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.

Contents

No: 28225
JAN. 2006

Safety Precautions

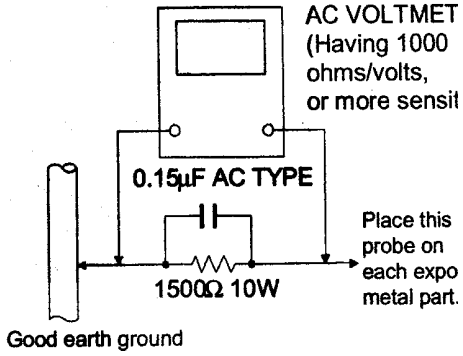
1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made ti the original design unless authorised in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personel 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 eletrical 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 obtain by using replaement components rated for higher voltage, the Parts List of Service manual. Electrical components having such features ate identified by the shading on the schematics and by (**!**) on the parts List in the Service Manual. The use of a substitute repalcement 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 shcok and fire hazard. When service is required, the original leat 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 metap 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 isloation 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 ecposed metal parts of the cabinet, particularly and 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 sensitvity 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 and exposed metal part having a return path to te 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. It 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 pcikup). Take care to prevent this when performing repairs.

1.1. Grounding to prevent damage by static electricity

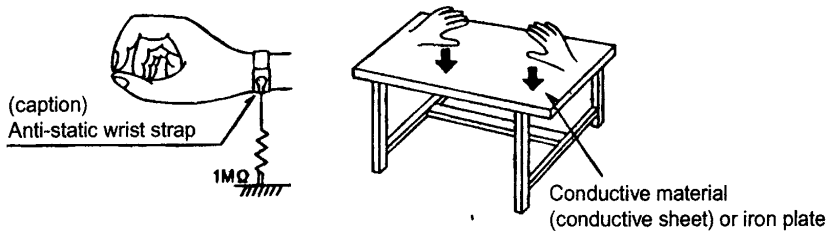
Static electricity in the work area can destroy the optical pickup (laser diode) in devicessuch as DVD players. Be careful to use proper grounding in the area where repairs are being performed.

1.1.1. Gound 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 starp to release and static electricity built up in your body.



1.1.3. Handling the optical pcikup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are storted. 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 laserdiode in the optical pickup. The tester's internal power source can easily destory the laser diode.

1.2. Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pcikup) 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 procdeure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching itto the connector.

3. Handle the flexible cable carefully as it may break when subjected to strong force.

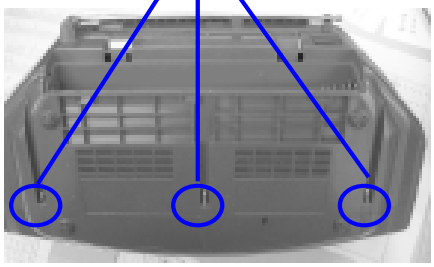
4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not return it.

■ Disassembly Procedure

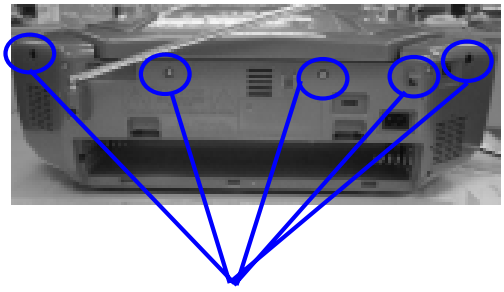
■ Remove the back cabinet

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

Screw A



2. Remove 5 screws on back
(Screw B)

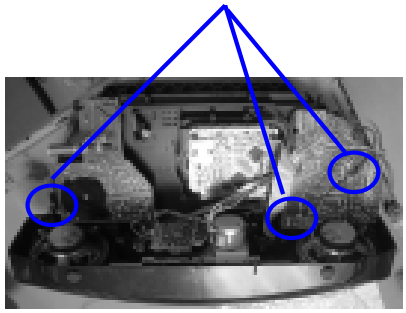


Screw B

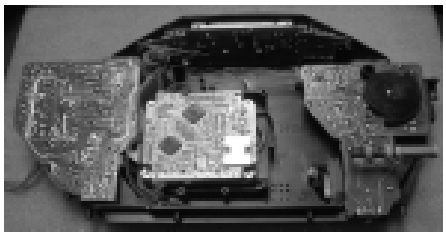
■ Remove the top panel

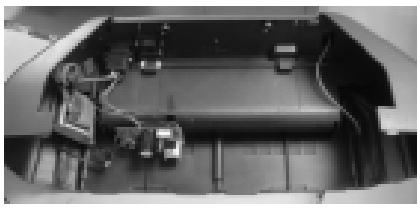
1. Remove 3 screws to take
out the top panel with the
board. (Screw C)

