.09	1.78	0.00	1.78									

Transistor No.	Q401 D2061 CD PLAY			Q391 9015 CD PLAY			Q392 9014 CD PLAY			Q329 9014 CDPLAY			Q369 9014 CD PLAY			Q301 1936 CD PLAY		
Item	E	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E	B	C
Votage(v)	8.50	9.11	11.96	0.00	0.70	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

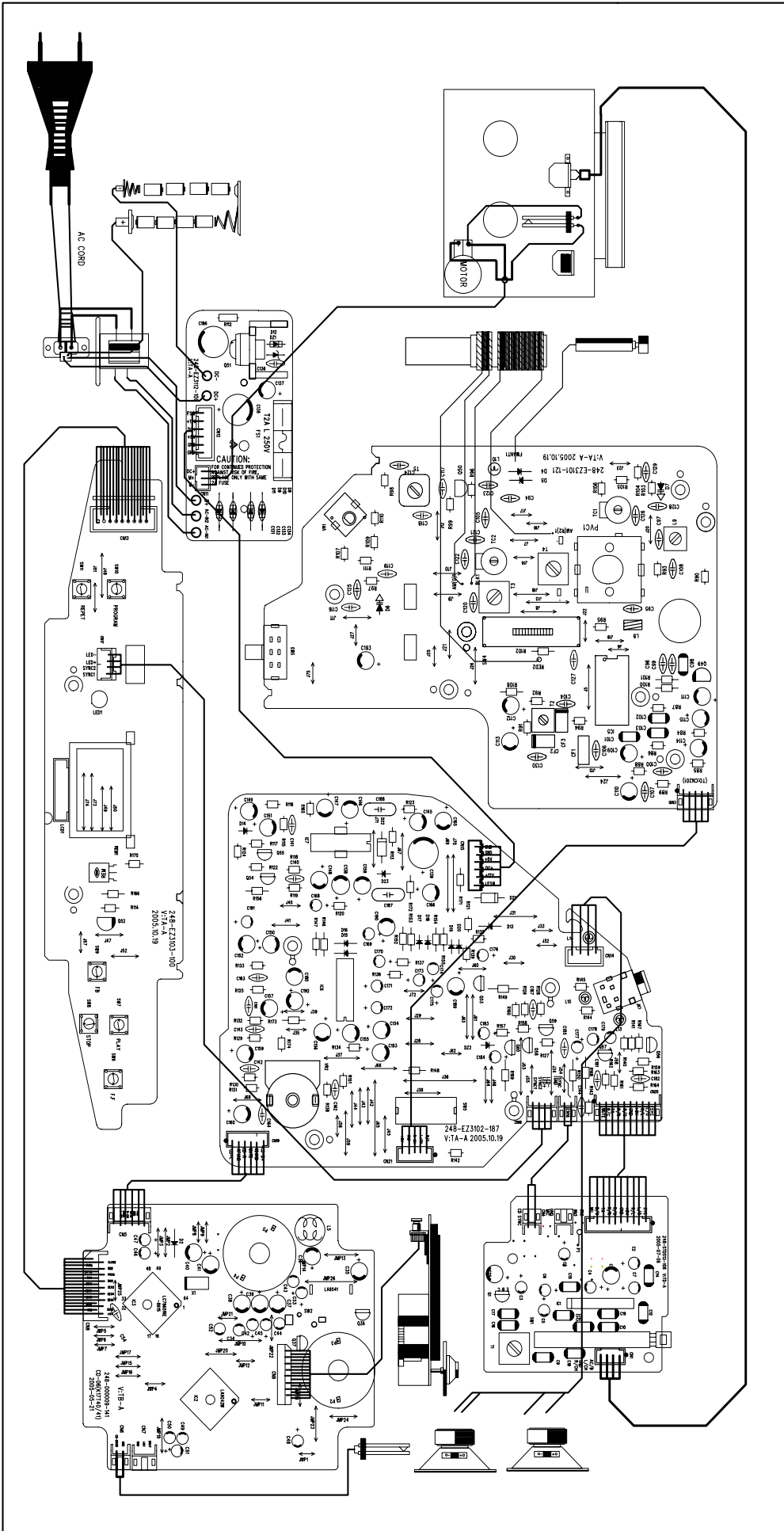
Transistor No.	Q302 1936 CD PLAY			Q303 9015CD PLAY									Q702 9014 CD PLAY			Q305 9014CASSPLAY		
Item	E	B	C	E	B	C							E	B	C	E	B	C
Votage(v)	0.00	0.00	0.00	11.93	11.20	0.02							4.90	0.00	0.00	0.00	0.70	0.00

