

Quality Uncompromised

ROTEL[®]

Technical Manual

COMPACT DISC PLAYER **RCD-02**

Table of Contents

Specification.....	1
Appearance	2
Wiring Diagram	3
Parts List	4~6
Case Outlines.....	7~8
Disassembly Diagram.....	9
PCB Assembly	10~11
Schematic Diagram.....	12

Specification

Total Harmonic Distortion + Noise	0.0045% @ 1kHz
Intermodulation Distortion	0.0045% @ 1kHz
Frequency Response (± 0.5 dB)	20-20,000 Hz
Channel Balance	±0.5 dB
Phase Linearity	±0.5 degree
Channel Separation	> 98 dB @ 1kHz
Signal to Noise Ratio	> 100dB
Dynamic Range	> 96 dB
Digital to Analog Converters	18 bit equivalent, multi-level Delta-Sigma DAC with 8x oversampling digital filter and HDCD
Speed Accuracy, Wow & Flutter	Quartz Crystal Precision
Output Impedance	100 Ohms
Digital Output	0.5 Volt, Peak to Peak
Load Impedance	75 Ohms
Power Requirements	
USA Version	AC 115V, 60 Hz
European Version:	AC 230V, 50 Hz
Power Consumption	20 Watts
Dimensions (W, H, D)	17 ¹ / ₈ x 2 ⁷ / ₈ x 12 ⁷ / ₁₆ inches 435 x 73 x 316 mm
Panel Height	60 mm / 2 ³ / ₈ "
Weight (net)	5 kg, 11 lb.

THE ROTEL CO., LTD

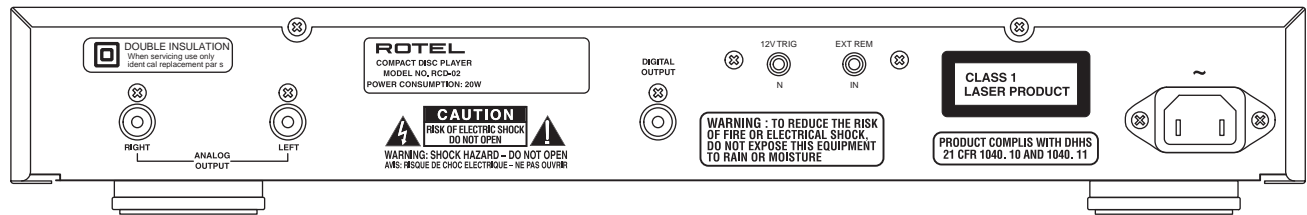
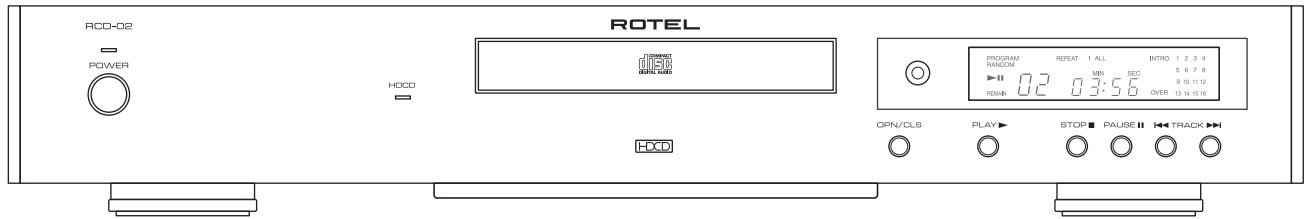
SHINSEN-BLD. 4F 10-10 SHINSEN-CHO, SHIBUYA-KU,
TOKYO 150-0045, JAPAN