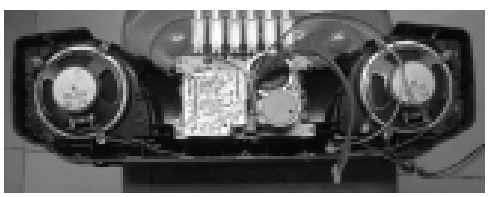
Screw C



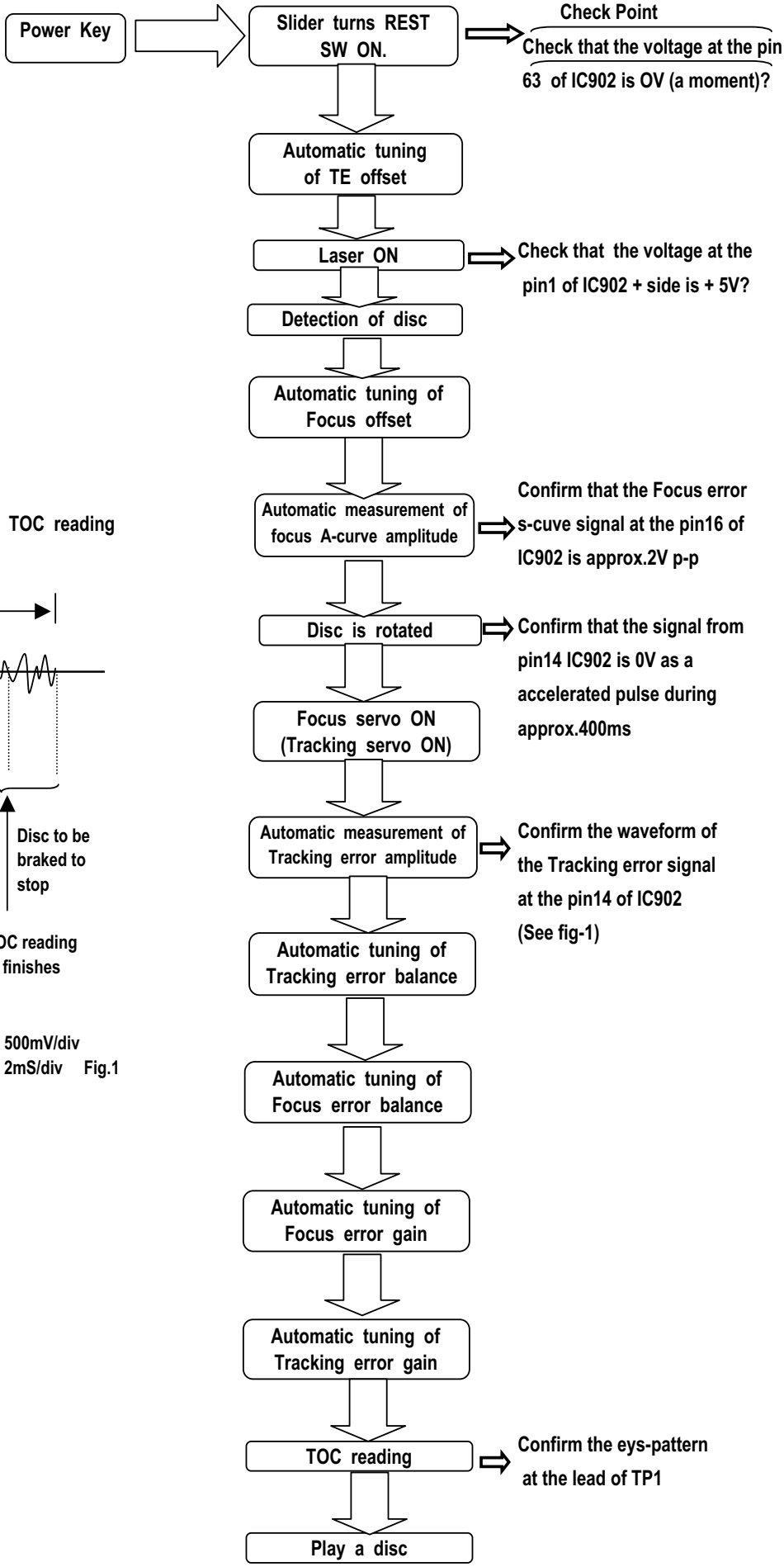
■ Then the unit is disassembled







Flow of functional operation until TOC read



■ Tracking error waveform at TOC reading

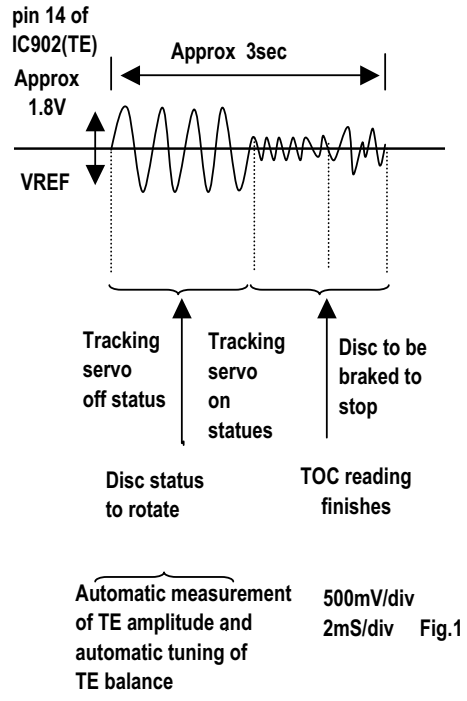


Fig.1

■ 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
Votage(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
Votage(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
Votage(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																
Votage(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
Votage(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
Votage(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
Votage(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																
Votage(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
Votage(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																
Votage(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
Votage(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																
Votage(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				
Votage(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				
Votage(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				
Votage(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	3.37.7	11.60								

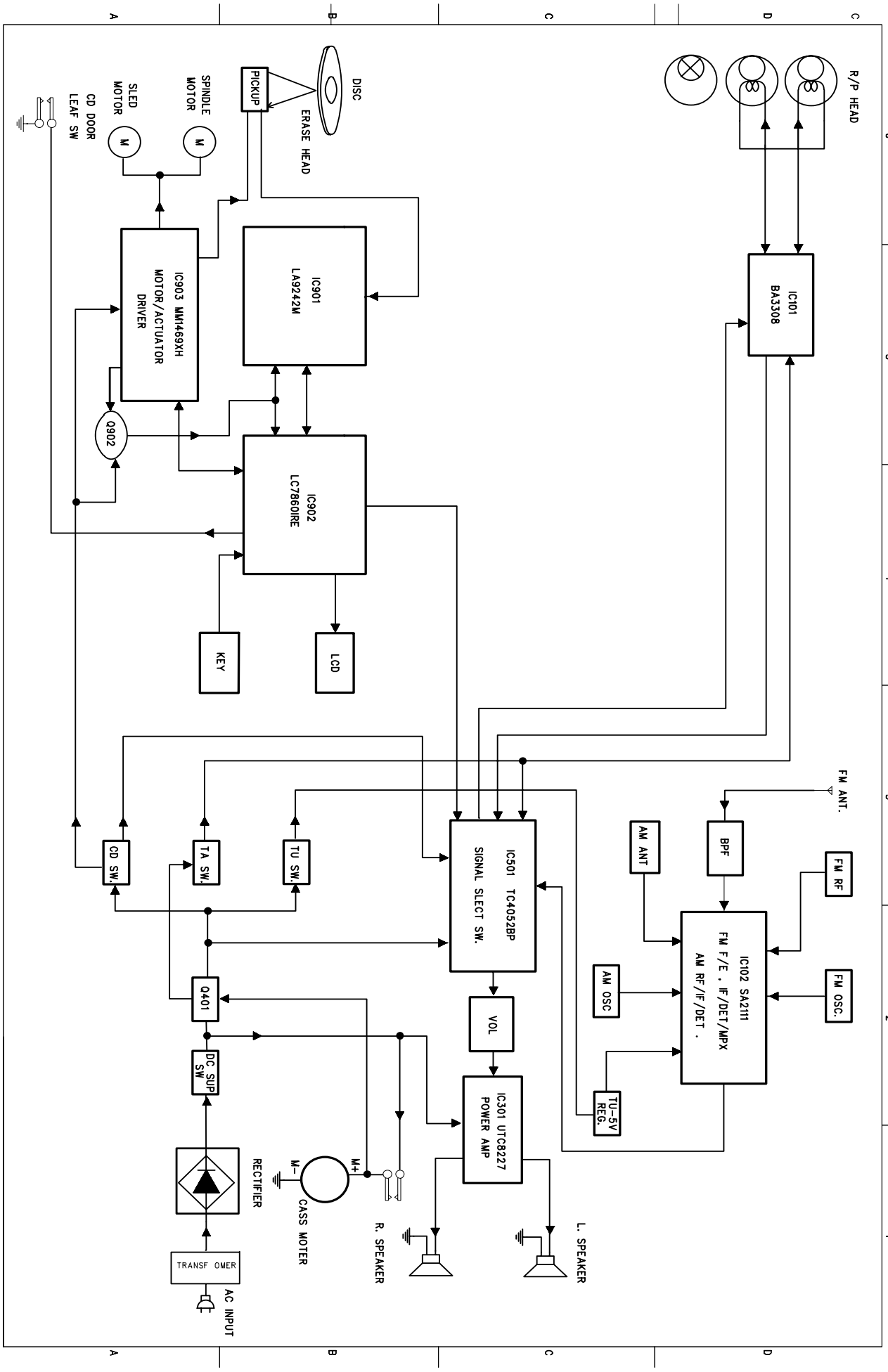
IC No.	IC201 BA3308 CASS PLAY																			
pin NO:	1	2	3	4	5	6	7	8	9											
Votage(v)	1.77	0.00	1.78	0.00	0.00	8.09	1.78	0.00	1.78											

