

ROTEL *hiFi*

RCD-950

STEREO COMPACT DISC PLAYER

Technical Manual

TABLE OF CONTENTS

Safety Caution.....	1
Chassis Layout.....	1
Specifications	2
Adjustment.....	3
Wiring Diagram	4
Schematic Diagram	5
Printed Circuit Boards	9
Disassembly Diagram.....	11
PC Board Ass'y Parts List	13

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Safety Caution

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

THIS SET EMPLOYS A LASER. THEREFORE, BE SURE TO FOLLOW CAREFULLY THE INSTRUCTIONS BELOW WHEN SERVICING.

WARNING !!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

LASER WARNING LABEL

THE LABEL SHOWN BELOW ARE AFFIXED.

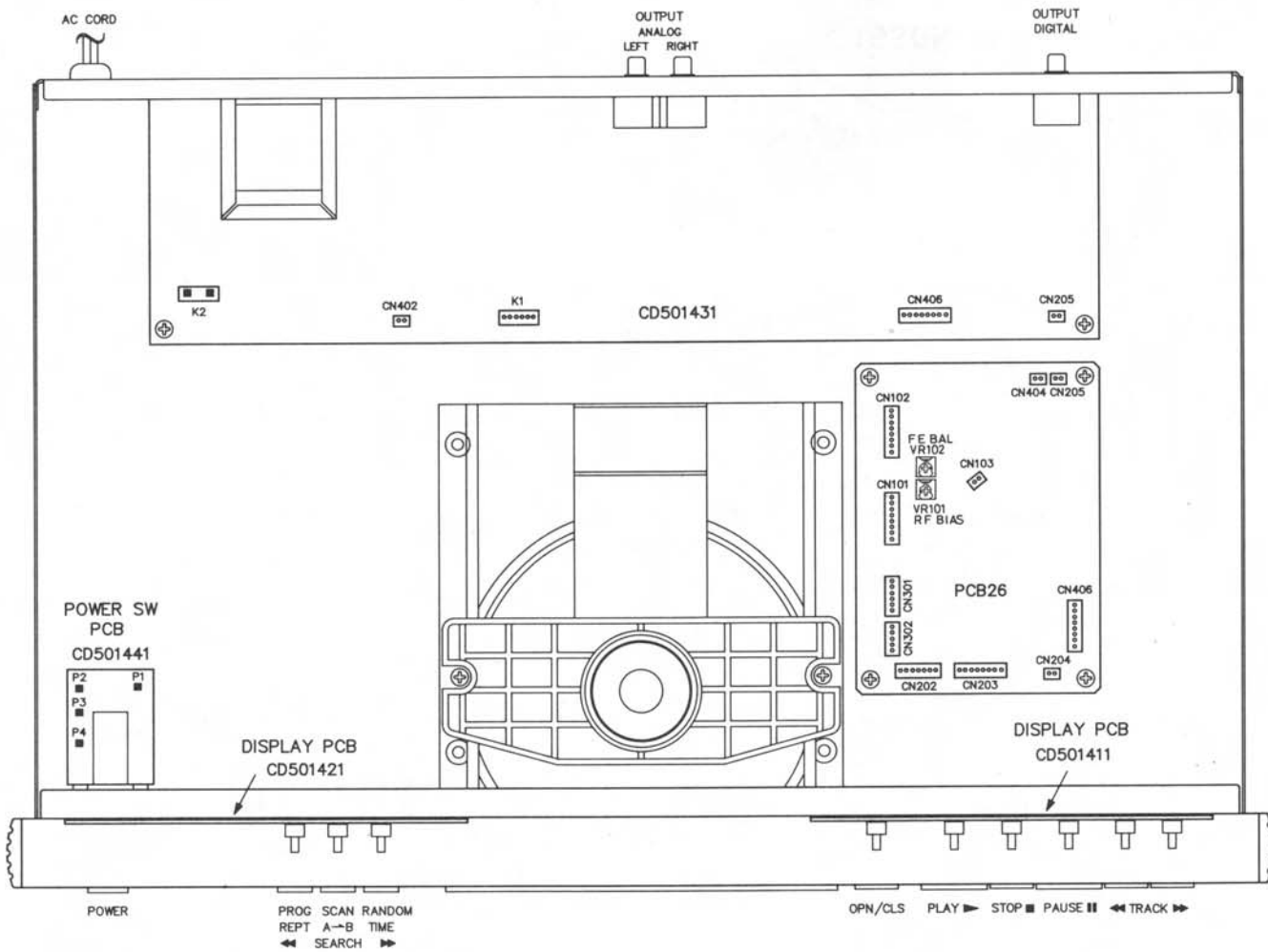
CAUTION

INVISIBLE LASER RADIATION WHEN OPEN, DO NOT STARE INTO BEAM.

DANGER

INVISIBLE LASER RADIATION WHEN OPEN, AVOID DIRECT EXPOSURE TO BEAM.

Chassis Layout



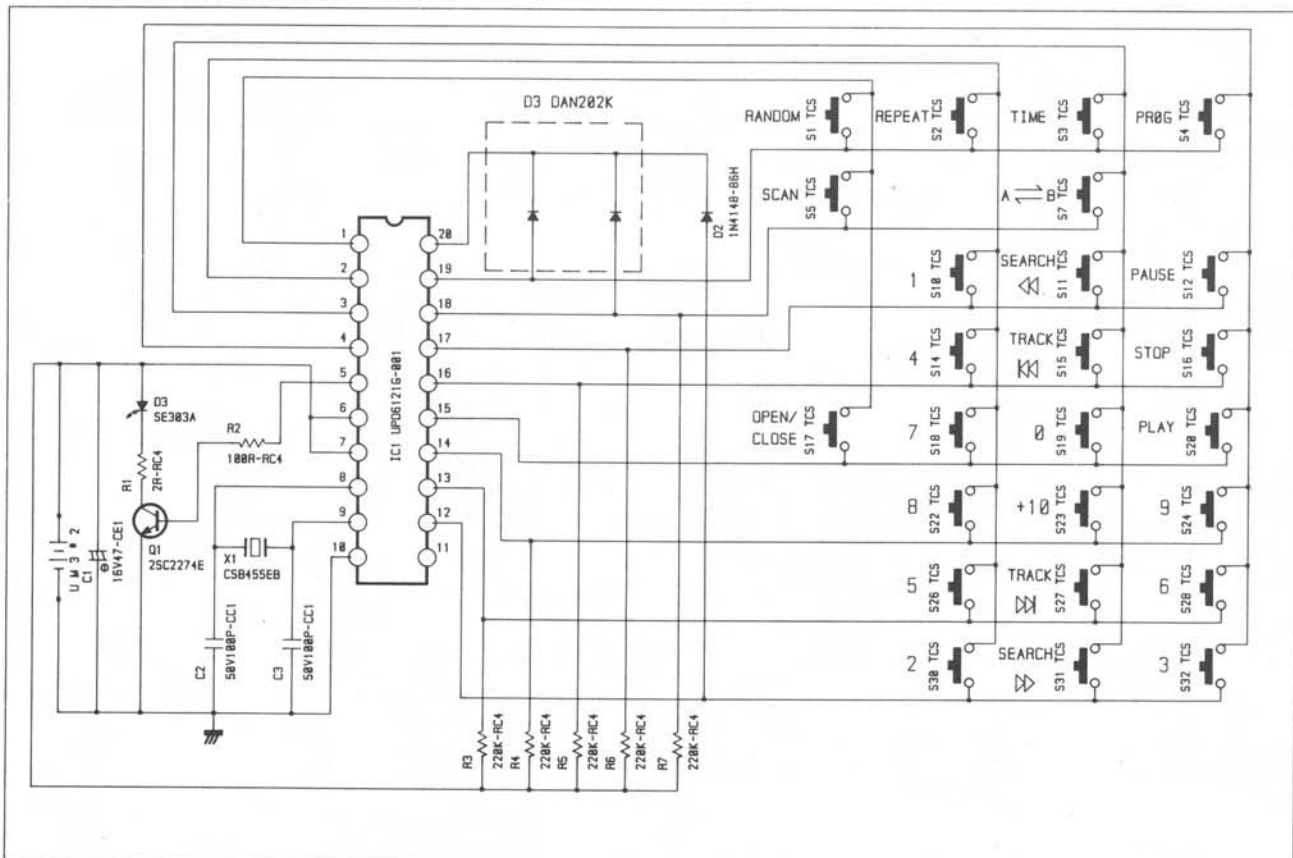
SPECIFICATIONS : RCD 950 COMPACT DISC PLAYER

Frequency response	5-20,000 Hz, ± 0.5 dB
Total Harmonic Distortion + Noise	$\leq 0.0045\%$ @ 1 kHz
Channel Separation	≥ 100 dB @ 1 kHz
Signal to noise ratio	≥ 100 dB
Channel balance	± 0.5 dB
Dynamic range	99 dB
Analog output	2 volts rms.
Analog output impedance	220 ohms
Digital output level	0.5 volt (peak to peak)
Digital output impedance	75 ohms
Speed accuracy, wow and flutter	Quartz crystal accuracy
Digital to analog converter	Multiplebit bitstream continuous calibration
Digital filter	96 x Oversampling equivalent
Power requirements	120 volts AC/60 Hz, 220-240 volts AC/50 Hz
Power consumption	30 watts
Weight	4.8 kg (10.5 Lb.)
Dimensions	440 mm (W) x 92 mm (H) x 298 mm (D) 17-3/8" (W) x 3-5/8" (H) x 11-3/4" (D)

All specifications are accurate at the time of printing. Rotel reserves the right to make improvements without notice.