Serial. NO.
Beginning

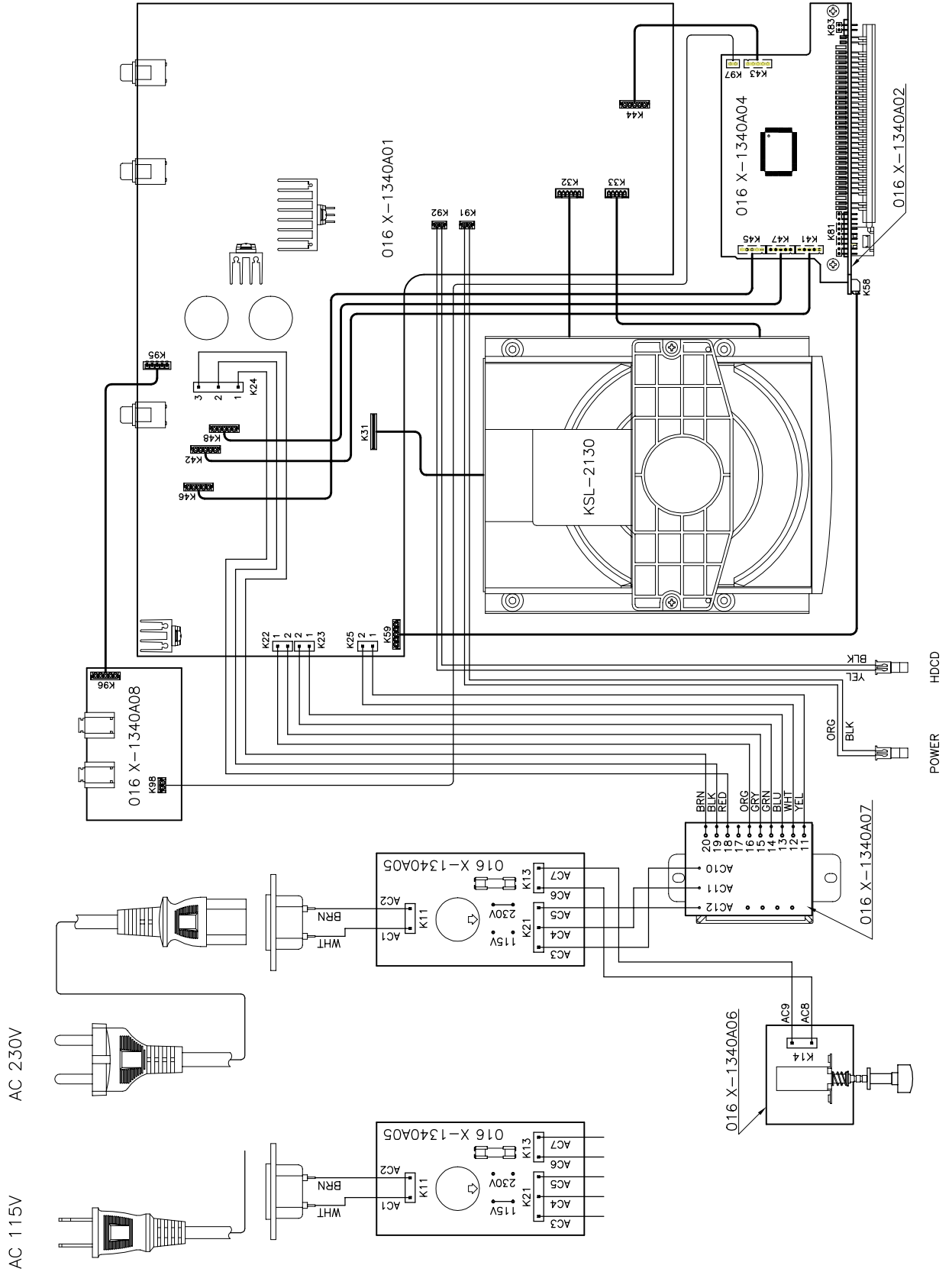
Y-365A-0207/pdf

Appearance

RCD-02



Wiring Diagram



Parts List 1/3

SYMBOL	PARTS NO.	DESCRIPTION
016 X-1340A01-08 PCB ASSY		
	501 X-1340	PCB ASSY
K201	066 4TR-2487#4	1P PIN JACK (BLK)
K702	066 4TR-2487#7	1P PIN JACK (RED)
K701	066 4TR-2487#8	1P PIN JACK (WHT)
K451	065 YKB21-5111A	3.5Φ MINI JACK
K461	065 YKB21-5103A	3.5Φ MINI JACK
R452,454,455,603,925	053 CR14-104J-A	CARBON RESISTOR 1/4W 100K
R904,922,923,927,604,916	053 CR14-103J-A	CARBON RESISTOR 1/4W 10K
R907	053 CR14-105J-A	CARBON RESISTOR 1/4W 1M
R902	053 CR14-222J-A	CARBON RESISTOR 1/4W 2.2K
R908	053 CR14-224J-A	CARBON RESISTOR 1/4W 220K
R451,453,732,906,921,928	053 CR14-223J-A	CARBON RESISTOR 1/4W 22K
R601	053 CR14-471J-A	CARBON RESISTOR 1/4W 470
R602,905	053 CR14-473J-A	CARBON RESISTOR 1/4W 47K
R924,926	053 CR14-563J-A	CARBON RESISTOR 1/4W 56K
R401,402,410,412	053 CR16-104J-A	CARBON RESISTOR 1/6W 100K
R403-409,411,413-417	053 CR16-103J-A	CARBON RESISTOR 1/6W 10K
C901,903,905,921,922,951-954	043 TC500V103	CERAMIC CAPACITOR 500V0.01uF
C102,152,165,169,170,171	043 TC50V103	CERAMIC CAPACITOR 0.01uF
C202,206,252,401,403,408	043 TC50V103	CERAMIC CAPACITOR 0.01uF
C509,909,941,603,916	043 TC50V103	CERAMIC CAPACITOR 0.01uF
C602,632,652,663,664	046 T50V473K	CERAMIC CAPACITOR 0.047uF RPE132-901R
C959,960,967,987,988	046 T50V473K	CERAMIC CAPACITOR 0.047uF RPE132-901R
C161	043 TC50V101	CERAMIC CAPACITOR 100pF
C109	043 TC50VCH150	CERAMIC CAPACITOR 15pF
C633,634	043 TC50VCH220	CERAMIC CAPACITOR 22pF
C254,258	043 TC50VCH270	CERAMIC CAPACITOR 27pF
C406,407	043 TC50VCH330	CERAMIC CAPACITOR 33pF
C155,158	043 TC50V471	CERAMIC CAPACITOR 470pF
C205,207	043 TC50VCH470	CERAMIC CAPACITOR 47pF
X401	023 CSA10.0MHZ	CERAMIC RESONATOR CSA10.0MTZ100
X631	023 HC49U-002	CRYSTAL HC49U16.9344MHZ
D901,903,904,921,922,951-954	034 T1N4003-TB	DIODE 1N4003-E
D401,402,451,452,731	034 T1N4148-86	DIODE 1N4148TAP-50
C352,404	041 TUTES1A101-TF	ELECTROLYTIC CAPACITOR 10V100uF
C251	041 TVX1C102	ELECTROLYTIC CAPACITOR 16V1000uF
C907	041 VX1C332	ELECTROLYTIC CAPACITOR 16V3300uF
C631	041 20SG22M+F	ELECTROLYTIC CAPACITOR 20V22uF
C717,718,741-744,981,982	041 TEEUFC1E101SB	ELECTROLYTIC CAPACITOR 25V100uF
C101,107,151,164,908,932	041 TVX1E101	ELECTROLYTIC CAPACITOR 25V100uF
C402,924	041 TUTES1E101-TF	ELECTROLYTIC CAPACITOR 25V100uF
C601,963,965	041 TEEUFC1E221B	ELECTROLYTIC CAPACITOR 25V220uF
C651,661,662	041 TEEIFC1E470B	ELECTROLYTIC CAPACITOR 25V47uF
C105,106,201,203,511	041 TVX1E470	ELECTROLYTIC CAPACITOR 25V47uF
C906	041 TUTES1V101-TF	ELECTROLYTIC CAPACITOR 35V100uF
C955,956	041 50USP472	ELECTROLYTIC CAPACITOR 50V4700uF
C665,666	041 TEEUFC1H100LB	ELECTROLYTIC CAPACITOR 50V10uF
C910,911	041 TUTES1H100-TF	ELECTROLYTIC CAPACITOR 50V10uF
C451,923,931,969	041 TUTES1H010-TF	ELECTROLYTIC CAPACITOR 50V1uF
C405,452	041 TUTES1H2R2-TF	ELECTROLYTIC CAPACITOR 50V2.2uF
C667,668	041 TEEUFC1H4R7B	ELECTROLYTIC CAPACITOR 50V4.7uF
K31	068 16FMN-BTRK	FFC 16P CONNECTOR
O351	035 6BT209GK	FL TUBE
F001	036 5ST500	FUSE 250VT500MA
U601	031 PCM1732U	I C (D/A CONVERTER WITH HDCD)
U151	031 CXD2545Q	I C (DSP)
U201,631	031 TC74HCU04AP	I C (HEX INVERTER)
U251	031 BA6392FP	I C (MOTOR BTL DRIVE)
U511	031 LB1641	I C (MOTOR DRIVE)