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

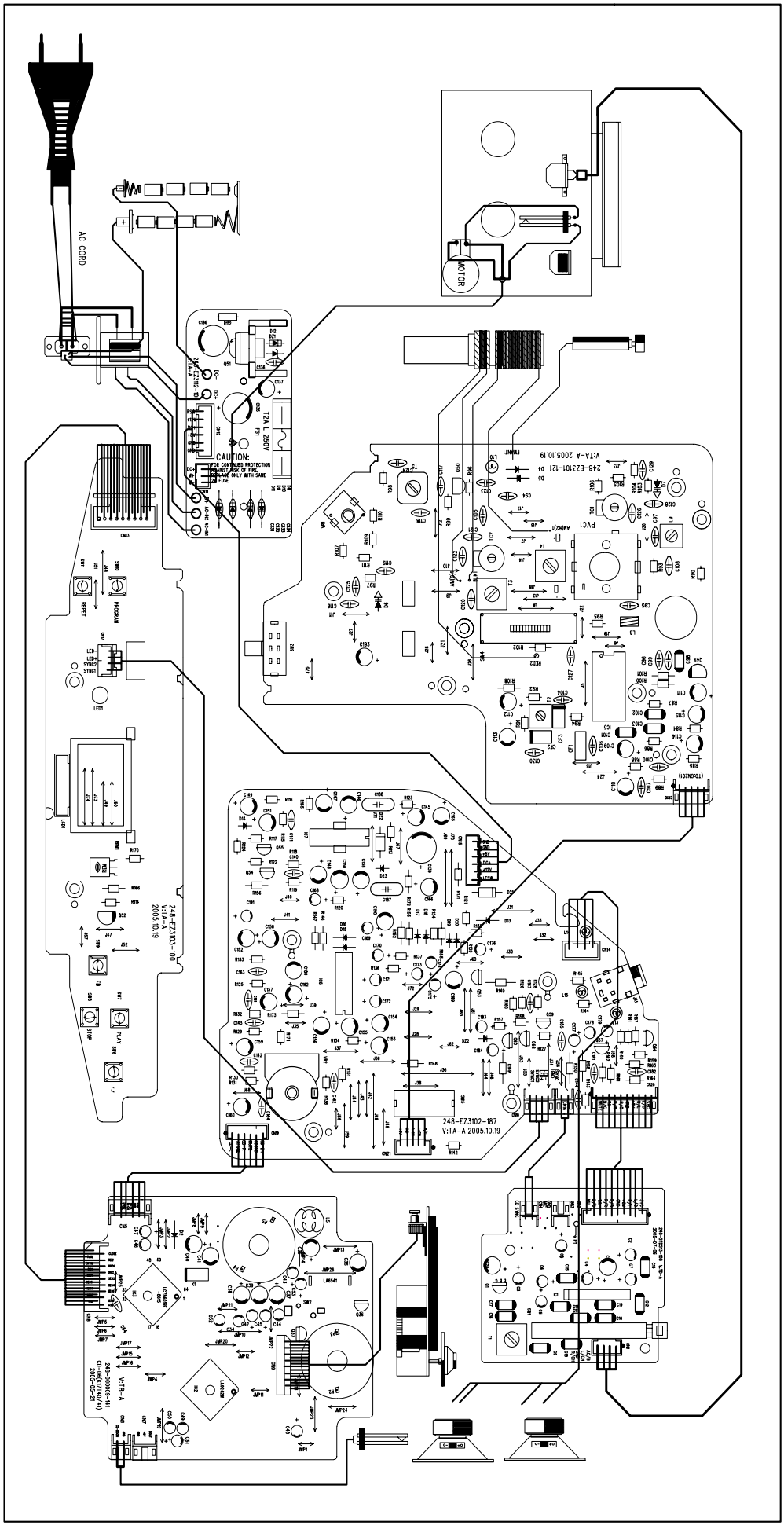
Transistor No.	Q302 1936 CD PLAY			Q303 9015CD PLAY									Q702 9014 CD PLAY			Q305 9014CASSPLAY		
Item	E	B	C	E	B	C							E	B	C	E	B	C
Votage(v)	0.00	0.00	0.00	11.93	11.20	0.02							4.90	0.00	0.00	0.00	0.70	0.00