REMOTE CONTROL HANDSET

SCHEMATIC DIAGRAM MODEL NO. R.R-925



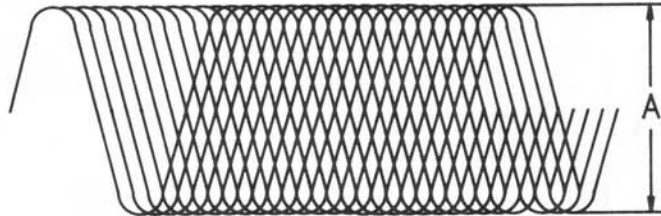
ADJUSTMENTS

REFERENCE DISC FOR ADJUSTMENTS: CBS/SONY YEDS-18 (TYPE 4).

THE ORDER OF ADJUSTMENT IS AS FOLLOWS:

1. RF LEVEL (PLAY)

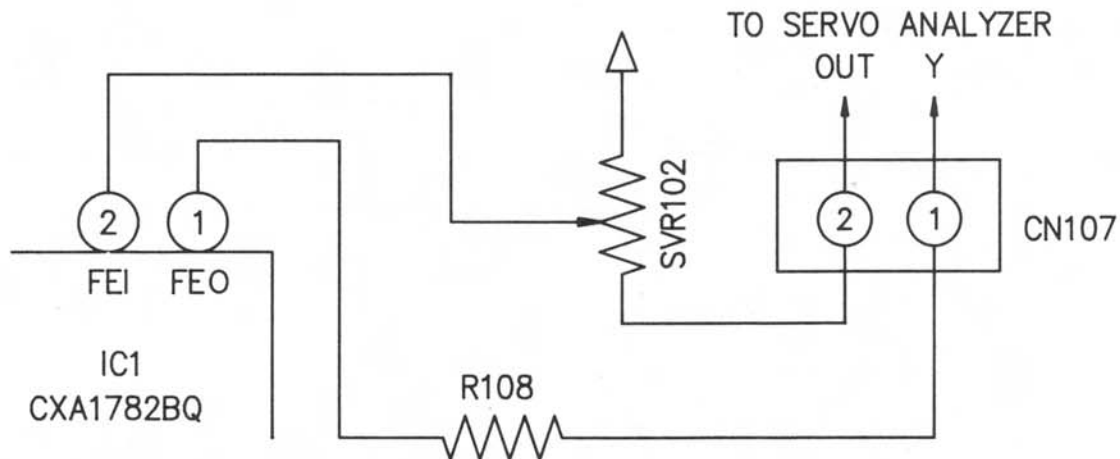
- OBSERVE THE RF SIGNAL WITH AN OSCILLOSCOPE HAVING MORE THAN 40 MHz RANGE, CONNECT THE PROBE TO TP102(RF) AND PROBE GND TO TP101(VC).
- ADJUST SVR101 TO OPTIMIZE THE RF.



$$A = 1.0^{+0.2}_{-0.1} \text{ V}_{\text{p-p}}$$

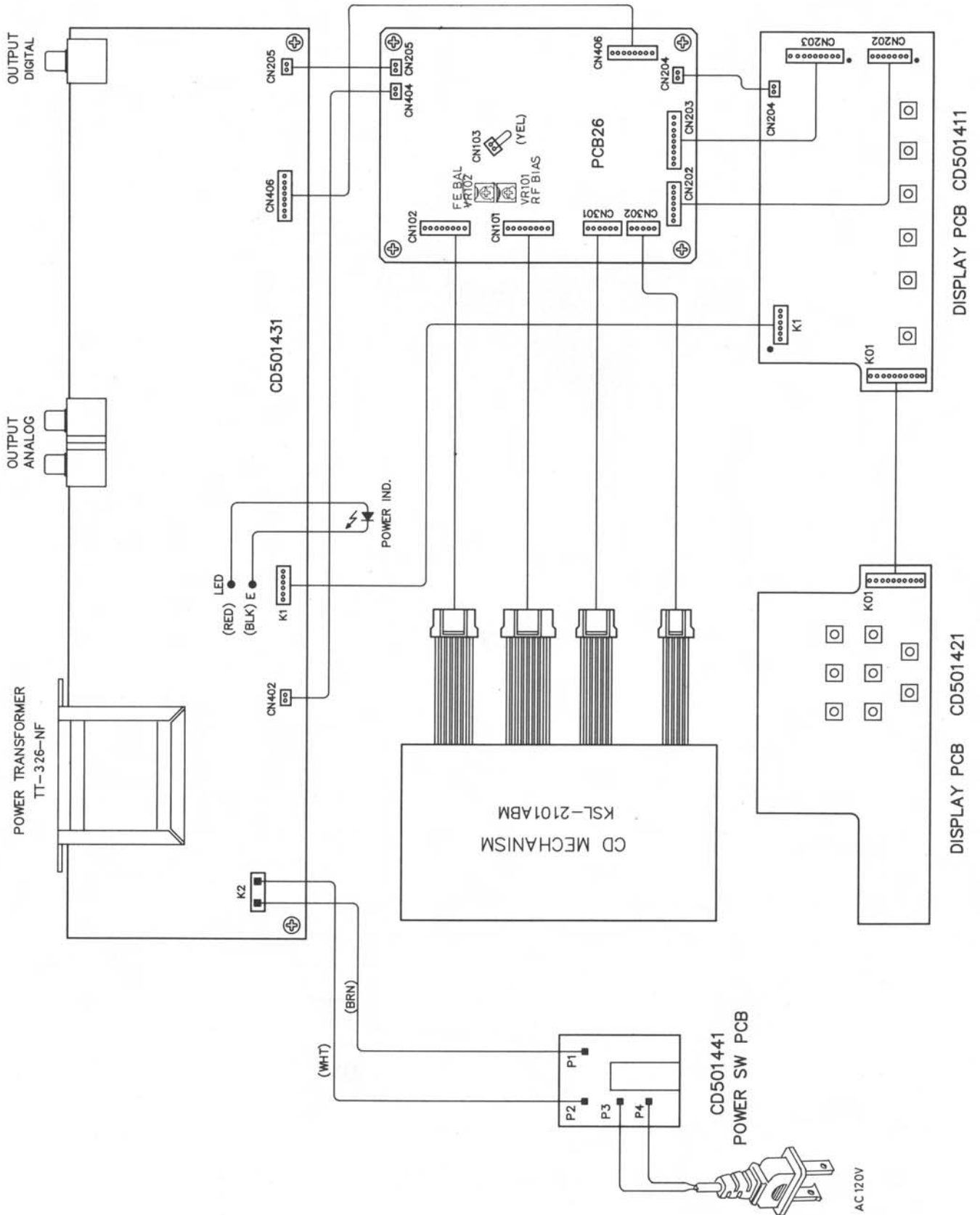
2. FOCUS SERVO GAIN (PLAY)

- USE A SERVO ANALYZER.
- CONNECT UP THE CIRCUIT AS SHOWN BELOW:



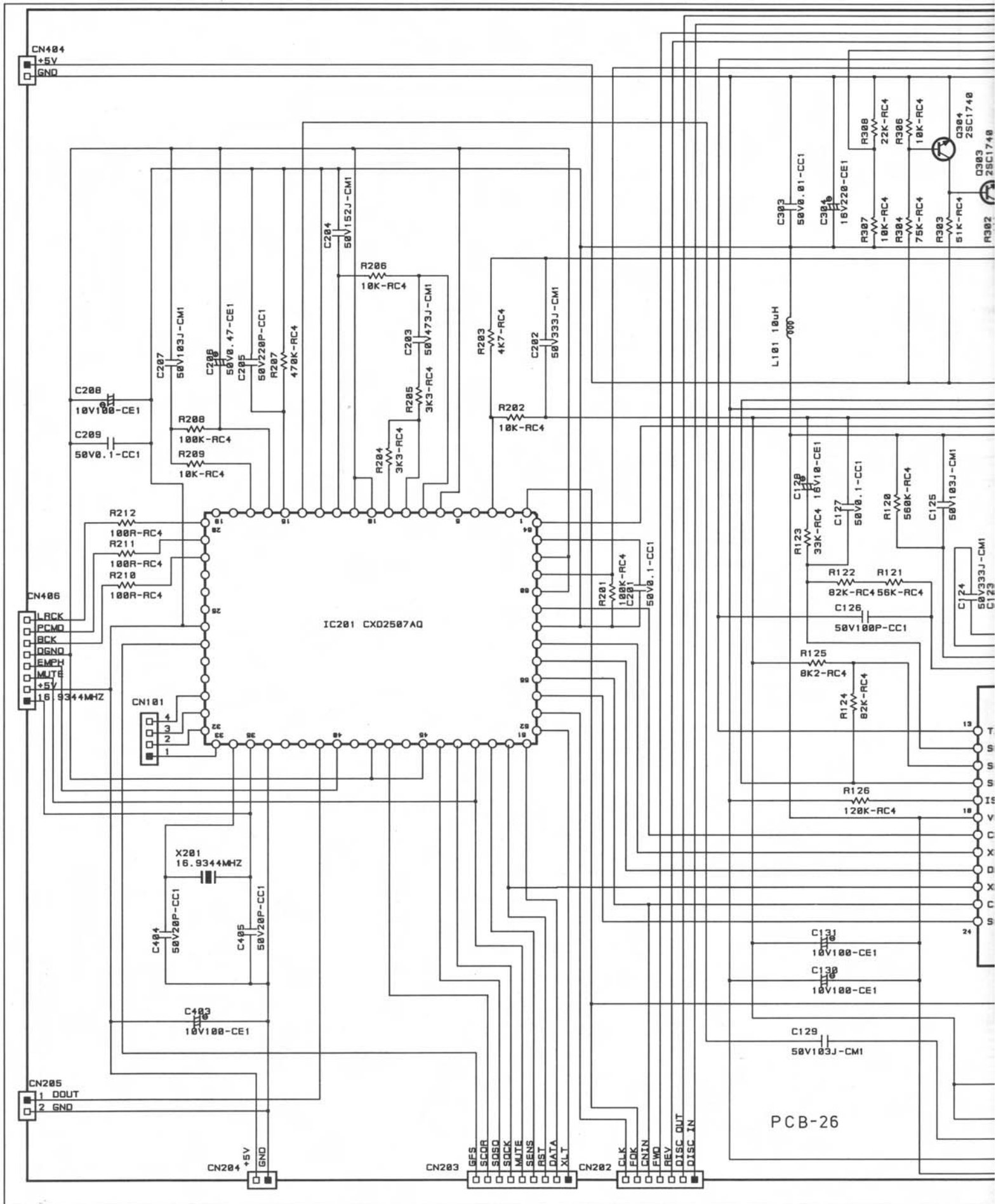
- CONNECT SERVO ANALYZER PROBE GND TO TP101(VC).
- INPUT AMOUNT : 50mV rms (-26 dB)
- ADJUST SVR102 SO THAT THE FE GAIN IS AROUND 0 dB AT 1kHz.