Parts List 2/3

U701,702	031 OPA2604AP	I C (OPE DUAL)
U981	031 NJM7815FA	I C (REGULATOR +15VDC)
U901,931,961	031 SI3050J	I C (REGULATOR +5VDC)
U982	031 NJM7915FA	I C (REGULATOR -15VDC)
U351	031 SBX3010-52B	I C (REMOTE EYE)
U101	031 CXA1821M	I C (RF AMP)
U401	031 CXP82440A-1	I C CXP82440A-179Q
U451,452	031 PC817B	IC (PHOTO COUPLER)
S351-356	061 4TR-2343	KEY BOARD SWITCH SKHHAN2910
D001,D002	034 SEL1E24W	LED (BLUE) 1X5
L001	021 TRL-356	LINE CHOKE COIL LF-2217
C163	044 TBF014D0103J	M.P CAPACITOR 63V0.01uF
C256	044 TBF074D0334J	M.P CAPACITOR 63V0.033uF
C160,204	044 TBF014D0473J	M.P CAPACITOR 63V0.047uF
C103,104,153,154,156,257,513	044 TBF014D0104J	M.P CAPACITOR 63V0.1uF
C162	044 TBF074D0474J	M.P CAPACITOR 63V0.47uF
C108	044 TBF014D0102J	M.P CAPACITOR 63V1000pF
C159,255	044 TBF014D0152J	M.P CAPACITOR 63V1500pF
C167,168	044 TBF074D0105J	M.P CAPACITOR 63V1uF
C157	044 TBF014D0472J	M.P CAPACITOR 63V4700pF
C253	044 TBF014D0682J	M.P CAPACITOR 63V6800pF
R352,353,354	054 TMF1801	METAL FILM RESISTOR 1/4W 1.8K
R111	054 TMF10R0	METAL FILM RESISTOR 1/4W 10
R152,168,169,461,462	054 TMF1000	METAL FILM RESISTOR 1/4W 100
R153,155,163	054 TMF1003	METAL FILM RESISTOR 1/4W 100K
R703,704	054 TRC55Z1003F	METAL FILM RESISTOR 1/4W 100K
R110,158,164,901	054 TMF1002	METAL FILM RESISTOR 1/4W 10K
R112	054 TMF12R0	METAL FILM RESISTOR 1/4W 12
R105,106,252,254	054 TMF1503	METAL FILM RESISTOR 1/4W 150K
R154,157	054 TMF1502	METAL FILM RESISTOR 1/4W 15K
R151,456	054 TMF1001	METAL FILM RESISTOR 1/4W 1K
R162	054 TMF1004	METAL FILM RESISTOR 1/4W 1M
R903	054 TMF2203	METAL FILM RESISTOR 1/4W 220K
R108,109	054 TMF2202	METAL FILM RESISTOR 1/4W 22K
R159,160	054 TMF3301	METAL FILM RESISTOR 1/4W 3.3K
R201	054 TMF3300	METAL FILM RESISTOR 1/4W 330
R156	054 TMF3302	METAL FILM RESISTOR 1/4W 33K
R251	054 TMF3903	METAL FILM RESISTOR 1/4W 390K
R255	054 TMF4R70	METAL FILM RESISTOR 1/4W 4.7
R701,702	054 TRC55Z4700F	METAL FILM RESISTOR 1/4W 470
R107,425	054 TMF4702	METAL FILM RESISTOR 1/4W 47K
R351	054 TMF5601	METAL FILM RESISTOR 1/4W 5.6K
R731	054 TMF8200	METAL FILM RESISTOR 1/4W 820
R161,165,166,167,719,720	054 TMFR4100R	METAL RESISTOR 1/4W 100
R707,708	054 TMFR4012K	METAL RESISTOR 1/4W 12K
R633	054 TMFR4018R	METAL RESISTOR 1/4W 18
R713,714	054 TMFR401K2	METAL RESISTOR 1/4W 1K2
R711,712	054 TMFR401K5	METAL RESISTOR 1/4W 1K5
R631	054 TMFR4001M	METAL RESISTOR 1/4W 1M
R202	054 TMFR4027R	METAL RESISTOR 1/4W 27
R715,716	054 TMFR402K7	METAL RESISTOR 1/4W 2K7
R635	054 TMFR4039R	METAL RESISTOR 1/4W 39
R705,706	054 TMFR403K3	METAL RESISTOR 1/4W 3K3
R717,718	054 TMFR4560K	METAL RESISTOR 1/4W 560K
R203	054 TMFR4075R	METAL RESISTOR 1/4W 75
L651,661,662	021 TRL-392	MICRO INDUCTOR 33uH
L101,151,152,201,401,601,631	021 TRL-395	MICRO INDUCTOR 4.7uH
R256	054 1WS2.2JF	MOF RESISTOR 1W 2.2
R511	054 1WS4.7JF	MOF RESISTOR 1W 4.7
C731,732	044 100UPZ103J	POLYPROPYLENE FILM CAPACITOR 100V0.01uF
C707,708,713,714	044 PP400V1000PF	POLYPROPYLENE FILM CAPACITOR 400V1000pF
C711,712	044 PP630V560PF	POLYPROPYLENE FILM CAPACITOR 630V560pF