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												

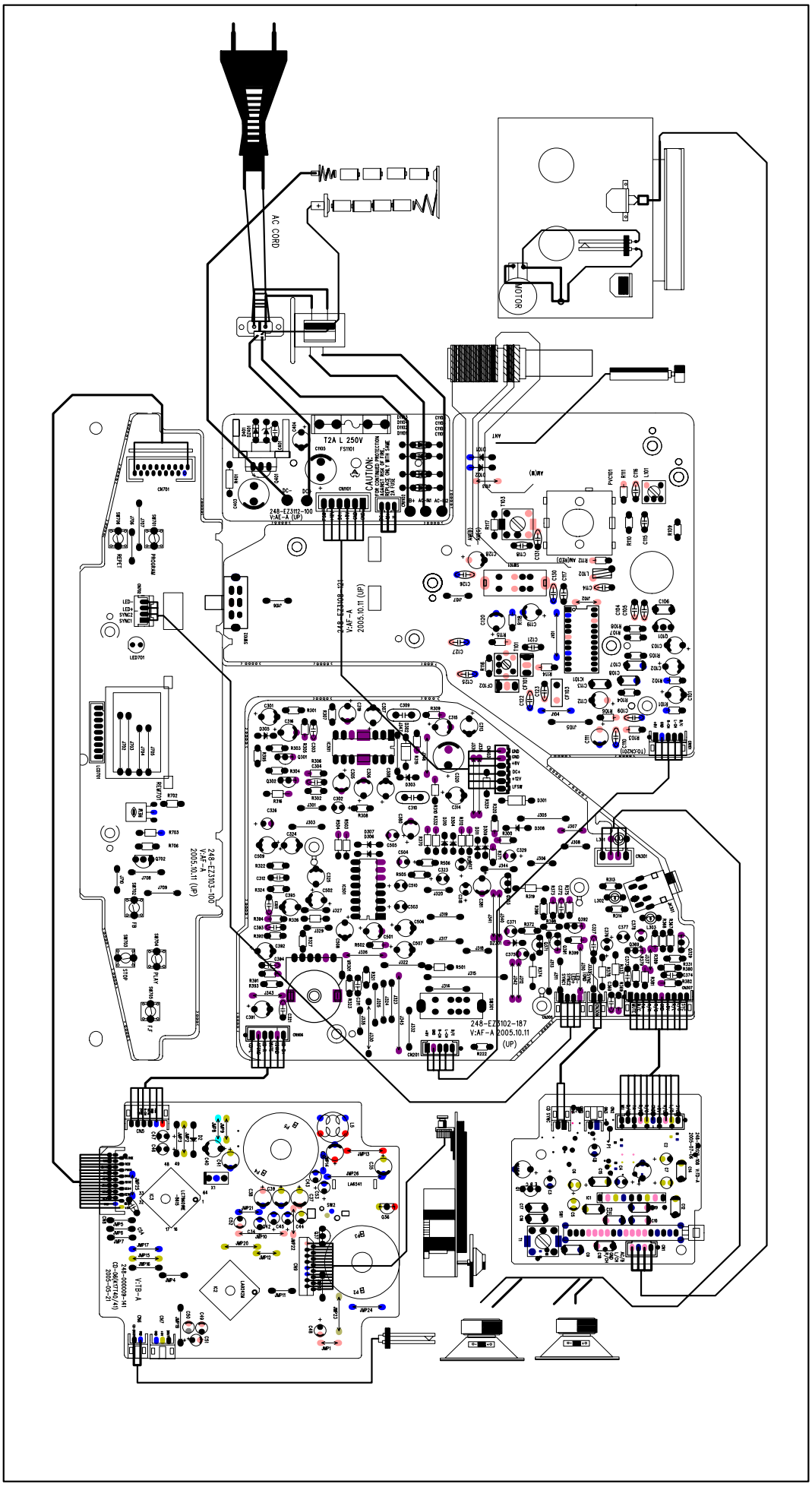
■ Block Diagram



■ Wiring Connections (US/UX version)

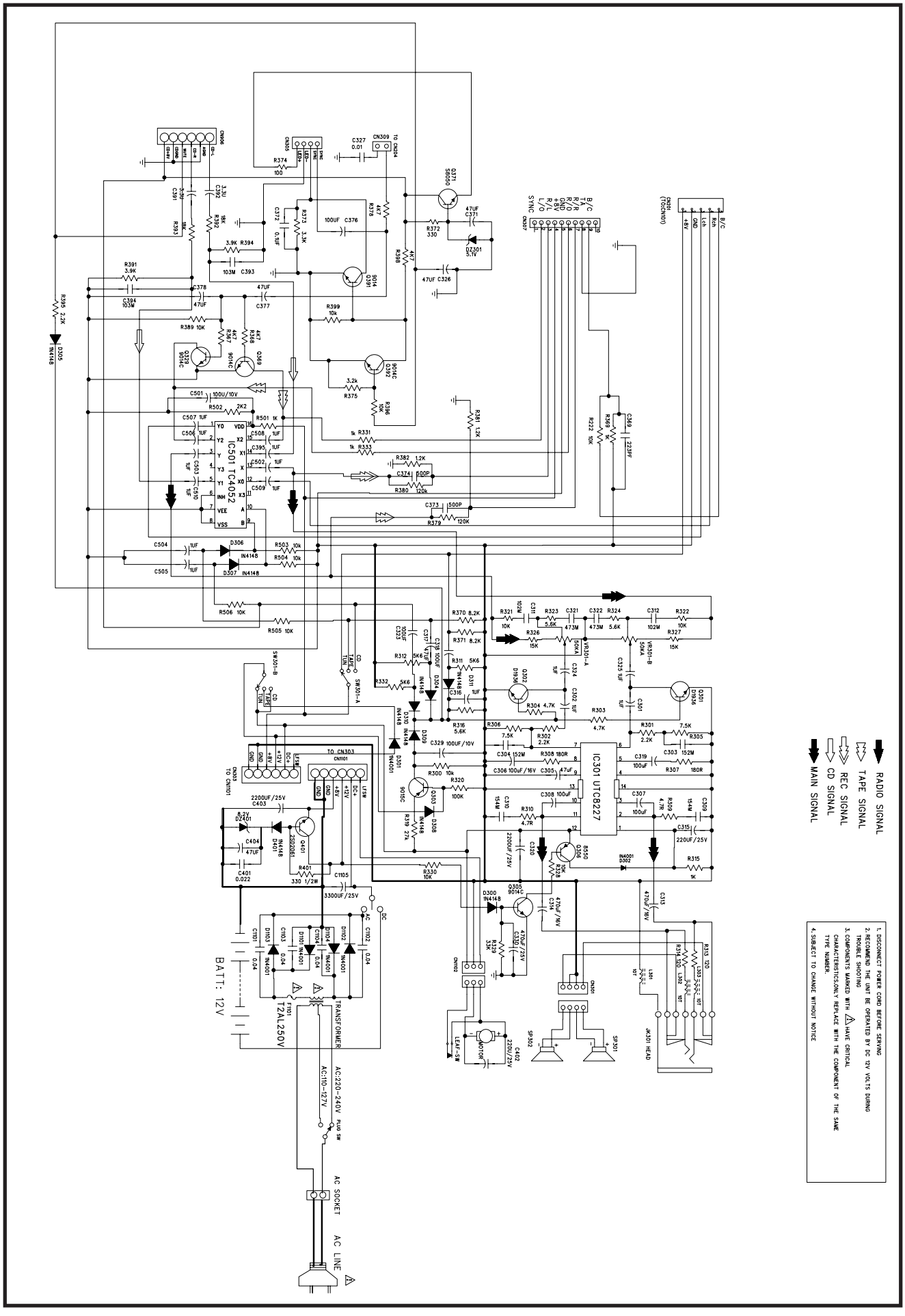


■ Wiring Connections (A version)

