



# Technical Manual

# COMPACT DISK PLAYER RCD-971

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### Specification

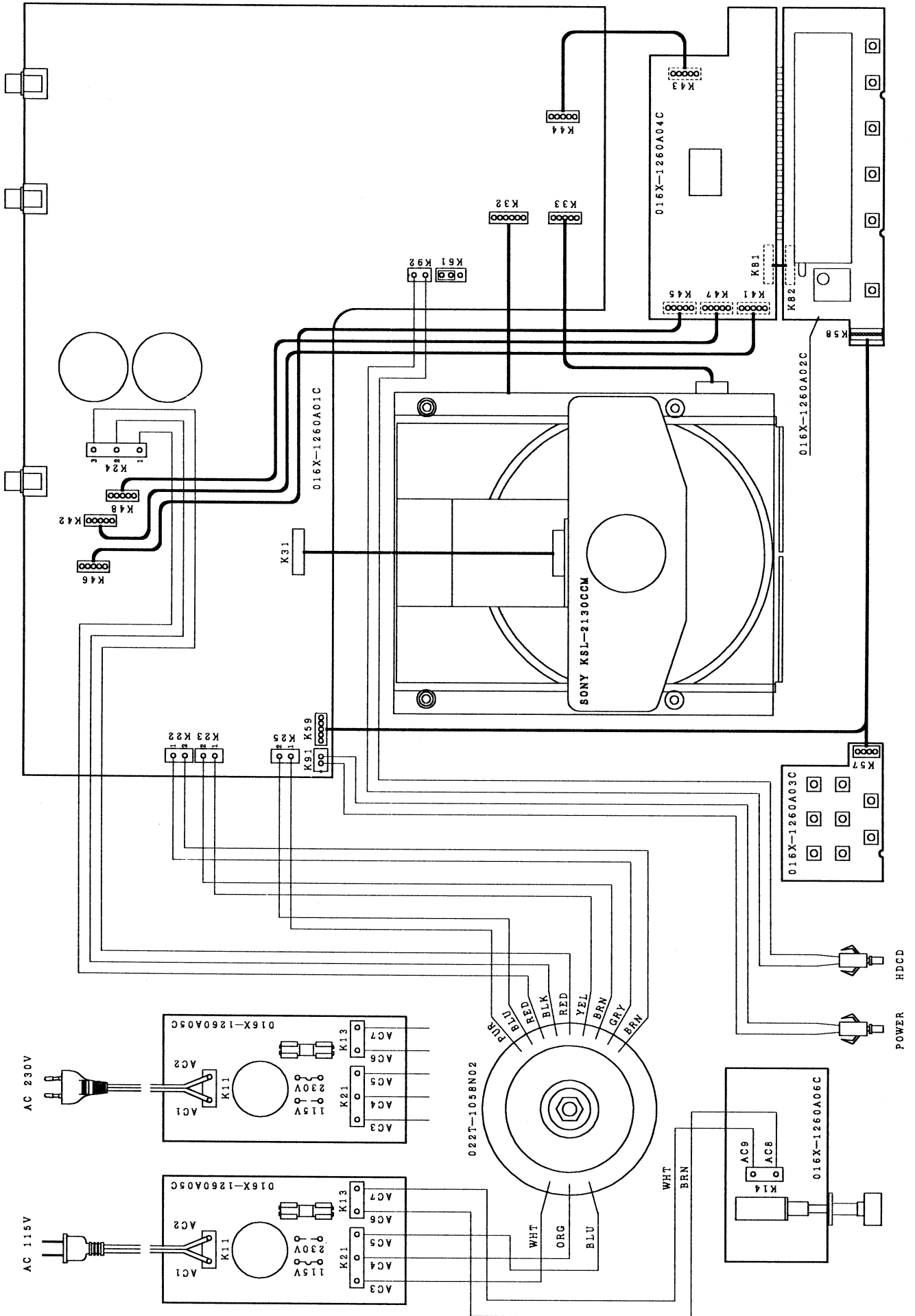
Total Harmonic Distortion+Noise	0.0035% @1KHz
Intermodulation Distortion	0.0035% @1KHZ
Frequency Responce (±0.5dB)	20-20,000 Hz
Channel Balance	±0.5 dB
Phase Linearity	±0.5 degree
ChannelnSeparation	> 110 dB @1KHz
Signal to Noise Ratio	> 107 dB
Dynamic Range	> 100 dB
Digital to Analog Converters	Dual 20 Bit, precision DAC
Digital Filter	20 Bit, 8x oversampling
Speed Accuracy, Wow & Flutter	Quartz Crystal to Peak
Output Impedance	100 Ohms
Digital Output	0.5 Volts, Peak to Peak
Load Impedance	75 Ohms
Power requirement	120 volts 60 Hz or 220-240 volts 50 Hz
Power consumption	20 watts
Dimensions, W x H x D	440 x 72 x 316 mm 17 <sup>3</sup> / <sub>8</sub> x 27 <sup>7</sup> / <sub>8</sub> x 12 <sup>7</sup> / <sub>16</sub> inches
Weight (net)	5.4 kg, 11.9 Lb.