Parts List 3/3

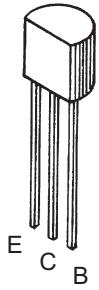
S001	061 C-4176A08	POWER SWITCH PS3-22SPA-P7AZ TV8
T001	022 T-1060N01	POWER TRANSFORMER
S731	063 A24W-K	RELAY A24W-K
C001	044 DE1307E472M	SPARK KILLER 4700pF
C701,702	044 FSC160V101H	STYROL CAPACITOR 160V100pF
R424	054 SE8104J	THICK FILM RS 100Kx8
R423	054 SE8102J	THICK FILM RS 1Kx8
T731	032 TA1016-FG	TRANSISTOR 2SA1016KAA-FG
T451,901,902	032 TA608-FG	TRANSISTOR 2SA608KAA-FG
T101	032 TB764-EF	TRANSISTOR 2SB764AE-EF
T452,601,903,921-923,924	032 TC536-FG	TRANSISTOR 2SC536KAA-FG
D905	034 TRD20JST1	ZENER DIODE 20V
D511	034 TRD4.7JST1	ZENER DIODE 4.7V
D351,923	034 TRD6.2JST1	ZENER DIODE 6.2V

OTHERS

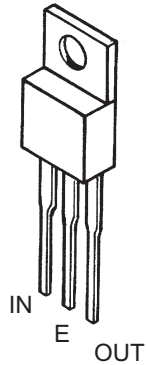
505 FRCD-02-B	FRONT PANEL ASSY (BLACK)
505 FRCD-02-S	FRONT PANEL ASSY (SILVER)
069 C-4629A01	AC 2P INLET 6102.3100 (WIRING)
072 C-4622A01	AC CORD SET for AUSTRALIA
072 C-4624A01	AC CORD SET for EUROPE
072 C-4623A01	AC CORD SET for U.K
072 C-4620A01	AC CORD SET SVT AWG18/2C for U.S.A.
192 KSL-2130RLM	CD MECH ASSY
072 FFC130-16P	FLAT CABLE 16P
081 UD3-05A01	INSIDE CARTON
072 C-4738A01	PIN PLUG CORD
019 4TSH-19#2	PLASTIC FOOT 50Φ
012 RV4-09A00	PUSH BUTTON 14Φ (BLACK)
012 RV4-09A01	PUSH BUTTON 14Φ (SILVER)
092 RR-D94	REMOTE CONTROL UNIT
081 UD3-06A01	SHIPPING CARTON
081 TZ-167	STYROL SIDE MOULDING
012 UD3-03A01	TACT BUTTON 6KEY (BLACK)
012 UD3-03A00	TACT BUTTON 6KEY (SILVER)
014 C-4550A03	UPPER COVER (BLACK)
014 C-4550A24	UPPER COVER (SILVER)
082 OMRCD-02-V01-1	OWNER'S MANUAL (EFGIDSSw)

Case Outlines

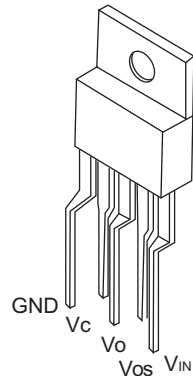
RCD-02



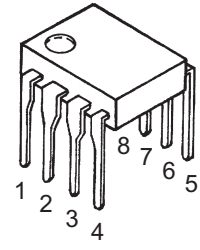
2SC536K 2SA1016K
2SA608K 2SC2362K
2SB764