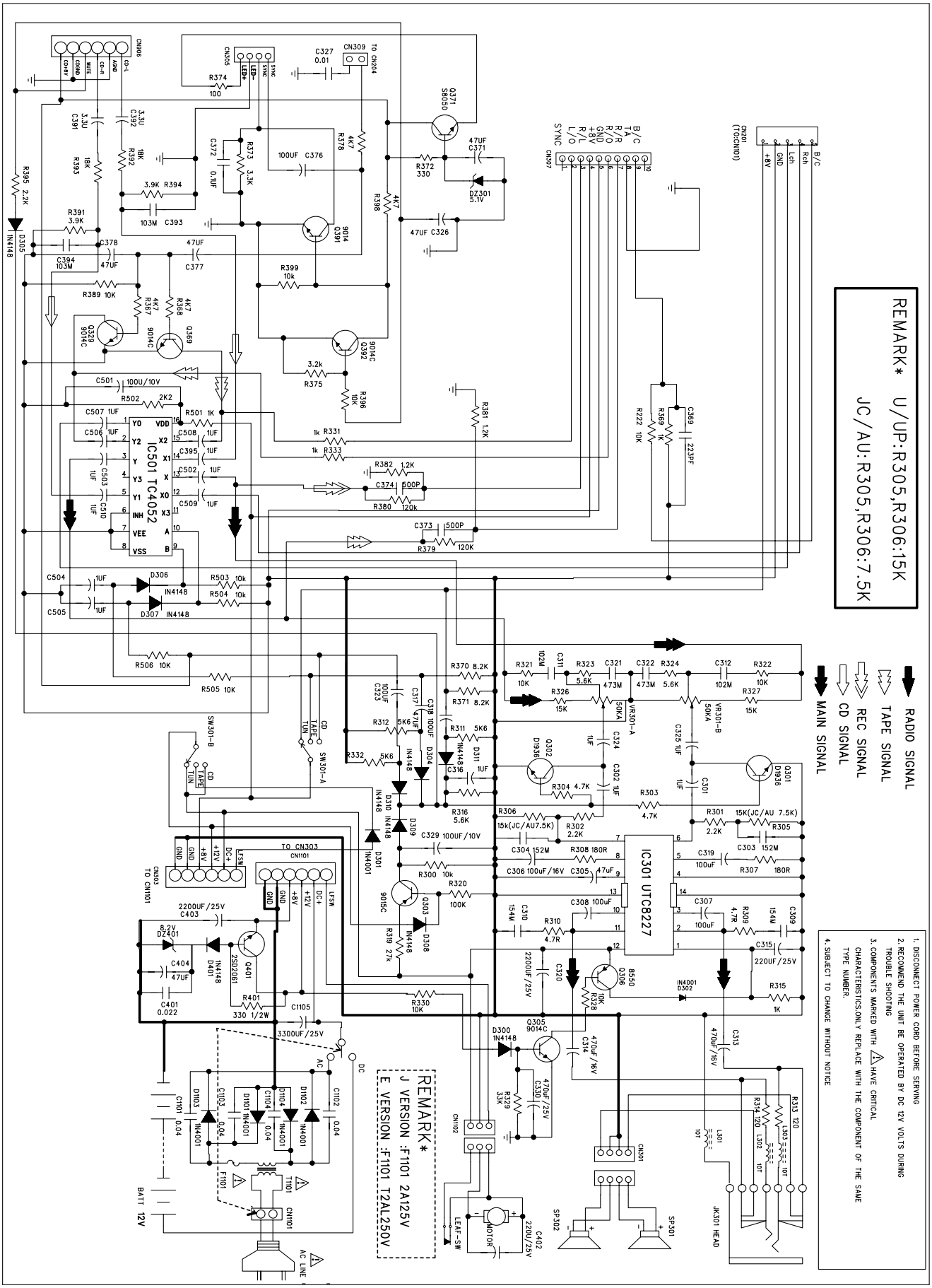


■ Schematic Diagrams

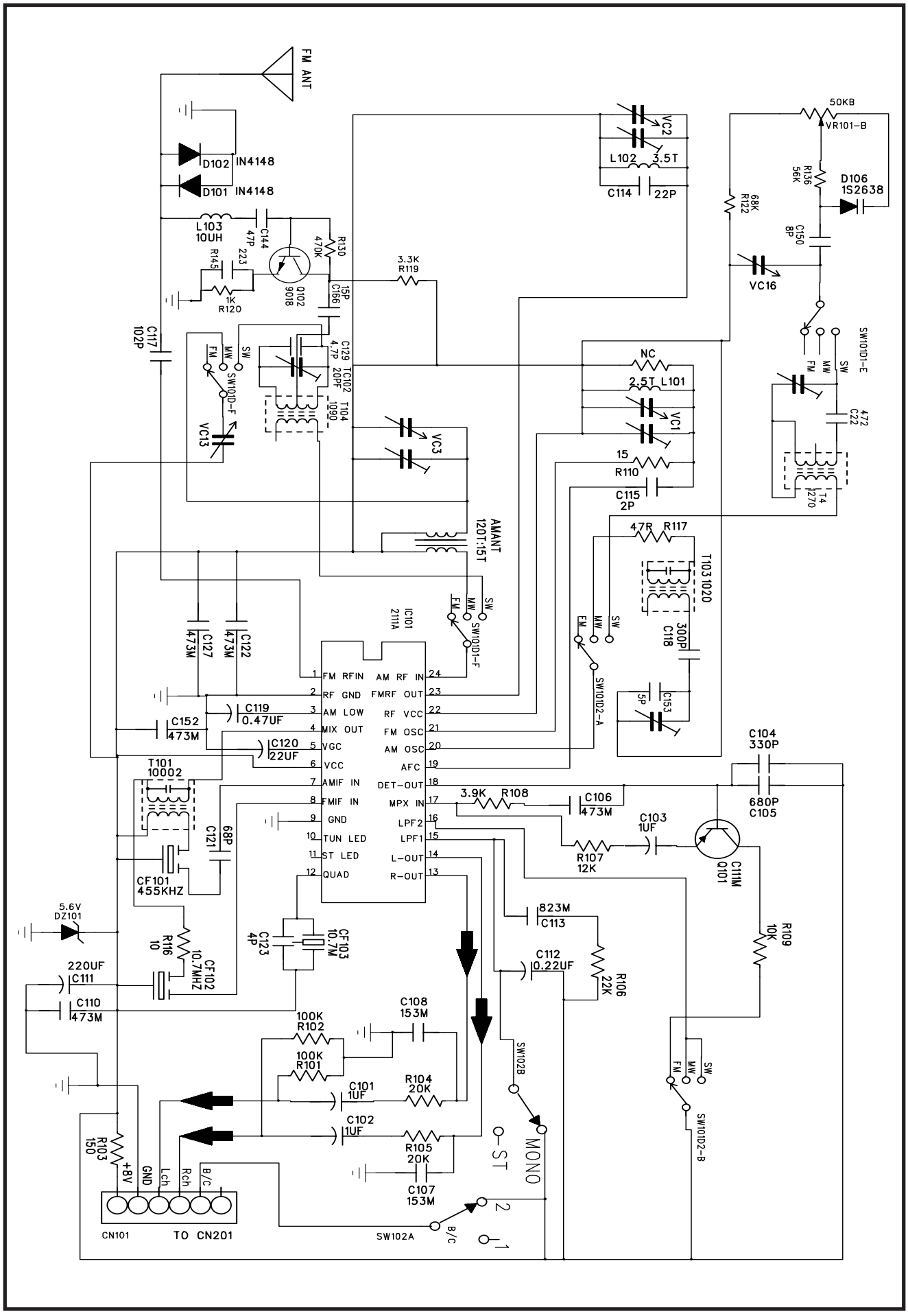
■ Main Circuit (US/UX Version)