Transistor No.	Q306 8550CASSPLAY			Q371 8050CD PLAY														
Item	E	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E	B	C
Votage(v)	13.40	12.70	13.36	4.57	5.24	8.47												

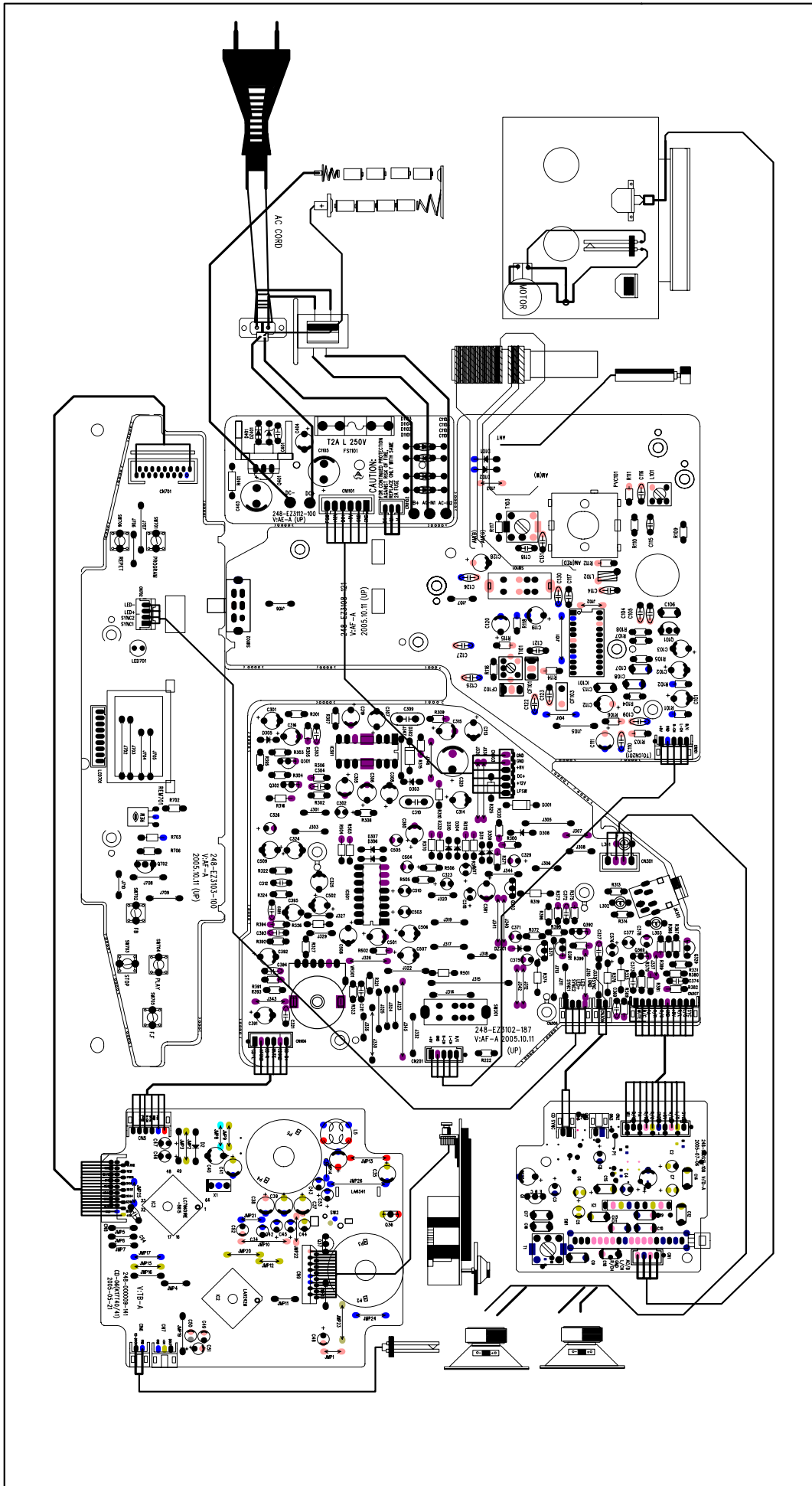
Block Diagram



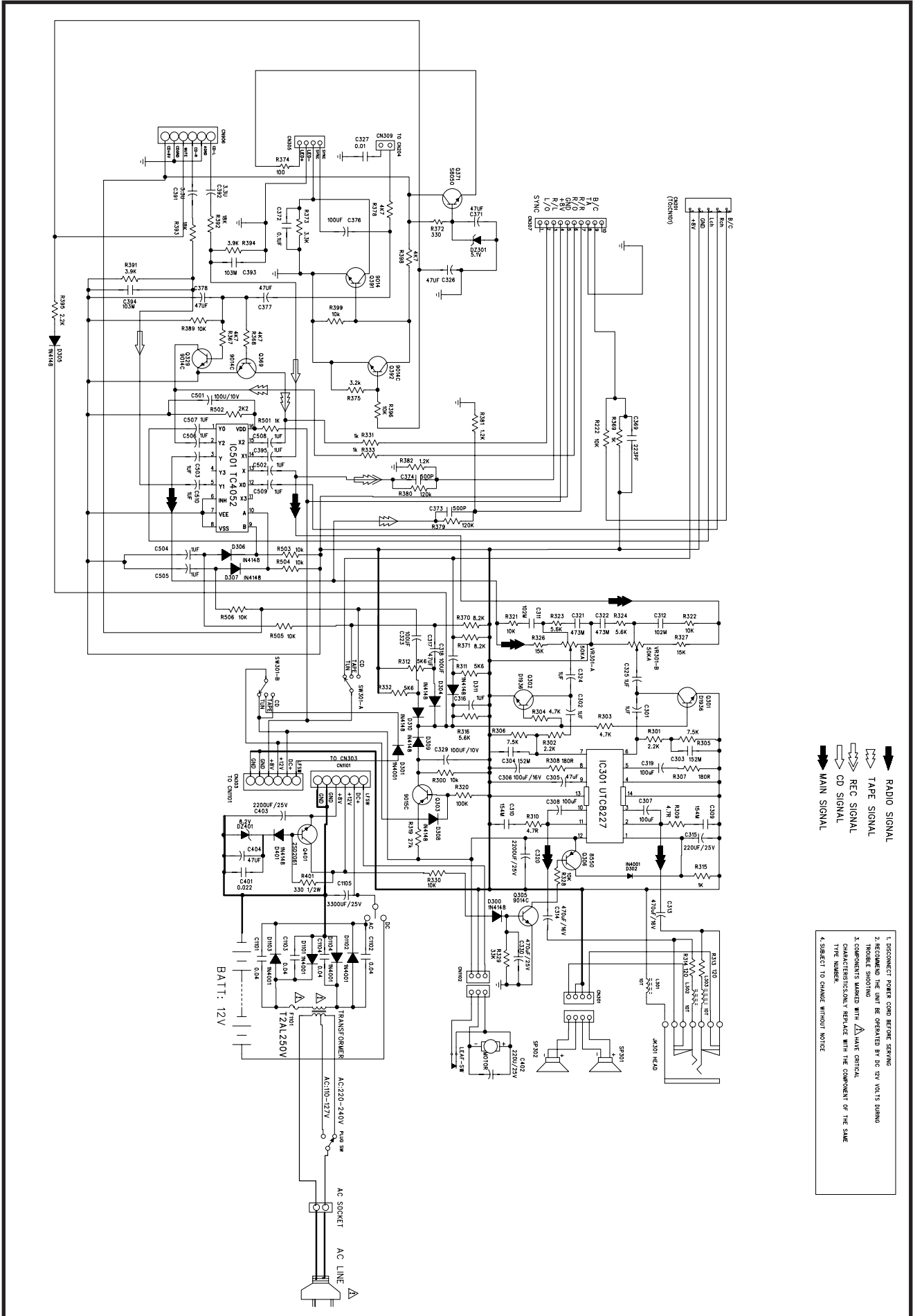
■ Wiring Connections (US/UX version)