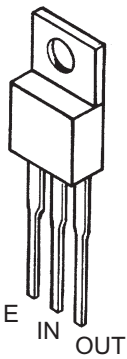
NJM7805FA
NJM7815FA



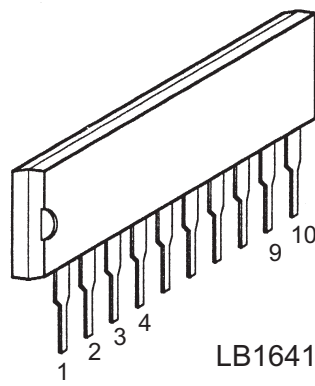
SI-3050J



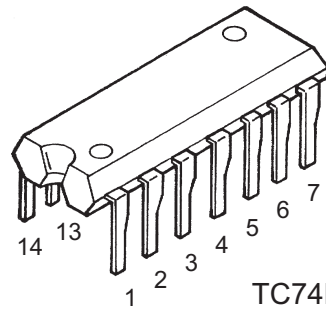
OPA2604P



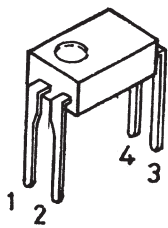
NJM7915FA



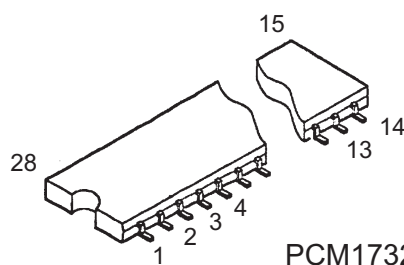
LB1641



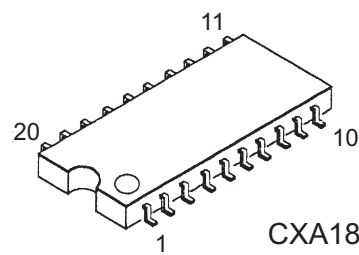
TC74HCU04AP



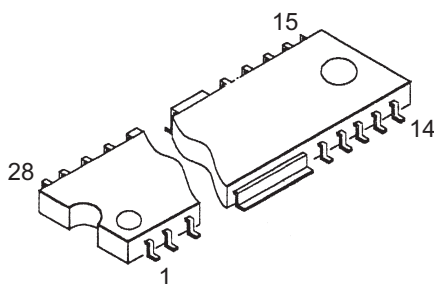
PC817B



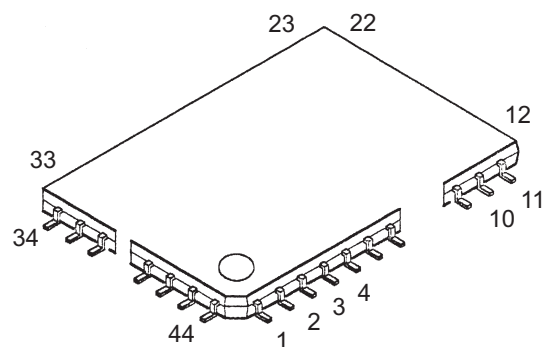
PCM1732U



CXA1821M



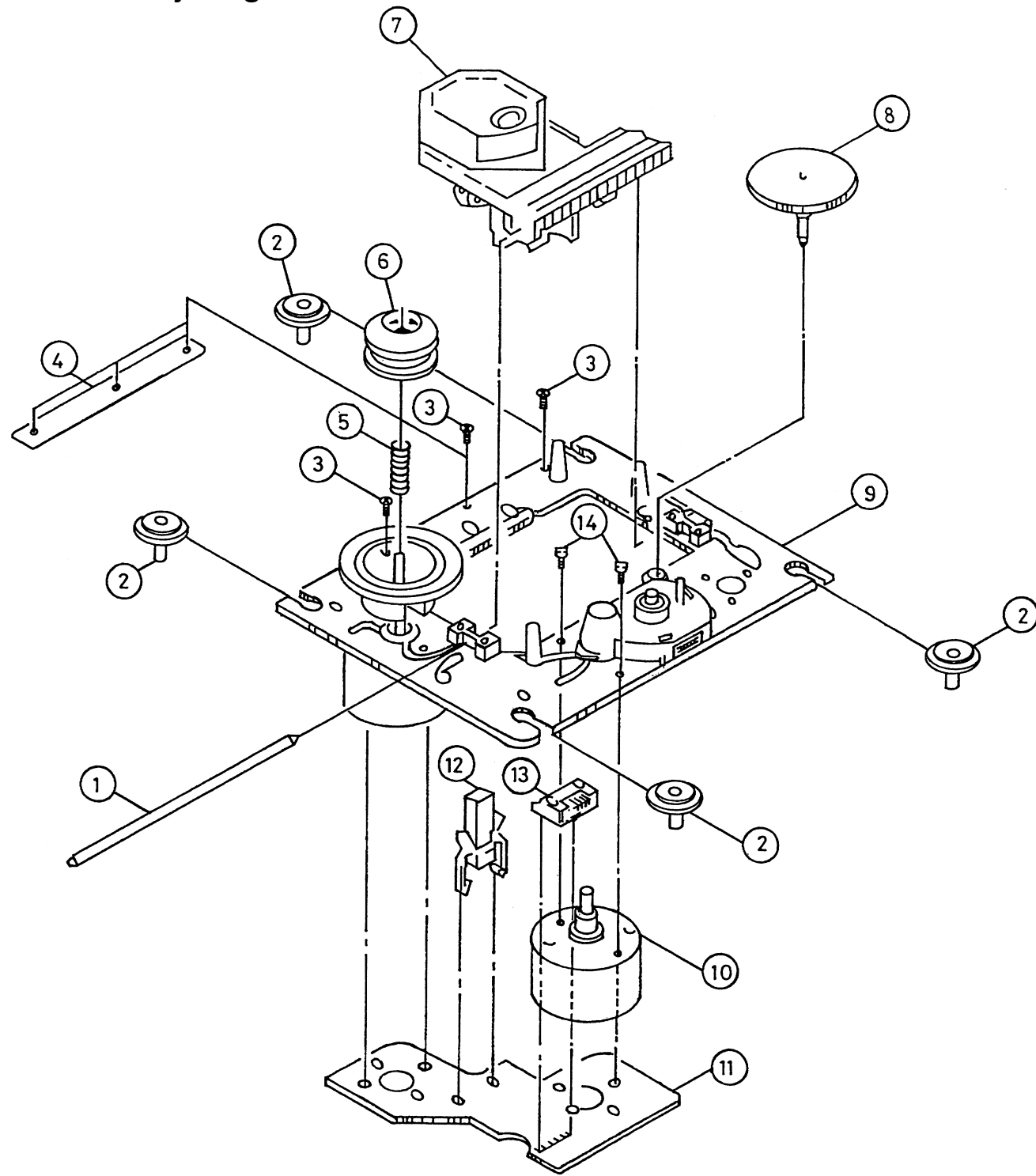
BA6392FP



CXD2545Q
CXP82440A-179Q

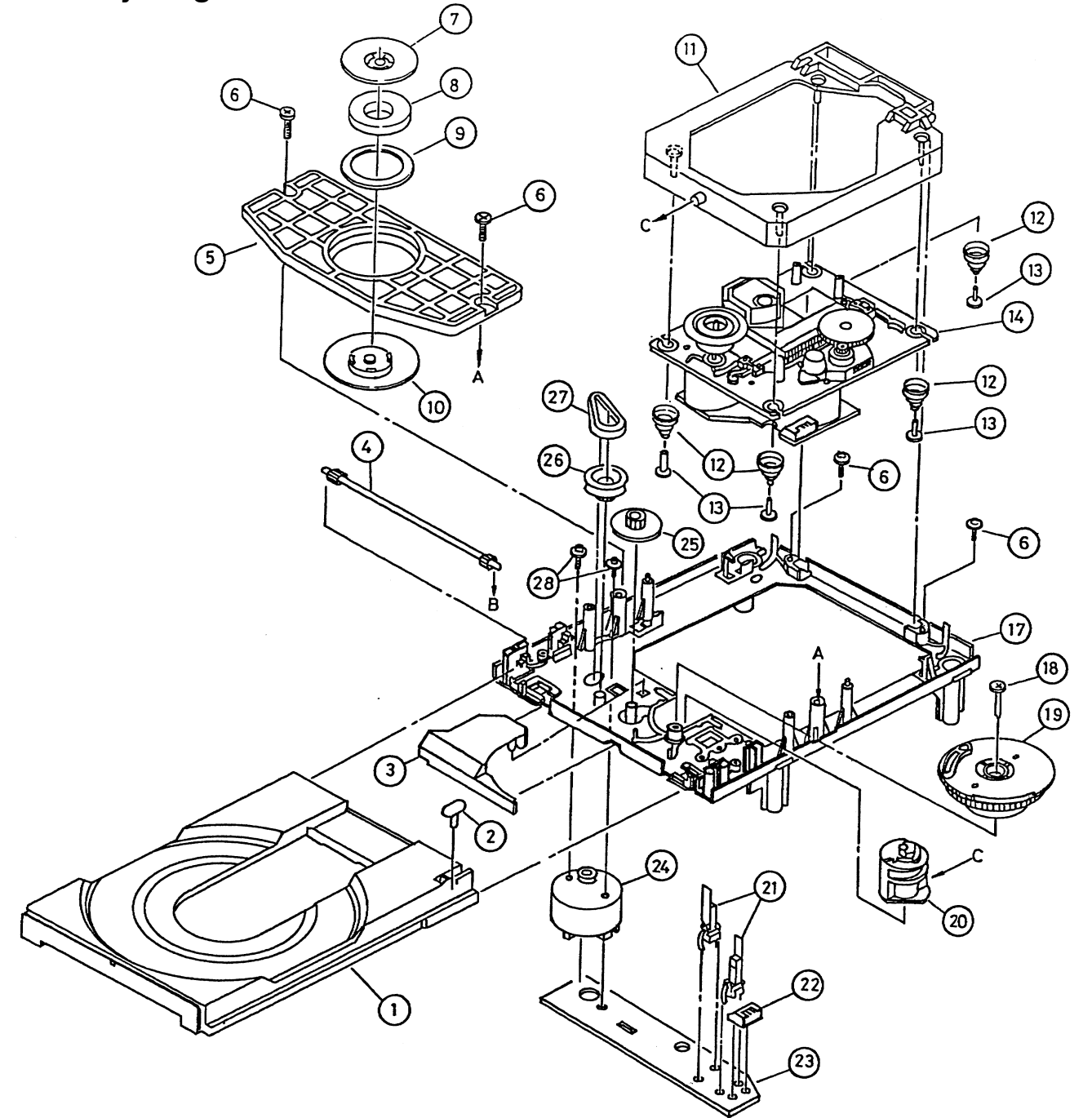
Memo

Disassembly Diagram-1



ITEM	DESCRIPTION	SPEC. NO.
1	CHAFT(S). SLED	2-625-464-(01)
2	INSULATOR(S)	2-625-538-(01)
3	SCREW(2X5). TAPPING(S)	2-641-386-(01)
4	REINFORCEMENT(S)	2-625-625-(01)
5	SPRING(S). COMPRESSION	2-626-465-(01)
6	RING(LO)(S). CENTER	2-626-477-(01)
7	PICK UP KSS 213C	
8	GEAR(A)(S)	2-626-462-(01)
9	CHASSIS ASS'Y(MB). TT	X-2625-133-(2)
10	GEARASS'Y(MB). MOTOR	X-2625-132-(1)
11	PC BOARD. MOTOR(6P)(S)	1-639-678-(13)
12	SWITCH LEAF	1-572-085-(12)
13	PIN. CONNECTOR 6P	1-564-722-(11)
14	SCREW+P 2X3	7-621-255-(15)