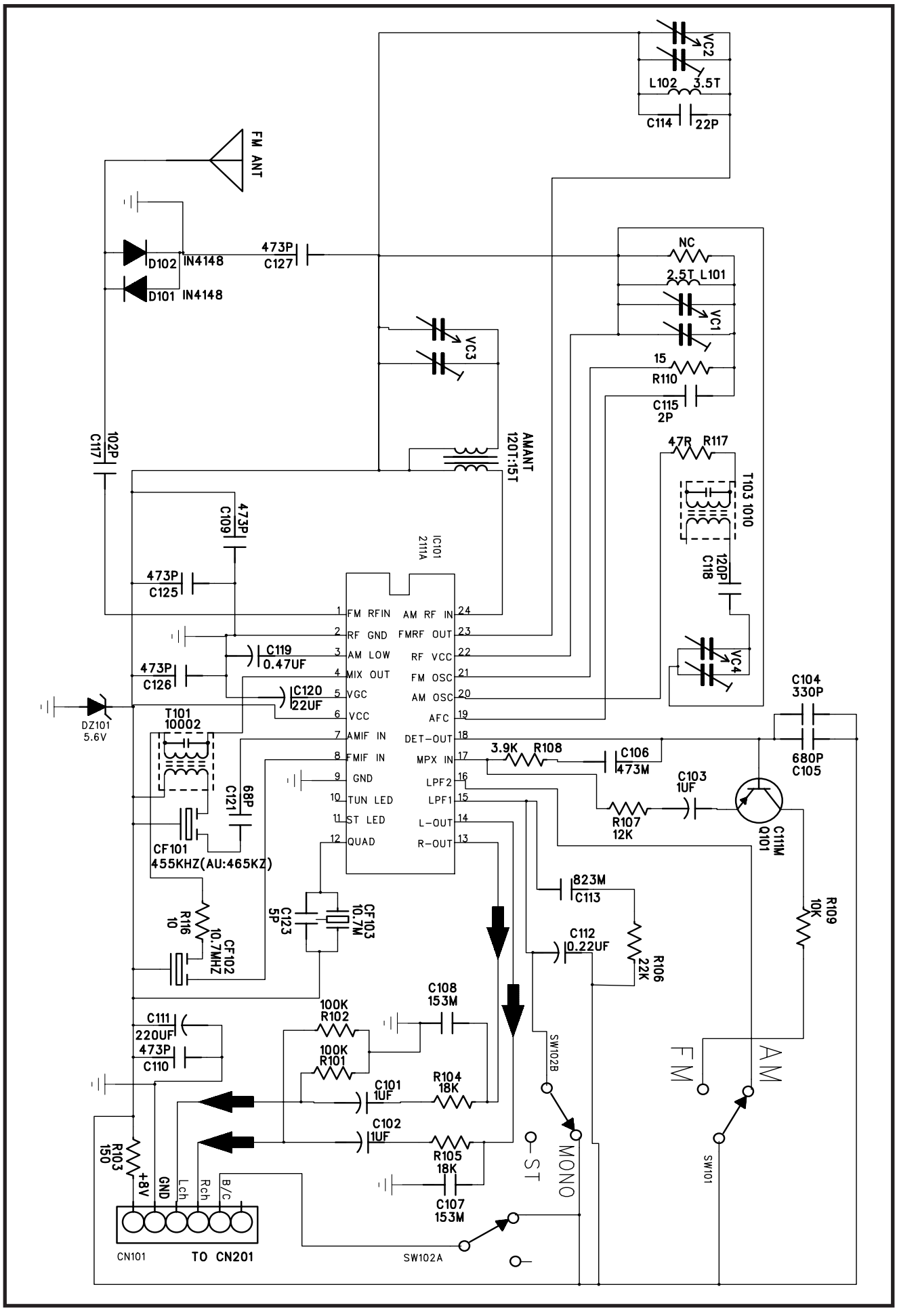
■ Main Circuit (A Version)



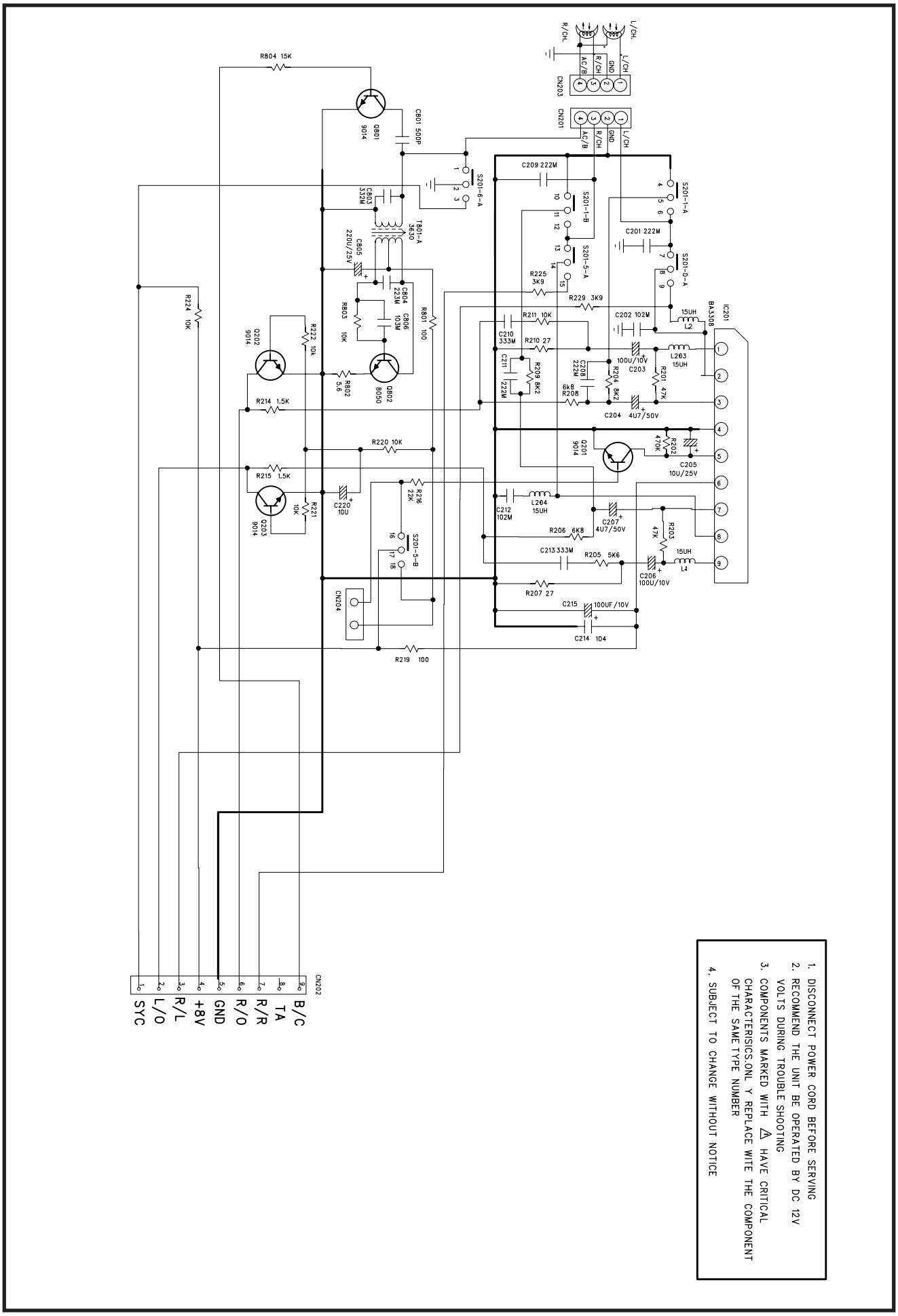
■ Tuner Circuit (US/UX Version)