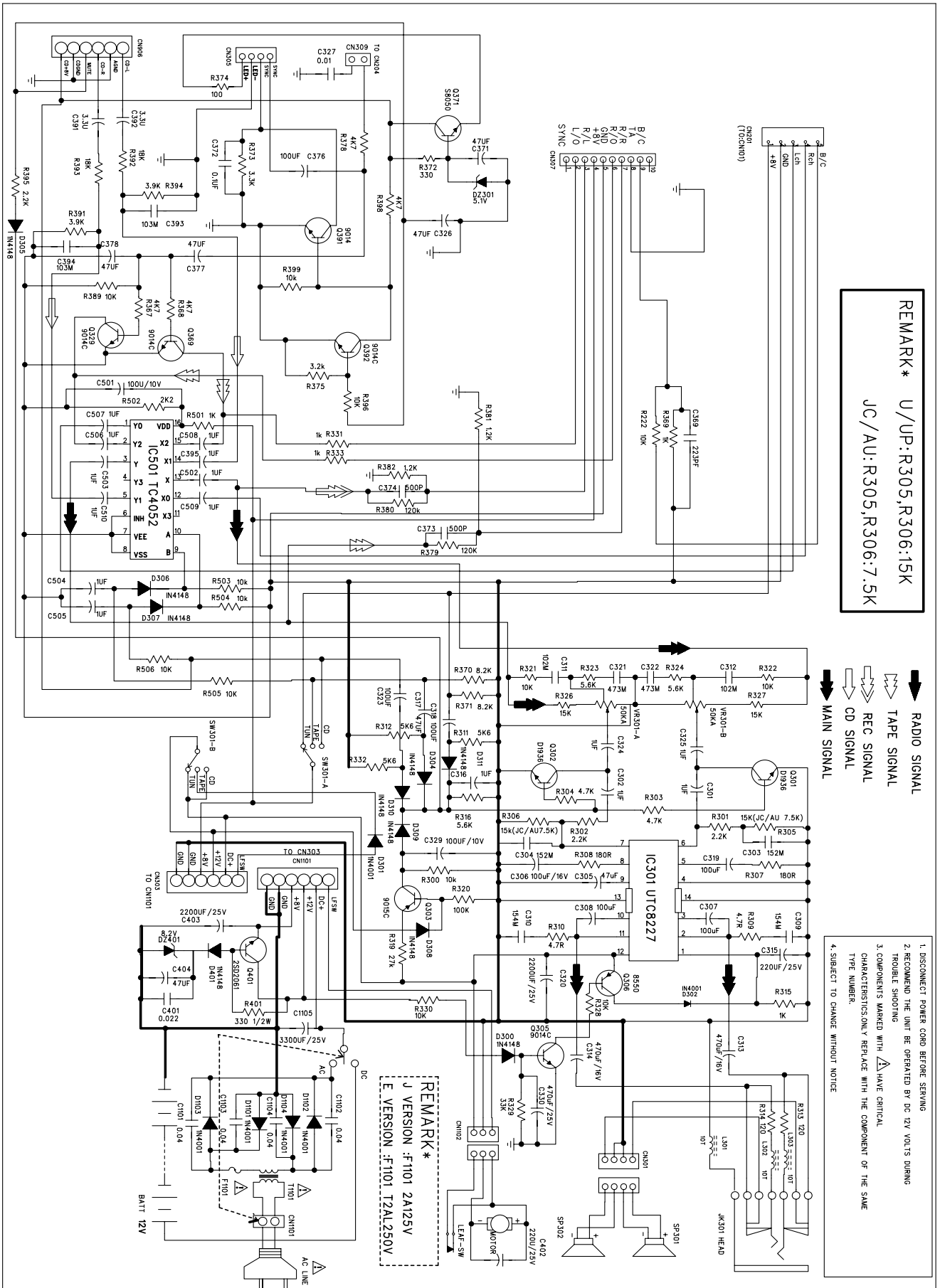
■ Wiring Connections (A version)



■ Schematic Diagrams
 ■ Main Circuit (US/UX Version)



■ Main Circuit (A Version)