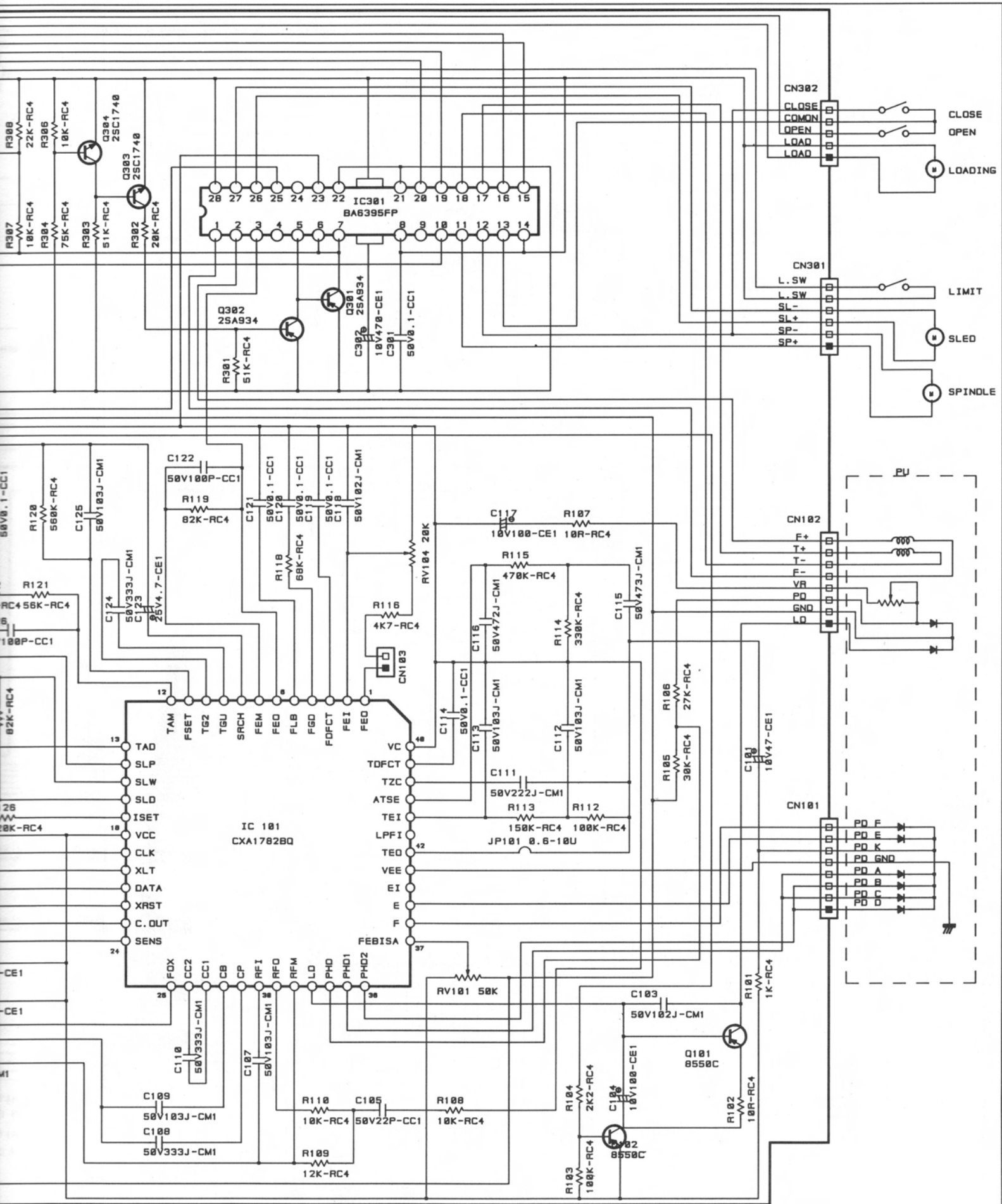
Wiring Diagram



Schematic Diagram

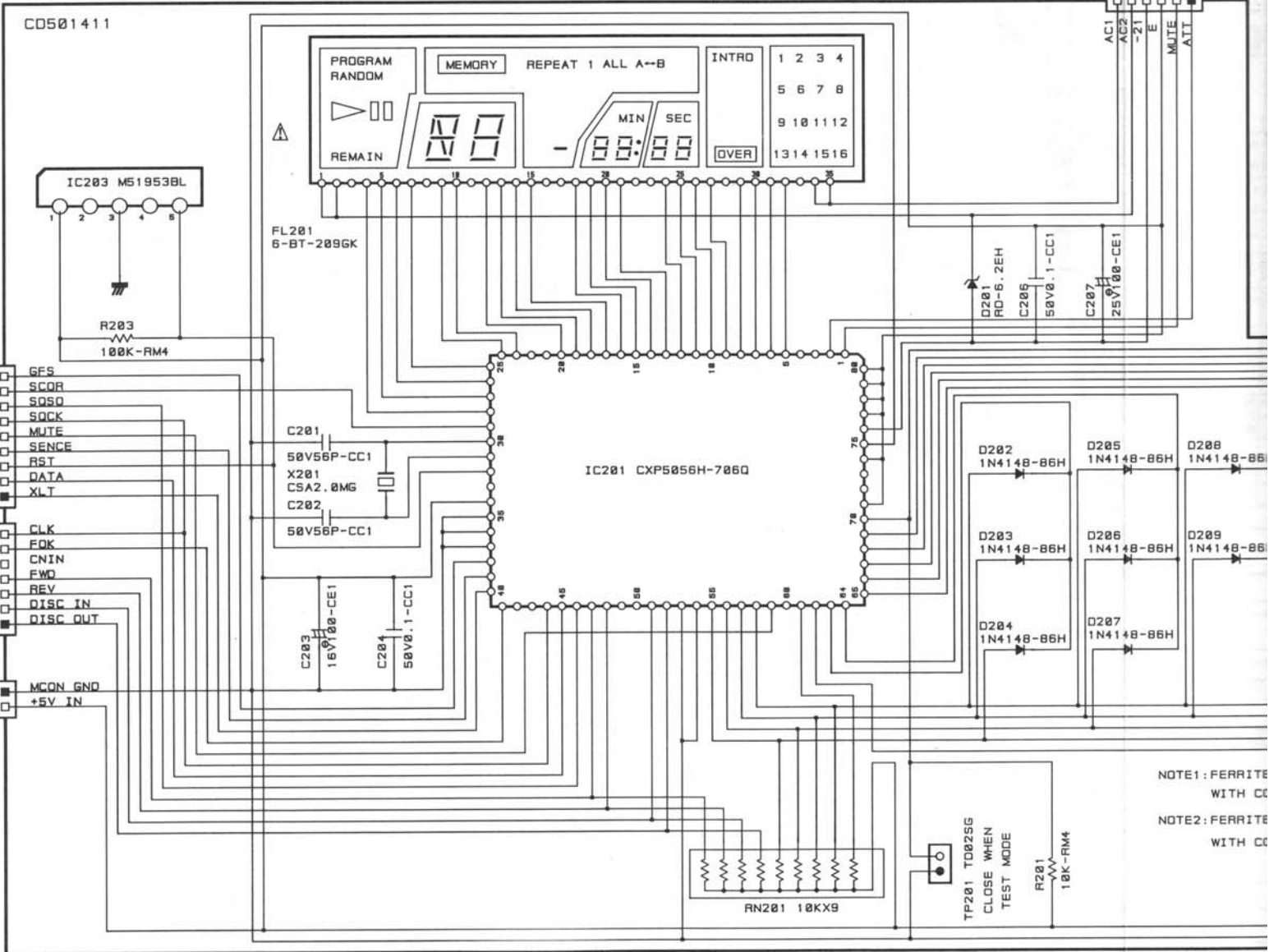
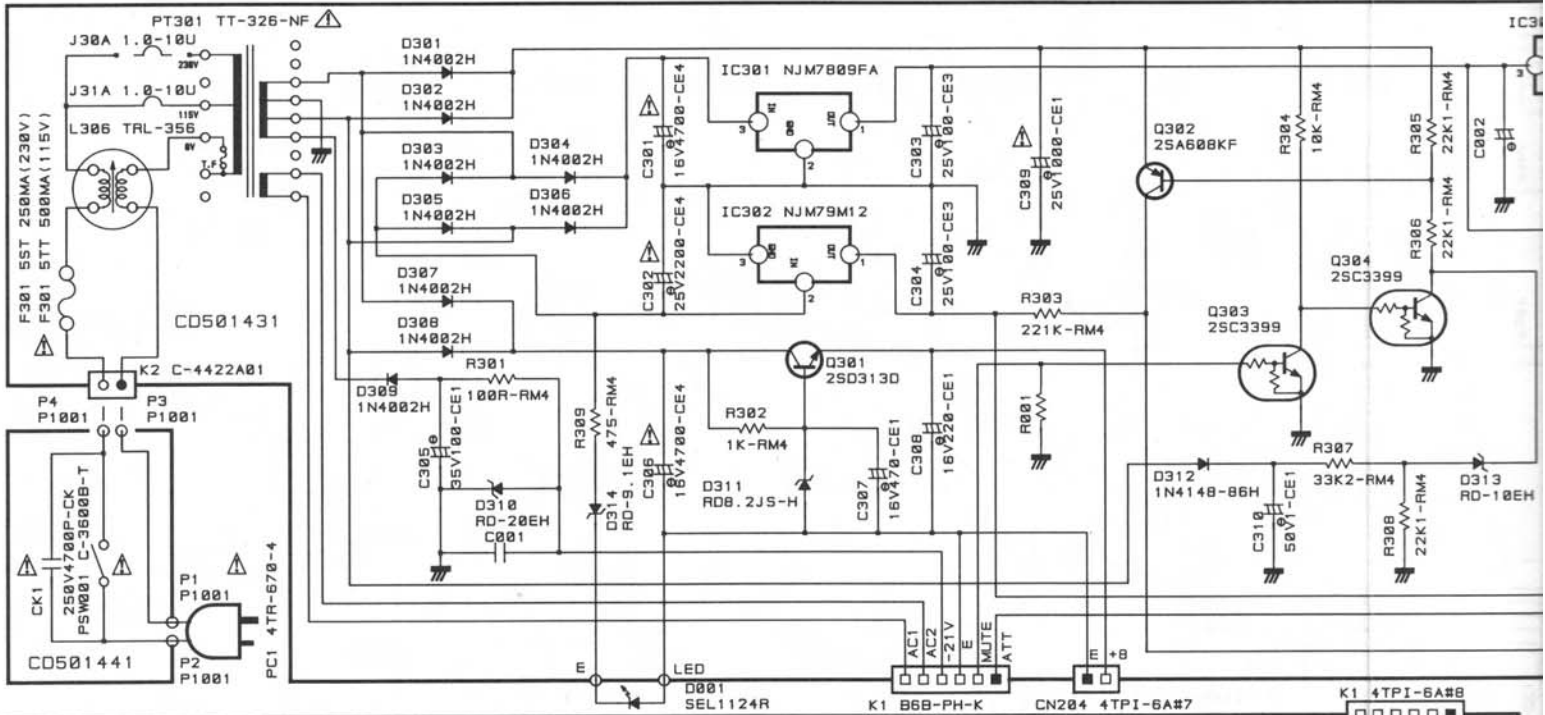
SCHEMATIC DIAGRAM MODEL NO. RCD-950 (1/2)