■ Tuner Circuit (A Version)

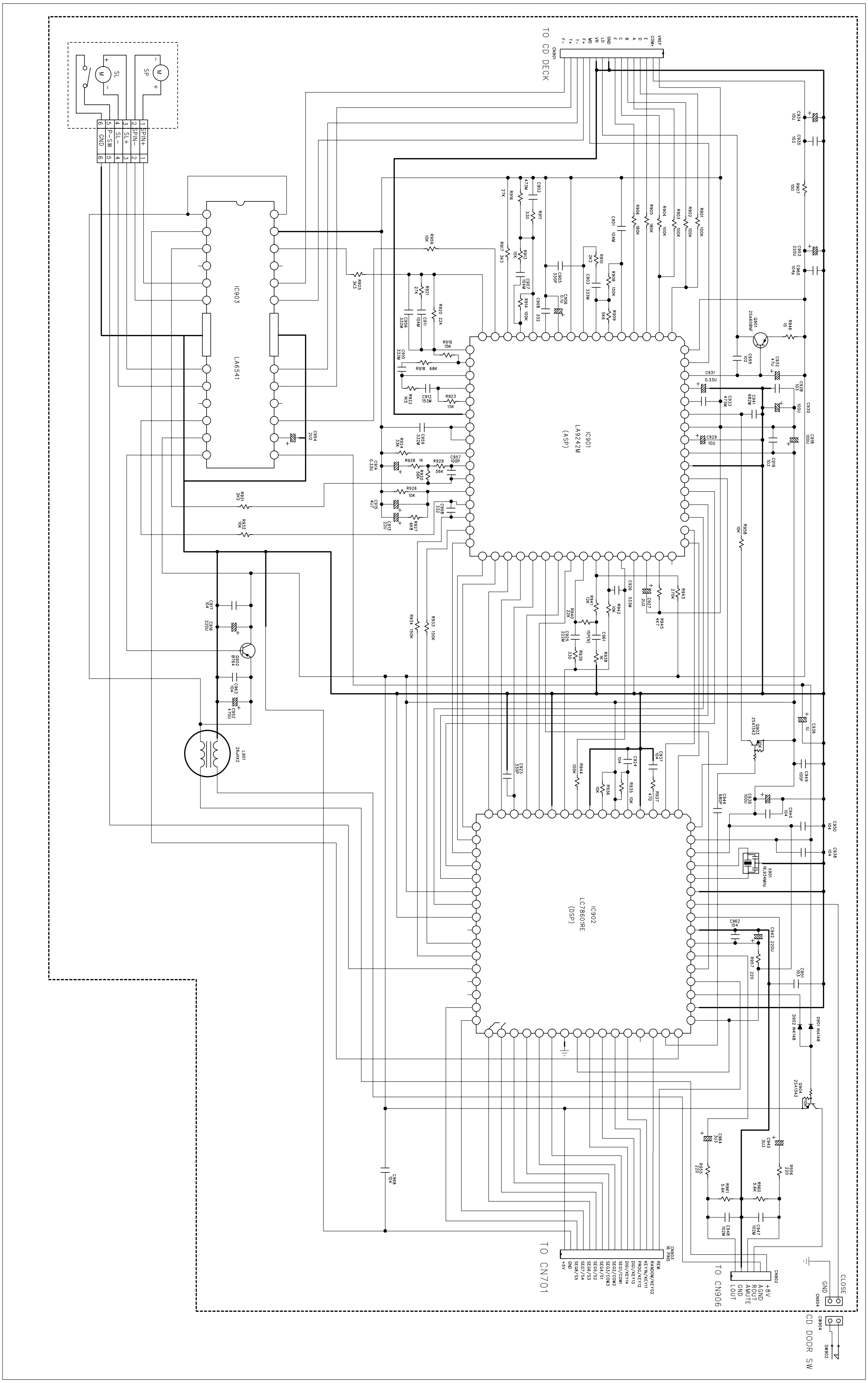


■ Cass Circuit

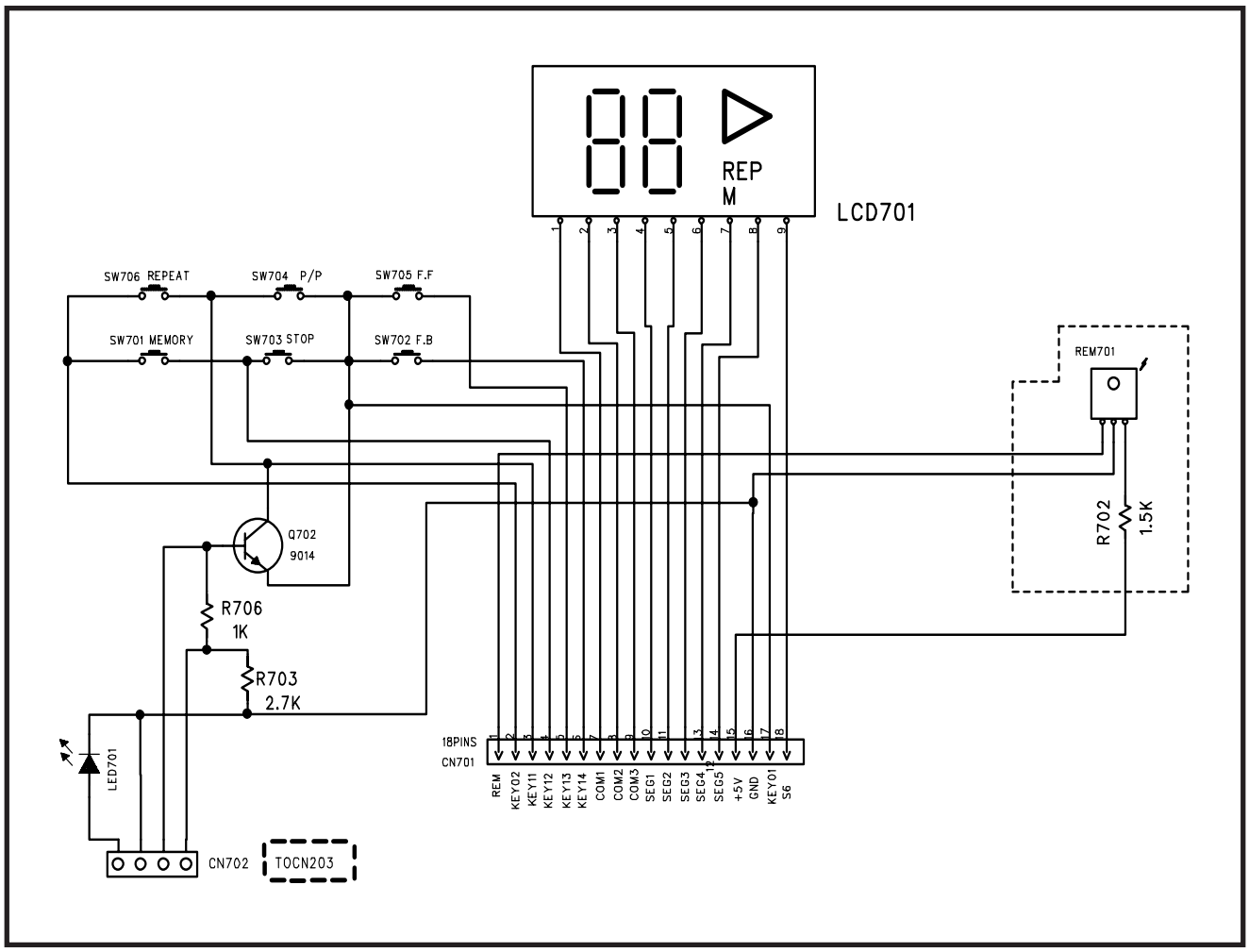


1. DISCONNECT POWER CORD BEFORE SERVING
2. RECOMMEND THE UNIT BE OPERATED BY DC 12V VOLTS DURING TROUBLE SHOOTING
3. COMPONENTS MARKED WITH ⚠ HAVE CRITICAL CHARACTERISICS.ONL Y REPLACE WITE THE COMPONENT OF THE SAME TYPE NUMBER
4. SUBJECT TO CHANGE WITHOUT NOTICE

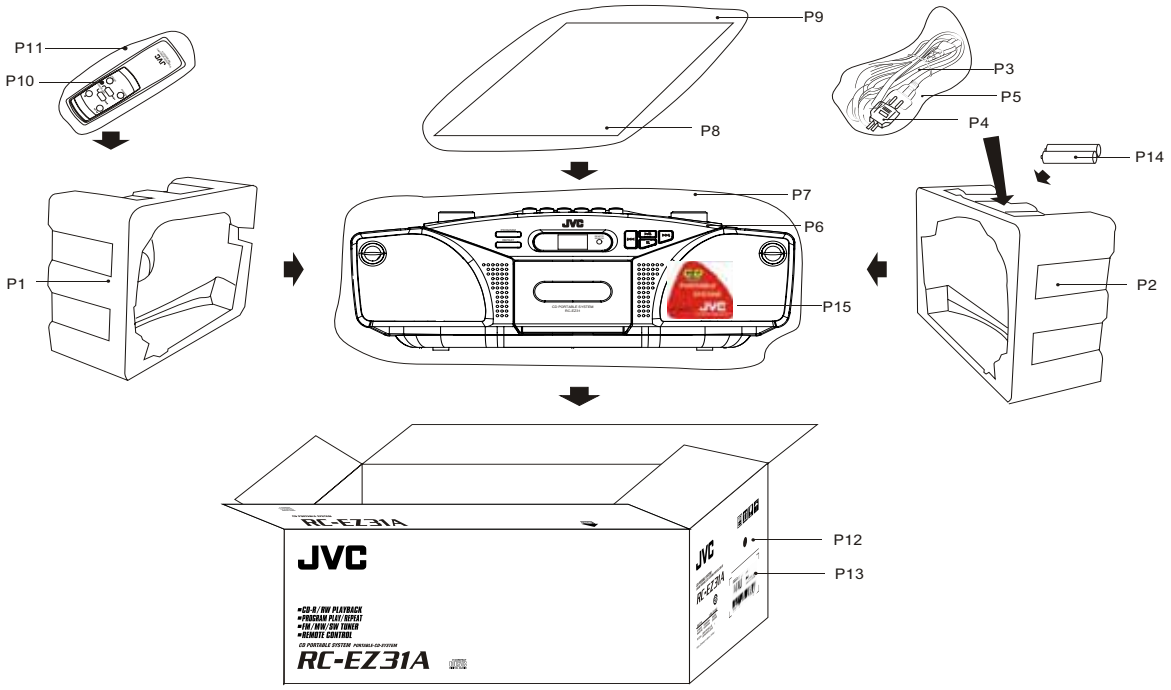