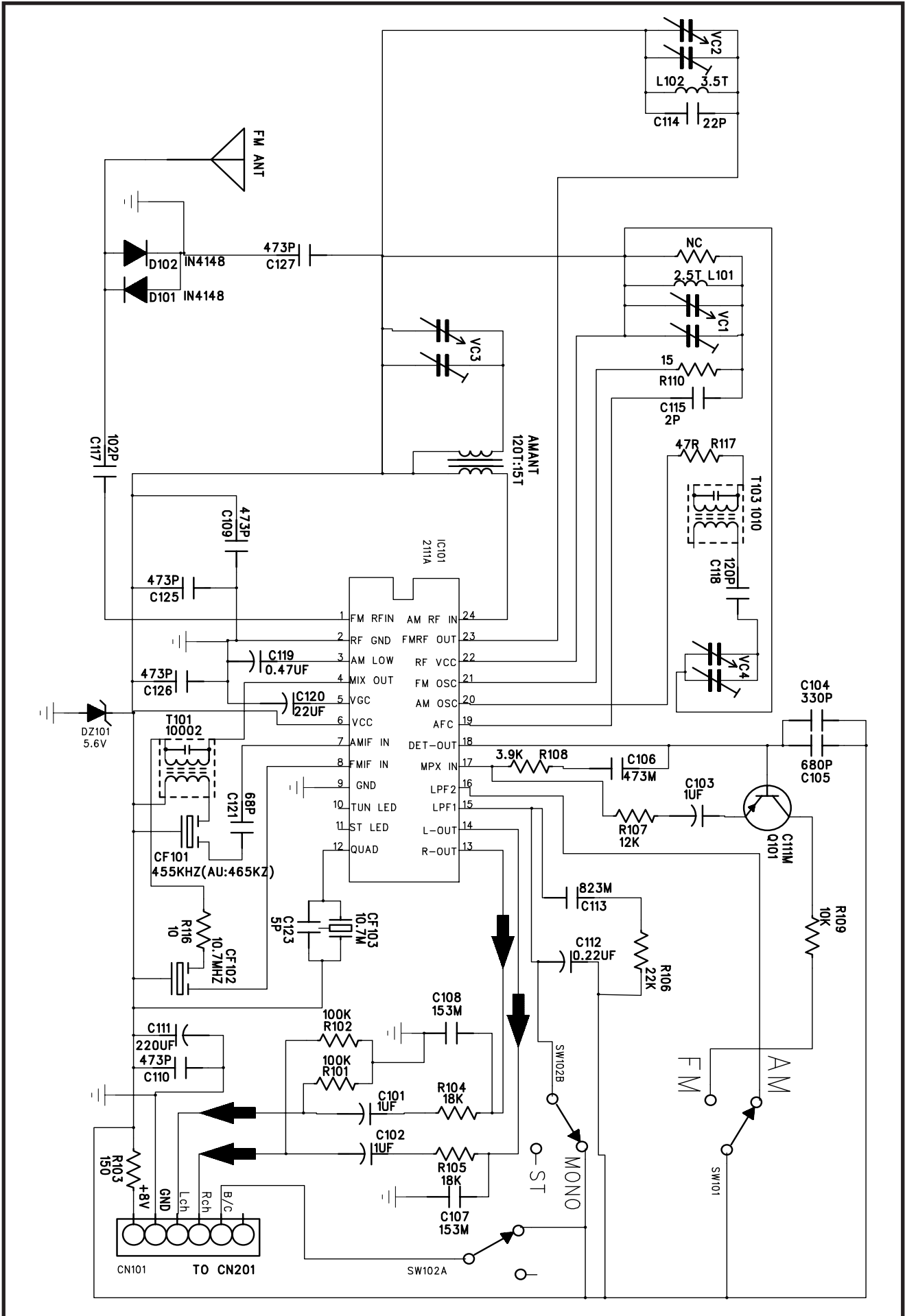
REMARK * U/JP: R305, R306: 15K
JC/AU: R305, R306: 7.5K

- ↓ RADIO SIGNAL
- ↔ TAPE SIGNAL
- ↔ REC SIGNAL
- ↔ CD SIGNAL
- ↓ MAIN SIGNAL

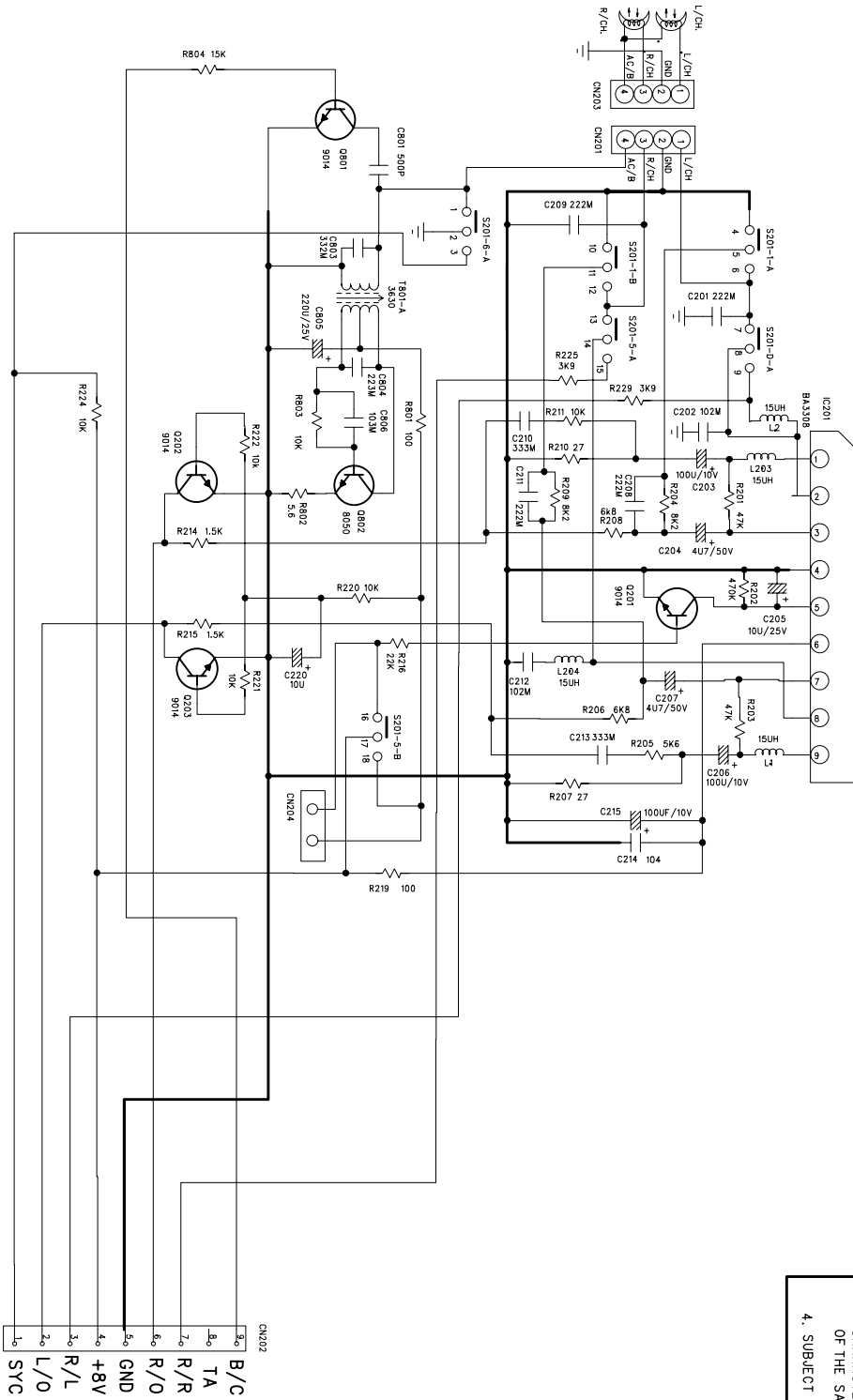
1. DISCONNECT POWER CORD BEFORE SERVING TROUBLE SHOOTING
2. RECOMMEND THE UNIT BE OPERATED BY DC 12V VOLTS DURING TROUBLE SHOOTING
3. COMPONENTS MARKED WITH Δ HAVE CRITICAL CHARACTERISTICS. ONLY REPLACE WITH THE COMPONENT OF THE SAME TYPE NUMBER.
4. SUBJECT TO CHANGE WITHOUT NOTICE