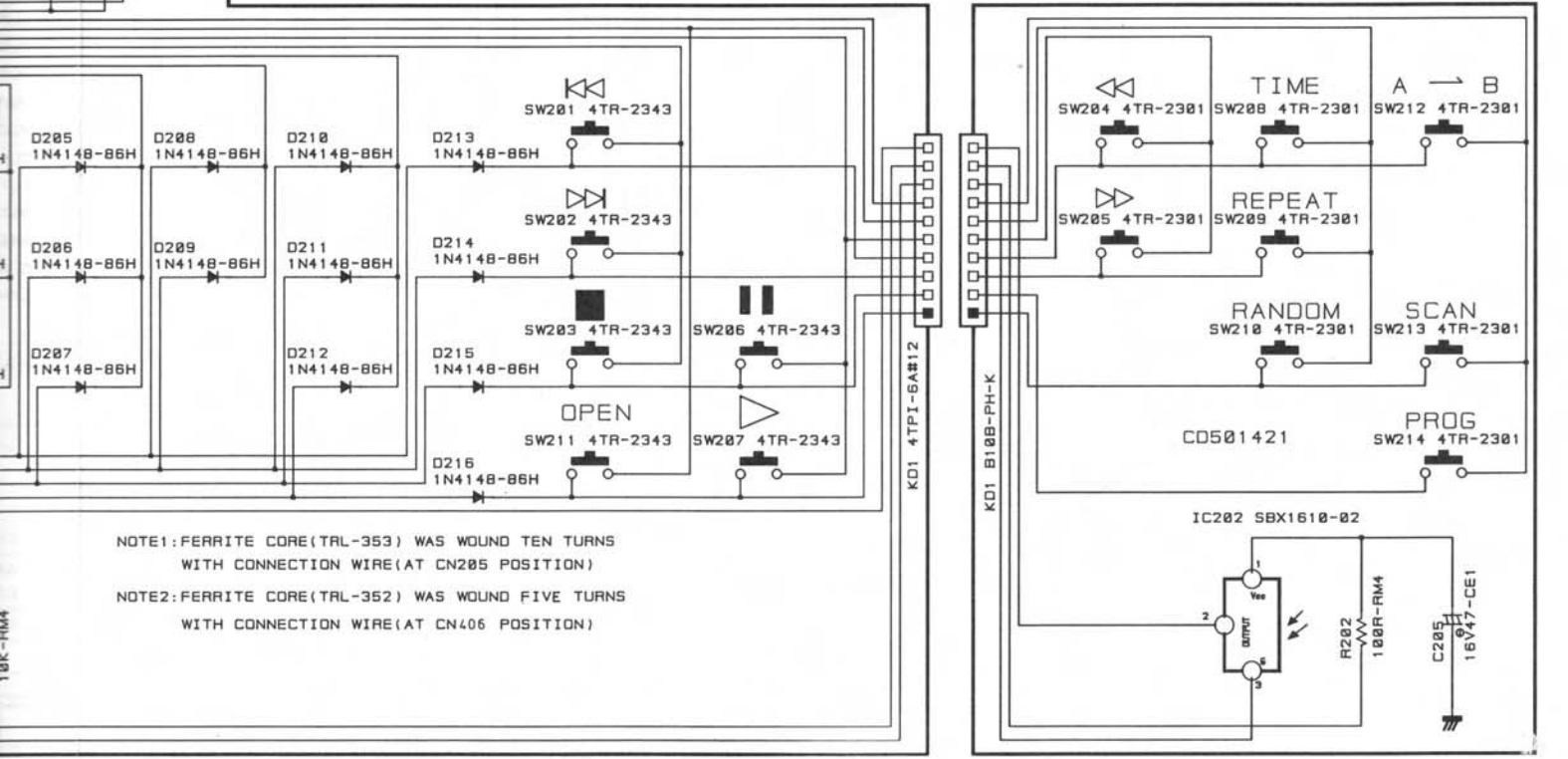
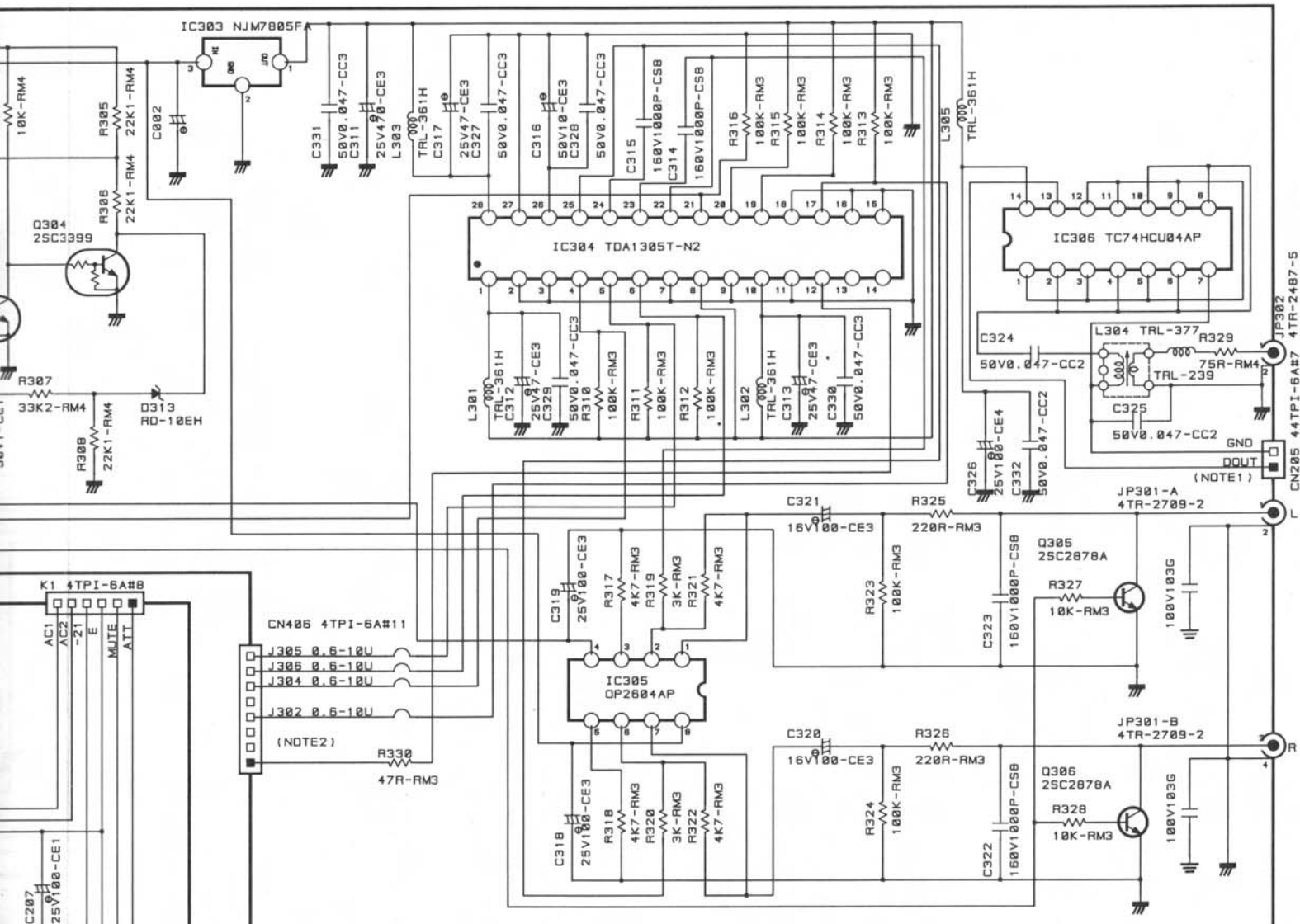




Schematic Diagram

SCHEMATIC DIAGRAM MODEL NO. RCD-950 (2/2)