■ CD Circuit



■ Control Circuit



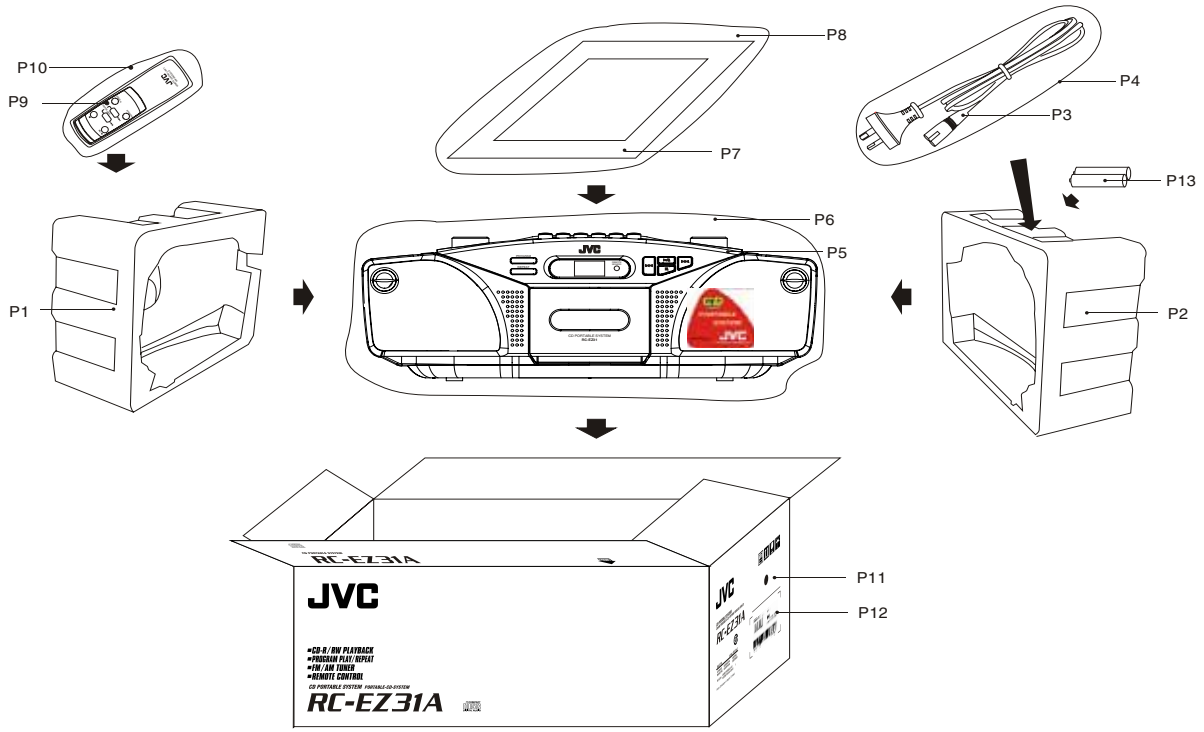
■ Illustration of packing and parts list (US/UX Version)



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-EZ3111-010	
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.

■ Illustraction 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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(No: 28225)

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