REMARK *
J VERSION : F101 2A125V
E VERSION : F101 T2AL250V

■ Tuner Circuit (A Version)

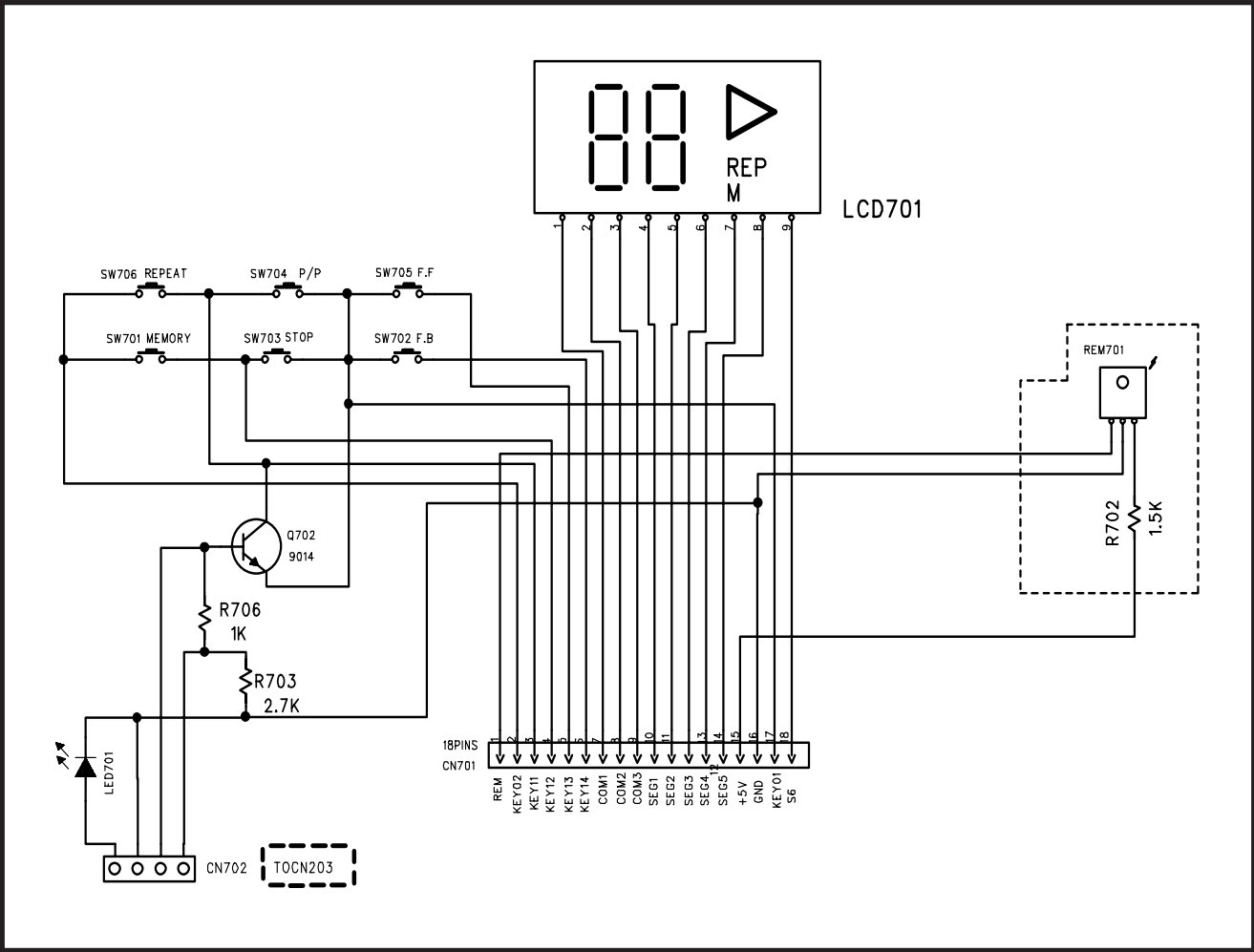


■ Cass Circuit

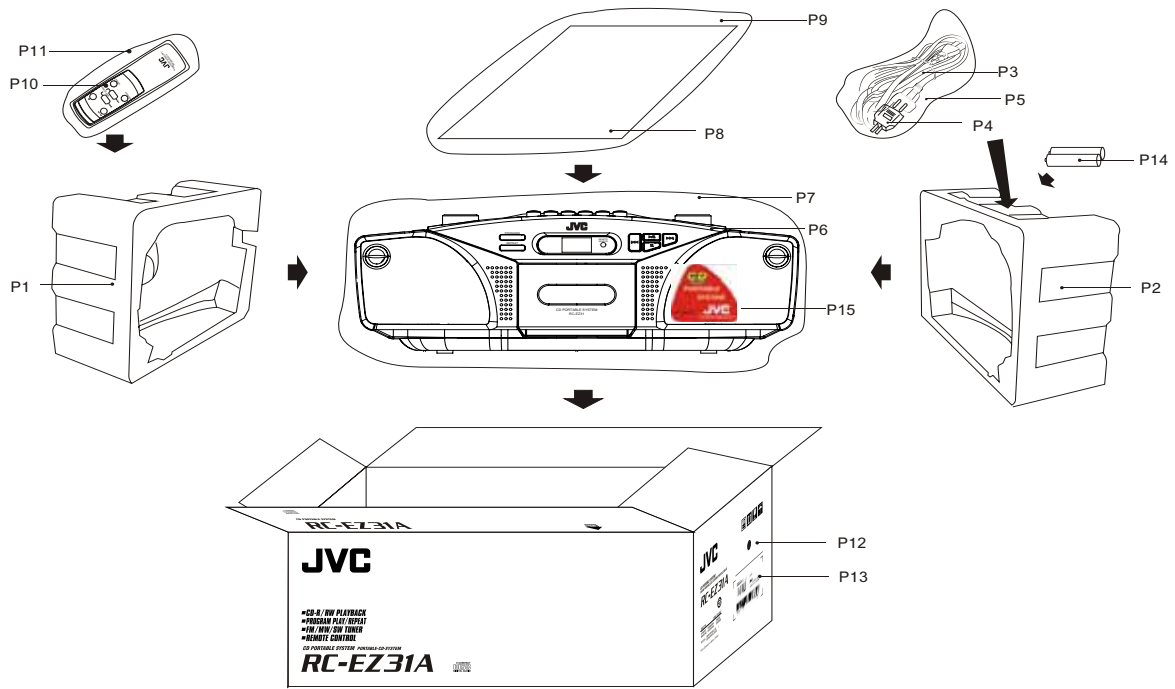


1. DISCONNECT POWER CORD BEFORE SERVING
2. RECOMMEND THE UNIT BE OPERATED BY DC 12V VOLTS DURING TROUBLE SHOOTING
3. COMPONENTS MARKED WITH Δ HAVE CRITICAL CHARACTERISTICS; ONLY REPLACE WITH THE COMPONENT OF THE SAME TYPE NUMBER
4. SUBJECT TO CHANGE WITHOUT NOTICE