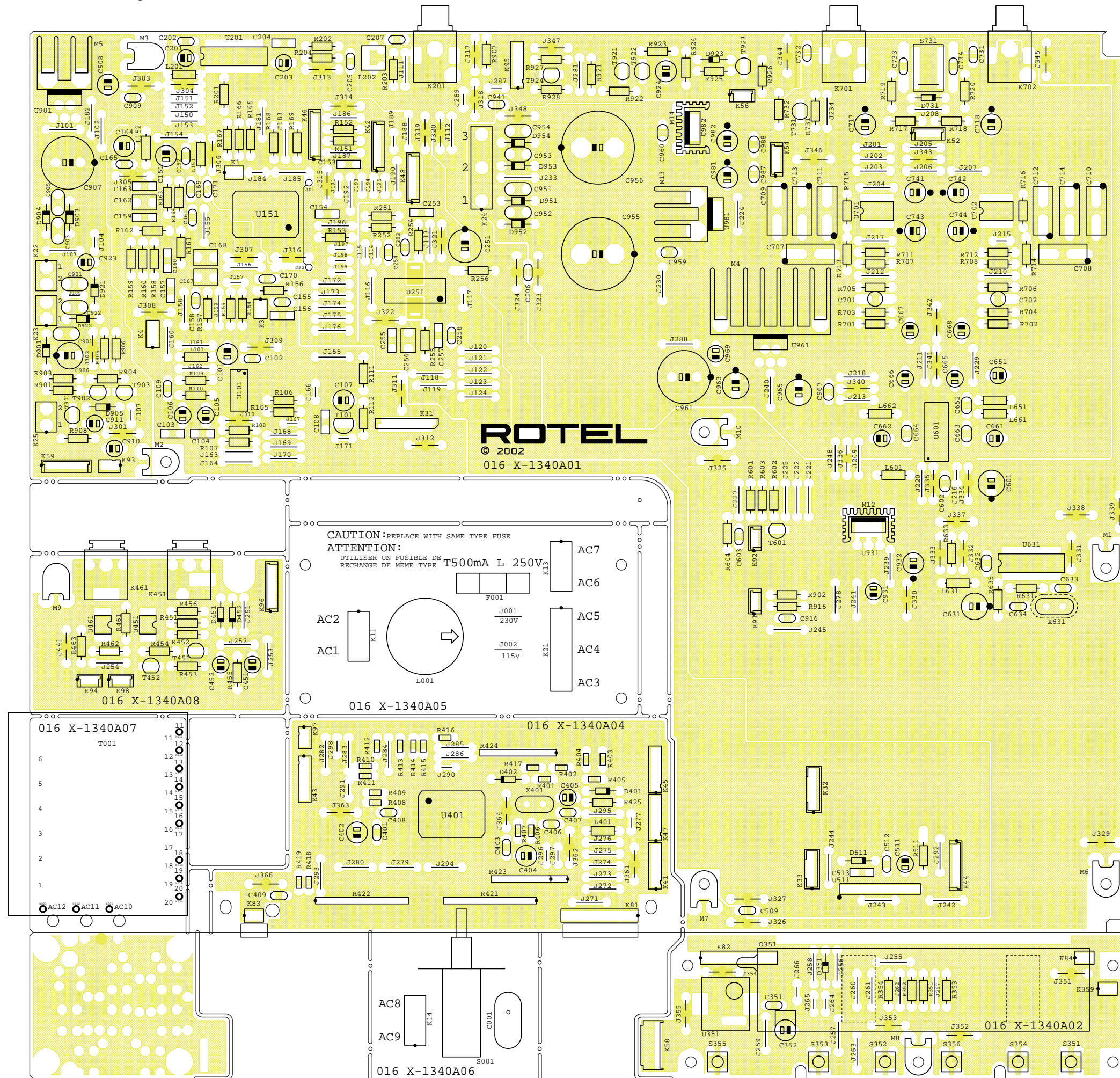
Disassembly Diagram-2



ITEM	DESCRIPTION	SPEC. NO.	ITEM	DESCRIPTION	SPEC. NO.
1	TRAY(S)	2-625-550-(03)	17	CHASSIS(S). OUTSERT MAIN	2-625-552-(06)
2			18	SCREW+P TP WH 2.D6X16	3-319-501-(51)
3	COVER(S). GEAR	2-625-544-(01)	19	GEAR(S). DRIVE	2-625-547-(03)
4	GEAR(S). TRAY	2-625-535-(01)	20	CAM(S). CONTROL	2-625-545-(04)
5	PLATE(S). CHUCKING	2-626-546-(01)	21	SWITCH. LEAF	1-572-086-(11)
6	SCREW+P TP WH 2.D6X7	2-625-537-(01)	22	PIN. CONNECTOR 5P	1-564-721-(11)
7	YOKE(S). CHUCKING	2-625-537-(01)	23	PC BOARD LOADING	1-640-523-(12)
8	MAGNET	1-452-483-(21)	24	MOTOR ASS'Y. LOADING	X-2625-117-(1)
9	DAMPER(S)	2-625-541-(02)	25	GEAR(S). MIDWAY	2-625-534-(02)
10	PULLEY(G). CHUCKING	2-625-548-(02)	26	PULLEY(S). LOADING	2-625-536-(02)
11	CHASSIS ASS'Y(G). SUB	X-2625-227-(2)	27	BELT. LM	3-653-387-(01)
12	SPRING(S)	2-825-539-(01)	28	SCREW+P 2.D6X2.D5	2-625-279-(01)
13	WASHER BASED SCREW	2-625-730-(01)			
14	DRIVE UNIT KSM-213CCM				