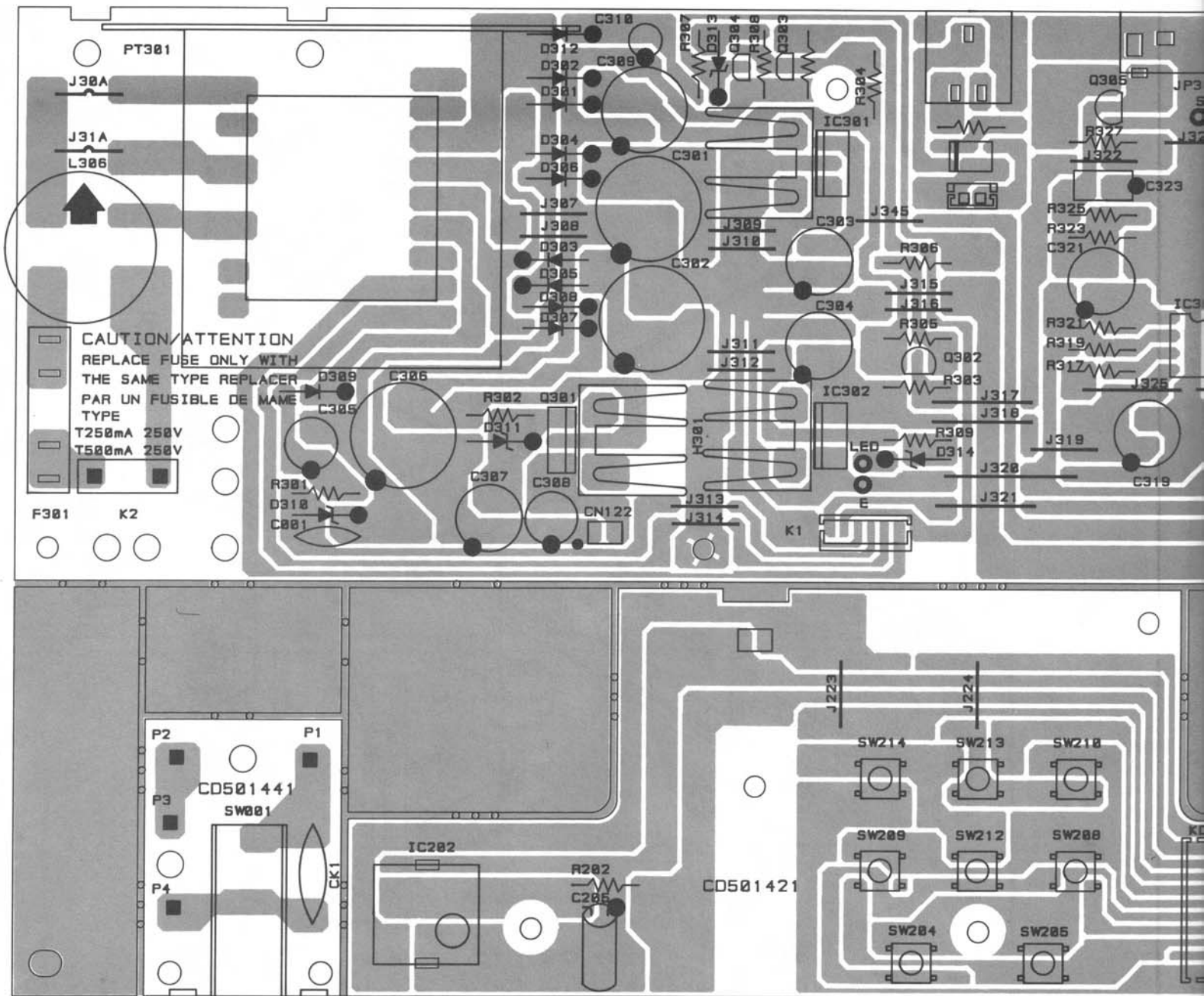


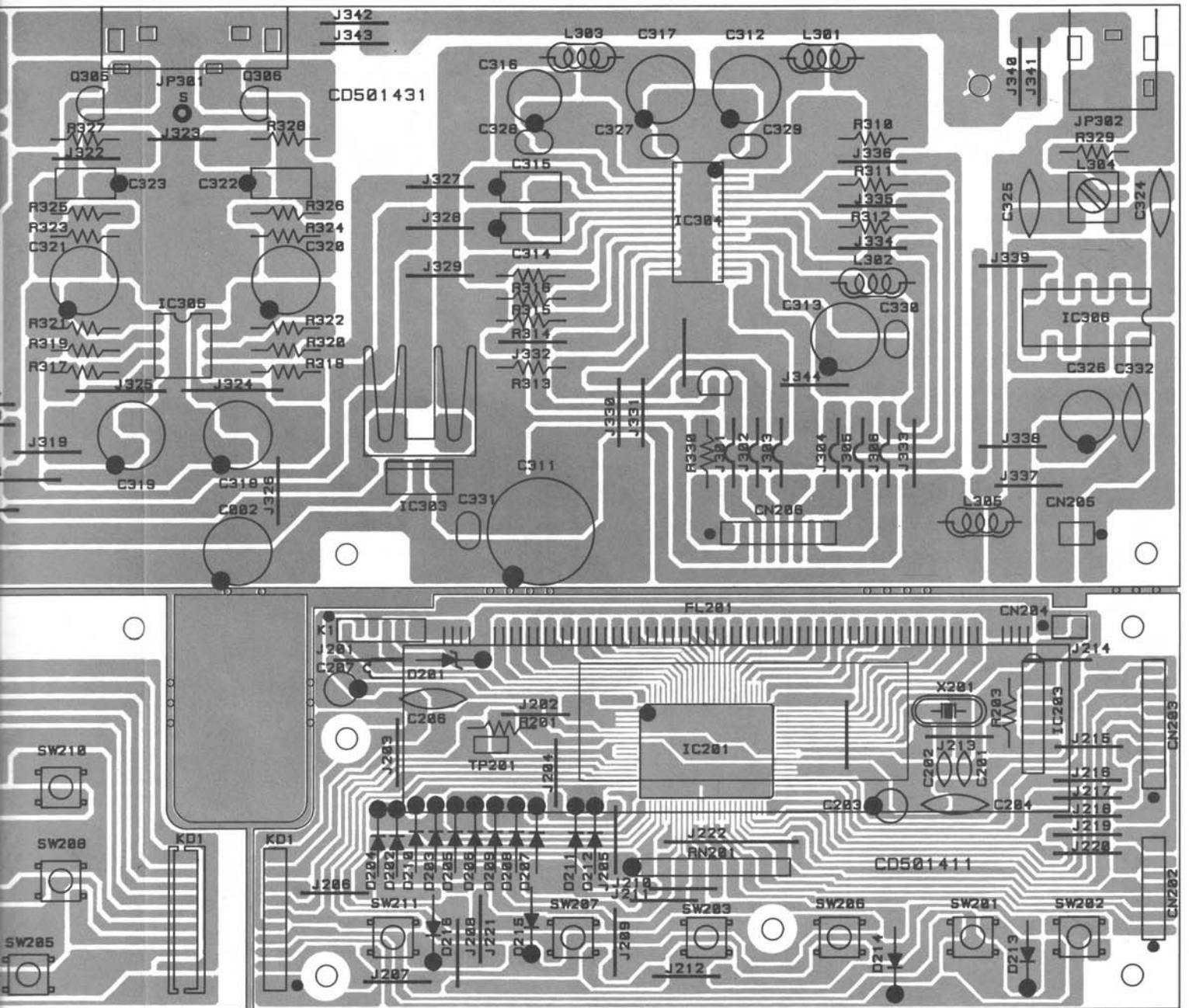


NOTE1:FERRITE CORE(TRL-353) WAS WOUND TEN TURNS WITH CONNECTION WIRE(AT CN205 POSITION)

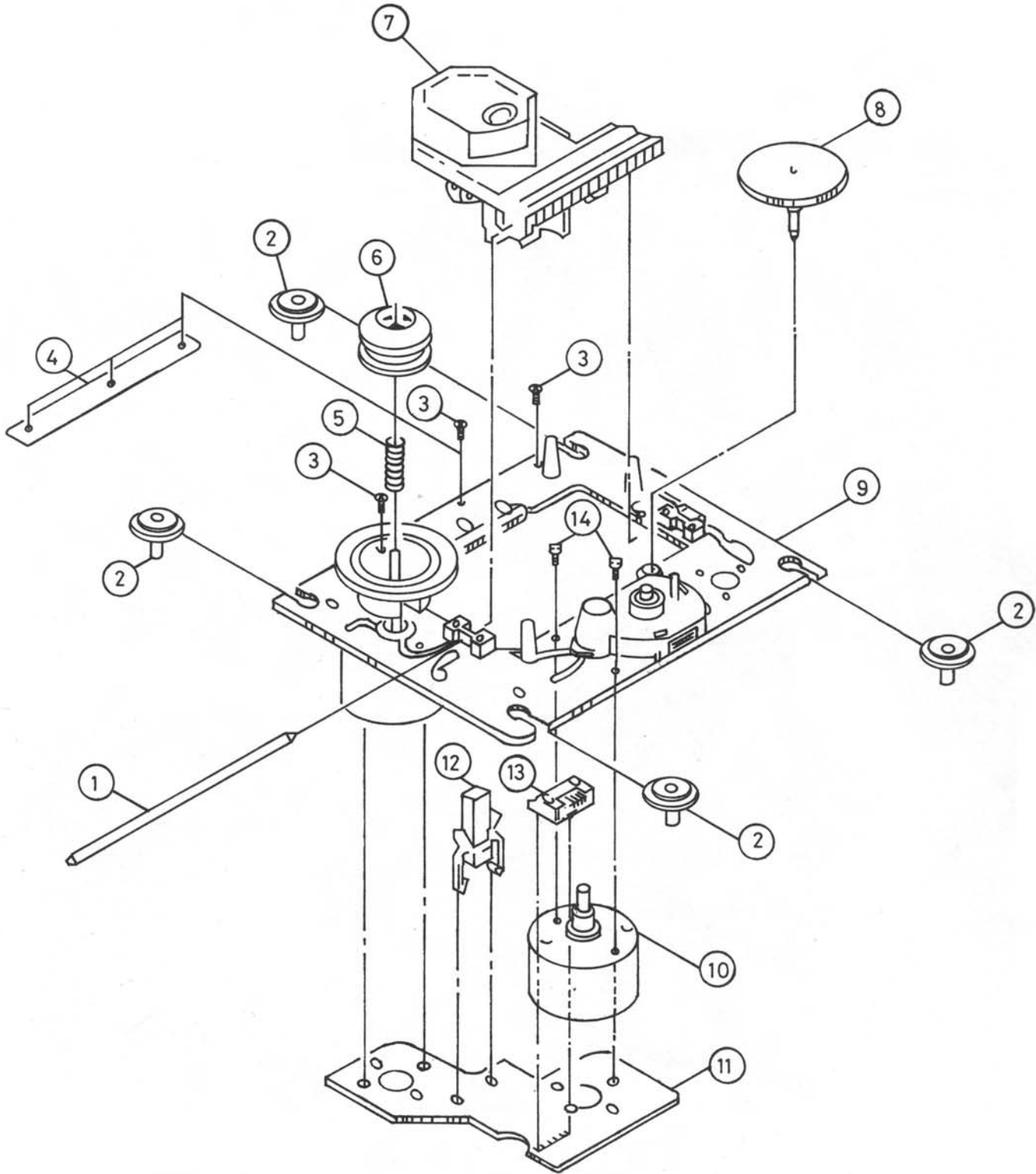
NOTE2:FERRITE CORE(TRL-352) WAS WOUND FIVE TURNS WITH CONNECTION WIRE(AT CN406 POSITION)