■ Control Circuit



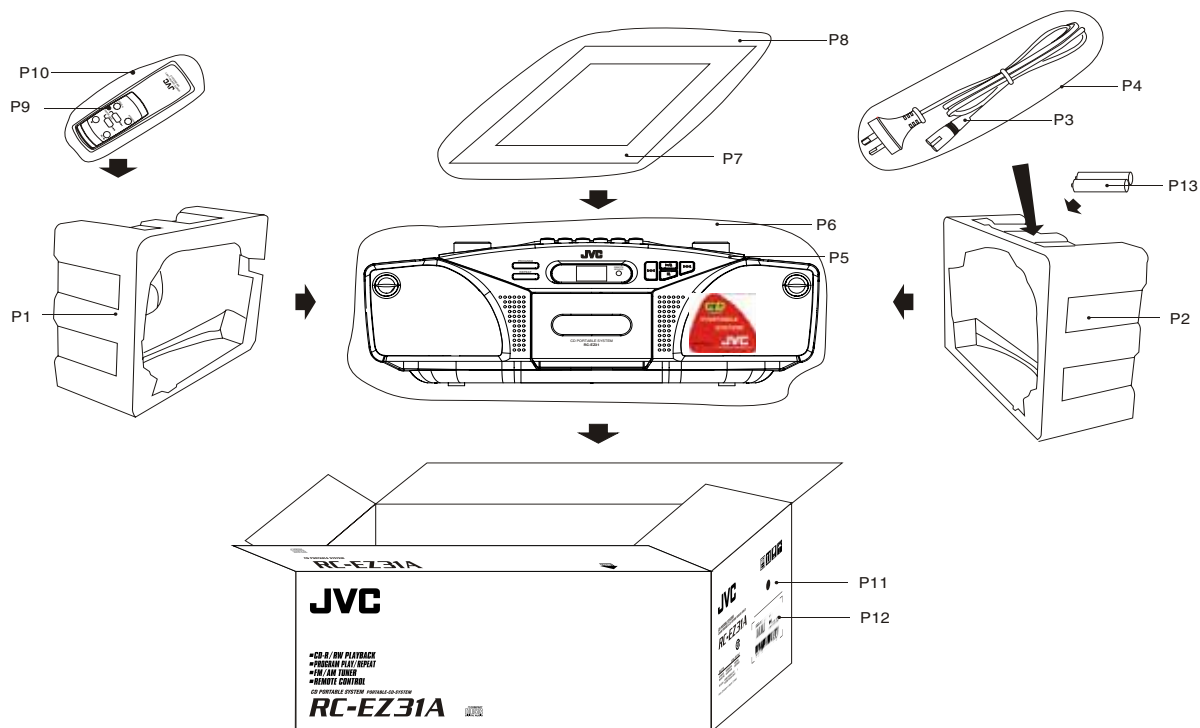
■ Illustration of packing and parts list (US/UX Version)



Item	Part's Name	U Part No.	UX Parts No.
P.1	Poly Form(Left)	874-310000-000	
P.2	Poly Form(Right)	874-310000-000	
P.3	Power Cord Set	151-230230-002	151-230230-002
P.4	Conversion Plug	159-110220-009/ 159-110220-019(#Alt)	
P.5	Poly Bag	676-040130-044	
P.6	Main Unit		
P.7	Poly Bag	678-255175-040	
P.8	Instruction Manual	JVC:LVT1524-001A&LVT1524-002A	
P.9	Poly Bag	676-070100-040	
P.10	Remote Control Unit	RM-SRCEZ31A	
P.11	Poly Bag		
P.12	Gift Box(G/B)	891-EZ31111-010	
P.13	G/B Bar Code Label	612-080350-000	612-080348-000
P.14	Battery AAA x 2pcs	163-200415-900	
P.15	POP Label	629-080284-000	

Remarks: #Alt items will be used alternatively depends on the lead time.

■ Illustration of packing and parts list (A Version)



Item	Part's Name	Part No.
P.1	Poly Form(Left)	874-310000-000
P.2	Poly Form(Right)	874-310000-000
P.3	Power Cord Set	151-240230-202
P.4	Poly Bag	676-040130-044
P.5	Main Unit	
P.6	Poly Bag	678-255175-040
P.7	Instruction Manual	JVC: LVT1524-003A
P.8	Poly Bag	676-070100-040
P.9	Remote Control Unit	RM-SRCEZ31A
P.10	Poly Bag	
P.11	G/B Bar Code Label	612-080352-000
P.12	Gift Box(G/B)	891-EZ3111-020
P.13	Battery AAA x 2pcs	163-200415-900



JVC

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