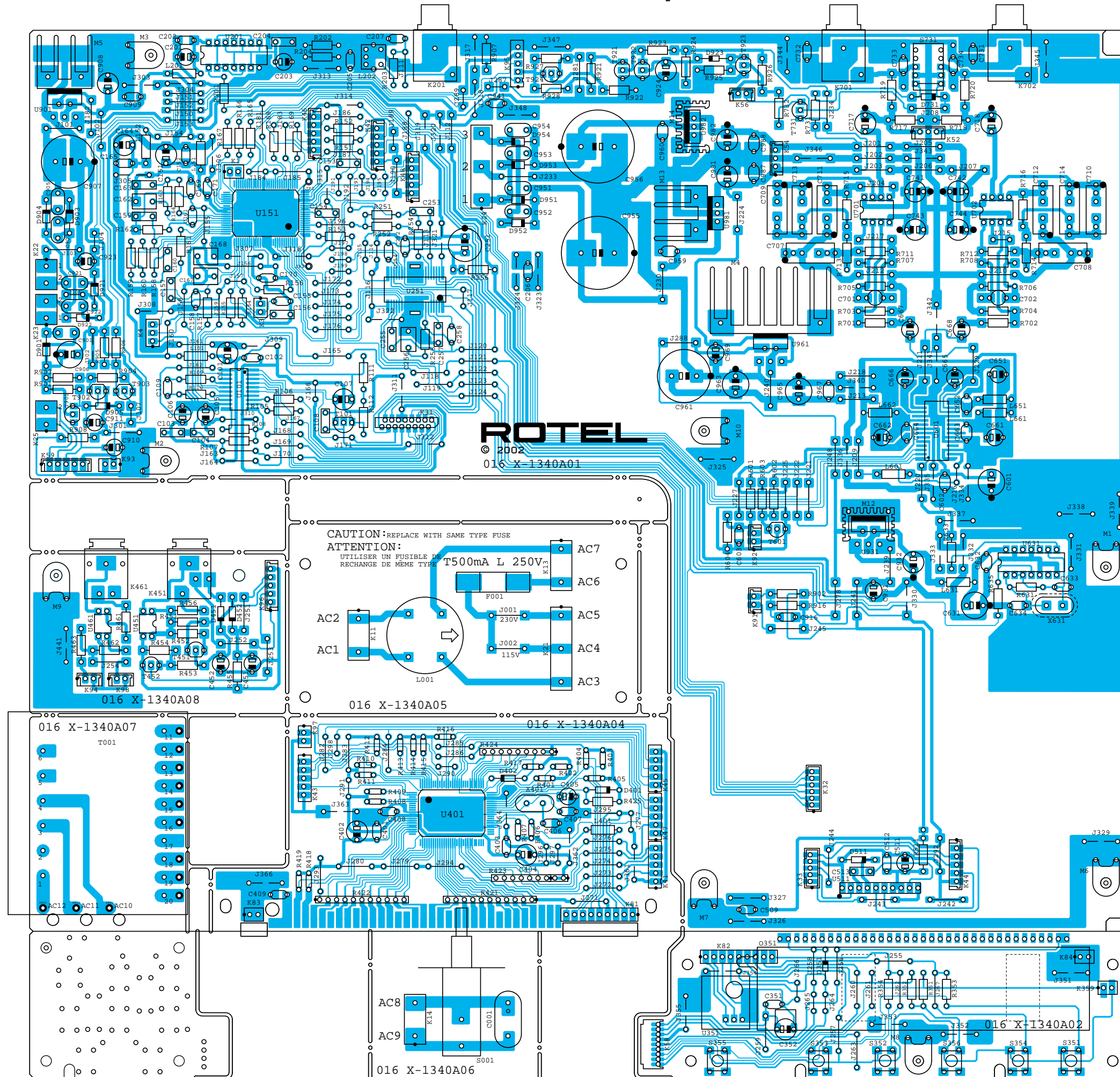
PCB Assembly

016 X-1340 Top pattern and Silk side

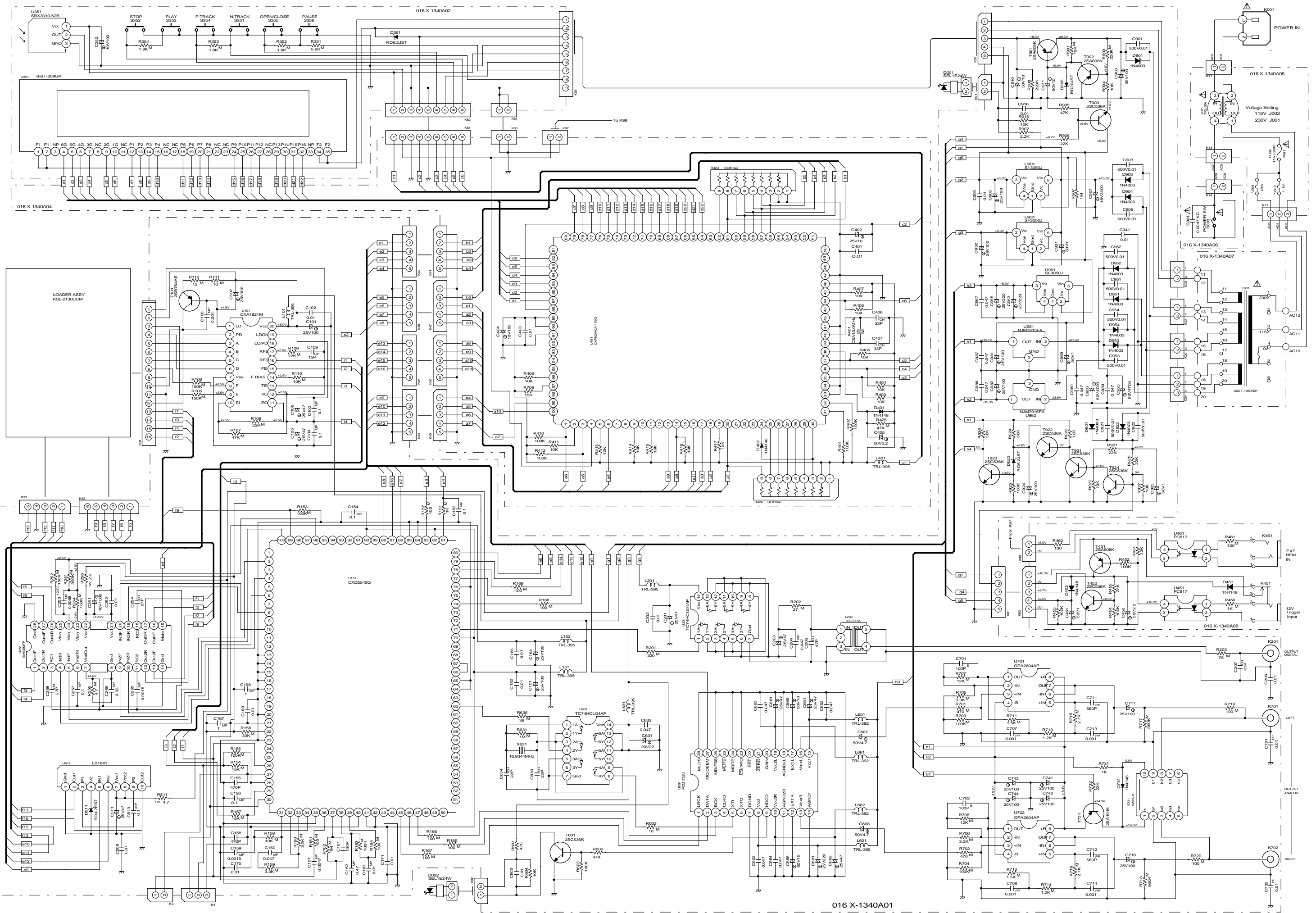


PCB Assembly

016 X-1340 Top Silk and Bottom Pattern



Schematic Diagram



016 X-1340A01