Printed Circuit Boards

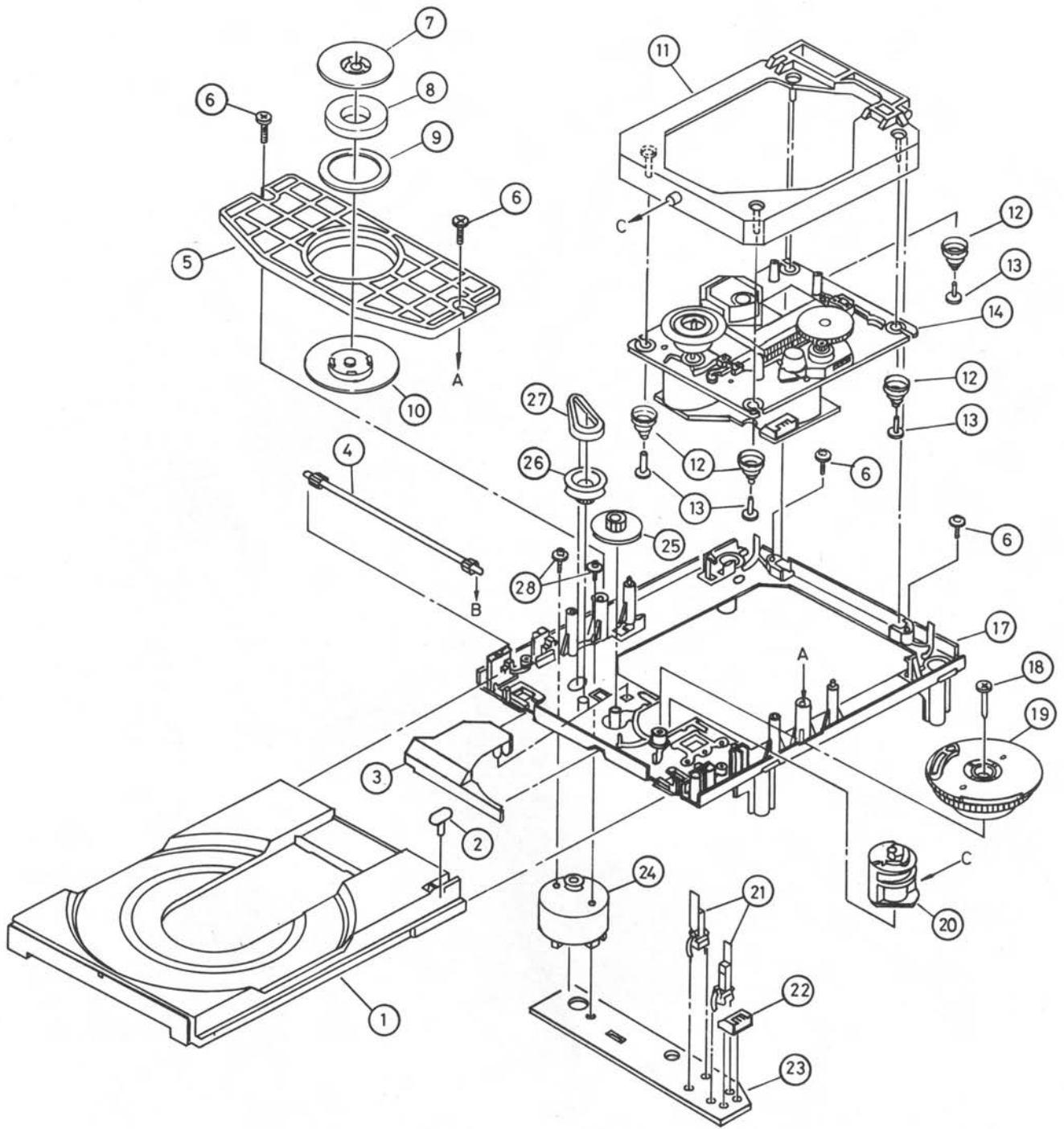




Disassembly Diagram



ITEM	RT PART NO.	SPEC. NO.	DESCRIPTION
1	DI10000010	2-625-464-(01)	SHAFT (S), SLED
2	DI10000021	2-625-538-(01)	INSULATOR (S)
3	DI10000343	2-641-386-(01)	SCREW (2x5), TAPPING (S)
4	DIDI100033	2-625-625-(01)	REINFORCEMENT (S)
5	DI10000045	2-626-465-(01)	SPRING (S), COMPRESSION
6	DI10000057	2-626-477-(01)	RING (LO) (S), CENTER
7	DI00000069	8-848-127-(31)	PICK UP KSS-210A (S) (RP)
8	DI10000070	2-626-462-(01)	GEAR (A) (S)
9	DI10000082	X-2625-133-(2)	CHASSIS ASS'Y (MB), TT
10	DI10000094	X-2625-132-(1)	GEAR ASS'Y (MB), MOTOR
11	DI10000100	1-639-678-(13)	PC BOARD, MOTOR (6P) (S)
12	DI00000112	1-572-085-(12)	SWITCH LEAF
13	DI10000124	1-564-722-(11)	PIN, CONNECTOR 6P
14	DI10000355	7-621-255-(15)	SCREW+P 2x3



ITEM	RT PARTS NO.	SPEC. NO.	DESCRIPTION
1	DI10000136	2-625-550-(03)	TRAY (S)
2			
3	DI10000148	2-625-544-(01)	COVER (S), GEAR
4	DI10000150	2-625-535-(01)	GEAR (S), TRAY
5	DI10000161	2-626-546-(01)	PLATE (S), CHUCKING
6	DI10000367	2-625-537-(01)	SCREW + P TP WH 2.6x7
7	DI10000173	2-625-537-(01)	YOKE (S), CHUCKING
8	DI10000185	1-452-483-(21)	MACNET
9	DI10000197	2-625-541-(02)	DAMPER (S)
10	DI10000203	2-625-548-(02)	PULLEY (G), CHUCKING
11	DI10000215	X-2625-227-(2)	CHASSIS ASS'Y (G), SUB
12	DI10000227	2-825-539-(01)	SPRING (S)
13	DI10000239	2-625-730-(01)	WASHER BASED SCREW
14	-----		DRIVE UNIT
17	DI10000240	2-625-552-(06)	CHASSIS (S), OUTSERT MAIN
18	DI10000379	3-319-501-(51)	SCREW+P TP WH 2.6x16
19	DI10000252	2-625-547-(03)	GEAR (S), DRIVE
20	DI10000264	2-625-545-(04)	CAM (S), CONTROL
21	DI10000276	1-572-086-(11)	SWITCH, LEAF
22	DI10000288	1-564-721-(11)	PIN, CONNECTOR 5P
23	DI10000290	1-640-523-(12)	PC BOARD LOADING
24	DI10000306	X-2625-117-(1)	MOTOR ASS'Y, LOADING
25	DI10000318	2-625-534-(02)	GEAR(S), MIDWAY
26	DI10000320	2-625-536-(02)	PULLEY (S), LOADING
27	DI10000331	3-653-387-(01)	BELT, LM
28	DI10000380	2-625-279-(01)	SCREW+B2.6x2.5

Parts List

NOTE: THE COMPONENTS INDENTIFIED BY Δ MARK ARE FOR SAFFTY. REPLACE ONLY WITH ORIGINAL PARTS. DO NOT SUBSTITUTE.

SYMBOL	PARTS NO.	DESCRIPTION
CD501411 PCB ASSEMBLY		
R201	RM51002810	R, METAL 10K 1/4W F
R203	RM51003813	R, METAL 100K 1/4W F
C201, 202	CC45612434	CAP, CERAMIC 56P 50V
C203	CE41005166	CAP, ELEC. 100uF 16V
C204	CC51008466	CAP, CERAMIC 0.1uF 50V
C206	CC51008466	CAP, CERAMIC 0.1uF 50V
C207	CE41005257	CAP, ELEC. 100uF 25V
D201	DD20000480	DIODE, ZENER RD6.2JS-T1
D202-212	DD80000021	DIODE, DETECT IN4148-86
D213, 214	DD80000021	DIODE, DETECT IN4148-86
D215, 216	DD80000021	DIODE, DETECT IN4148-86
RN201	RN11002093	THICK FILM RS NETWORK RAB-103-9K
X201	DH00000014	CERAMIC RESONATOR CSA2.0MG
IC201	IC00004190	IC CXP5056H-706Q
IC203	IC00003793	IC M51953 BL
FL201	DD40001439	FL TUBE 6-BT-209GK Δ
SW201-203	SH60000240	KEY BOARD SW 4TR-2343
SW206-207	SH60000240	KEY BOARD SW 4TR-2343
SW211	SH60000240	KEY BOARD SW 4TR-2343
CD501421 PCB ASSEMBLY		
IC202	IC00002030	REMOTE RECEIVER SBX1610-02
C205	CE44706167	CAP, ELEC. 47uF 16V
SW204-205	SH60000239	KEY BOARD SWITCH 4TR-2301
SW208-210	SH60000239	KEY BOARD SWITCH 4TR-2301
SW212-214	SH60000239	KEY BOARD SWITCH 4TR-2301
R202	RM51000812	R, METAL 100 1/4W F
CD501431 PCB ASSEMBLY		
R301	RM51000812	R, METAL 100 1/4W F
R302	RM51001816	R, METAL 1K 1/4W F
R303	RM52213815	R, METAL 221K 1/4W F
R304	RM51002810	R, METAL 10K 1/4W F
R305, 306	RM52212811	R, METAL 22.1K 1/4W F
R307	RM53322818	R, METAL 33.2K 1/4W F
R308	RM52212811	R, METAL 22.1K 1/4W F
R309	RM54750812	R, METAL 475 1/4W F
R310-316	RM11003713	R, METAL MRS25100K 0.6W
R317, 318	RM14701711	R, METAL MRS254K7 0.6W
R319, 320	RM13001713	R, METAL MRS253K 0.6W
R321, 322	RM14701711	R, METAL MRS254K7 0.6W
R323, 324	RM11003713	R, METAL MRS25100K 0.6W
R325, 326	RM12200717	R, METAL MRS25220R 0.6W
R327, 328	RM11002710	R, METAL MRS2510K 0.6W
R329	RM57509810	R, METAL 75R 1/4W F
R330	RM14709710	R, METAL MRS2547R 0.6W
C301	CE94704749	CAP, ELEC. 4700uF 16V Δ
C302	CE92204646	CAP, ELEC. 220uF 25V Δ
C303, 304	CE51005679	CAP, ELEC. 25BGF100M
C305	CE01005350	CAP, ELEC. 100uF 35V
C306	CE94704749	CAP, ELEC. 4700uF 16V Δ
C307	CE04705164	CAP, ELEC. 470uF 16V
C308	CC02205164	CAP, ELEC. 220uF 16V
C309	CE01004254	CAP, ELEC. 1000uF 25V Δ
C310	CE41007503	CAP, ELEC. 1uF 50V
C311	CC54705640	CAP, ELEC. 25BGF470M
C312, 313	CE64706677	CAP, ELEC. 25BGF47M
C314, 315	CS31010317	CAP, POLYSTYRENE 1000P 160V
C316	CE51006477	CAP, ELEC. 50BGF10M
C317	CE64706677	CAP, ELEC. 25BGF47M
C318, 319	CE51005679	CAP, ELEC. 25BGF100M
C320, 321	CE61005743	CAP, ELEC. 16BGF100M
C322, 323	CS31010317	CAP, ELEC. 1000P 160V
C324, 325	CC44709422	DSXE65 TKYF473Z
C326	CE71005259	CAP, ELEC. 100uF 25V

SYMBOL	PARTS NO.	DESCRIPTION
C327-331	CC64709439	CAP, LAYER CER. T50V473K
C332	CC44709422	CAP, CERAMIC DSXE65TKYF473Z
L301-303	LM00000632	MICRO INDUCTOR 4.7uH
L304	LC23770001	DIG OUT TRANSFORMER TRL-377
L305	LM00000632	MICRO INDUCTOR 4.7uH
L306	LC23560006	LINE FILTER COIL TRL-356
	CP01009317	CAP, POLYPROLYLENE 100V 103G
D301-309	DD80000033	DIODE, DETECT IN4002-TB
D310	DD20000600	DIODE, ZENER RD20JS-T1
D311	DD20000510	DIODE, ZENER RD8.2JS-T1
D312	DD80000021	DIODE, DETECT IN4148-86
D313	DD20000533	DIODE, ZENER RD10JS-T1
D314	DD20000521	DIODE, ZENER RD9.1JS-T1
Q301	TR30000029	TRANSISTOR 2SD313D
Q302	TR11000015	TRANSISTOR 2SA608KF
Q303, 304	TR31000101	TRANSISTOR 2SC3399-AC
Q305, 306	TR31000149	TRANSISTOR 2SC2878-A/B
IC301	IC00003641	IC NUM7809FA
IC302	IC00004207	IC NJM7912FA
IC303	IC00003630	IC NJM7805FA
IC304	IC00003914	IC TDA1305T2X/2Y
IC305	IC00004232	IC OPA2604AP
IC306	IC00003689	IC TC74HCU04AP
FL301	FU25000016	FUSE 250V 500mA Δ
	FU230000384	FUSE 250V T250mA Δ
CD501441 PCB ASSEMBLY		
CK1	CK00000035	SPARK KILLER DE7150F472M Δ
SW001	SH40000120	POWER SWITCHED C-3600B-T Δ
OTHERS		
	AF50000080	FRONT CHASSIS 2TQA-2
	AM00002293	CHASSIS BODY 2TQA-3
	AR50000162	PRINTED REAR CHASSIS TRP-700
	DI00001387	CD MECHANISM KSL-2101ABM
	PC00000126	P.C.B ASS'Y PCB-26
	LM00000462	FERRITE CORE TRL-353
	LM00000450	FERRITE CORE TRL-352
	FT00000229	PLASTIC FOOT 4TSH-19#2 50F x 14H
	SB00001307	PVC SHIELD BOARD 4TOA-8
	SC00000027	AC CORD STOPPER SR-4N-4 Δ
	CD00000218	AC CORD SPT-2 AWG#18 4TR-670#4 Δ C, U, A, J
	CD00000322	AC POWER CORD OKA 4TR-2757 D Δ
	CD00000048	AC POWER CORD 4TR-1037 H, E, Y, S1 Δ
	CD00000528	AC CORD H03VVH2-F 4TR-3083 K1 Δ
	CD00000115	AC POWER CORD C-3763-T G1 Δ
	NP00001949	NAME STICKER AC-120V 4TR-2828A#1 TNP-382
	NP00002012	NAME STICKER AC-100V 4TR-2828A#6 TNP-391
	NP00002140	NAME STICKER AC-240V 4TR-2828A#11 TNP-398
	PT32610106	POWER TRANSFORMER TT326NF Δ
	AA50000181	FRONT PANEL 2TQA-1
	AW00000654	RJ SENSOR WINDOW PT4-12A00T
	AW00000812	PANEL WINDOW 4TOA-5 TFP-777
	BU00001145	POWER RING W/LED 4TQF-13
	KB20002681	POWER BUTTON 4TQF-15
	KB20002784	TACT BUTTON 2 KEY 3TQO-4
	KB20002796	TACT BUTTON 3 KEY 3TQP-2
	KB20003168	TACT BUTTON QY3-08A00T
	OM10001272	ORNAMENTAL SIDE BOARD 4TR-2797#2 H-80MM

Parts List

SYMBOL	PARTS NO.	DESCRIPTION
	DD40000095	L.E.D. SEL1124R/LN224R
	OM70000065	PUSH BUTTON CONNECTOR 4TTL-15
	SN00000179	BUTTON SPRING 4TR-1988A#2 10F
	AG00000469	REMOTE CONTROL HANDSET RR-925
	AU00001316	TOP COVER 3TTF-5#9
	OM10001820	CD PLASTIC DOOR 4TPI-2 TFP-733
	SR00000882	UPPER COVER SPACER 4TR-2418
	PL00001130	STYROL SIDE MOULDING 2TQR-4 TZ-186
	OM70000454	FILTER BOARD 4TSJ-9A#7
	TN10005078	INSIDE CARTON RCD-950 4TOA-6
	MN10004054	OWNER'S MANUAL RCD-950