## THE ROTEL CO., LTD

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

Serial. NO. Beginning
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# Wiring Diagram



# Parts List-1

SYMBOL	PARTS NO.	DESCRIPTION
<b>X-1260-01 PCB ASSEMBLY</b>		
C101	041	TUVX1E101MEA1TA CAP. ELEC.25V100UF
C102	043	TC50V103 CAP. CERA.50V0.01UF
C103,104	044	TBF014D0104J CAP. M.P.63V0.1UF
C105,106	041	TUVX1E470MDA1TA CAP. ELEC.25V47UF
C107	041	TUVX1E101MEA1TA CAP. ELEC.25V100UF
C108	044	TBF014D0102J CAP. M.P.63V1000PF
C109	043	TC50VCH150 CAP. CERA.50V15PF
C151	041	TUVX1E101MEA1TA CAP. ELEC.25V100UF
C152	043	TC50V103 CAP. CERA.50V0.01UF
C153,154	044	TBF014D0104J CAP. M.P.63V0.1UF
C155	043	TC50V471 CAP. CERA.50V470PF
C156	044	TBF014D0104J CAP. M.P.63V0.1UF
C157	044	TBF014D0472J CAP. M.P.63V4700PF
C158	043	TC50V471 CAP. CERA.50V470PF
C159	044	TBF014D0152J CAP. M.P.63V1500PF
C160	044	TBF014D0473J CAP. M.P.63V0.047UF
C161	043	TC50V101 CAP. CERA.50V100PF
C162	044	TBF074D0474J CAP. M.P.63V0.47UF
C163	044	TBF014D0103J CAP. M.P.63V0.01UF
C164	041	TUVX1E101MEA1TA CAP. ELEC.25V100UF
C165	043	TC50V103 CAP. CERA.50V0.01UF
C167,168	044	TBF074D0105J CAP. M.P.63V1UF
C169-171	043	TC50V103 CAP. CERA.50V0.01UF
C201	041	TUVX1E470MDA1TA CAP.ELEC.25V47UF
C202	043	TC50V103 CAP. CERA.50V0.01UF
C203	041	TUVX1E470MDA1TA CAP. ELEC.25V47UF
C204	044	TBF014D0473J CAP. M.P.63V0.047UF
C205	043	TC50VCH470 CAP. CERA.50V47PF
C206	043	TC50V103 CAP. CERA.50V0.01UF
C207	043	TC50VCH470 CAP. CERA.50V47PF
C251	041	TUVX1E101MEA1TA CAP. ELEC.25V100UF
C252	043	TC50V103 CAP. CERA.50V0.01UF
C253	044	TBF014D0682J CAP. M.P.63V6800PF
C254	043	TC50VCH270 CAP. CERA.50V27PF
C255	044	TBF014D0152J CAP. M.P.63V1500PF
C256	044	TBF074D0334J CAP. M.P.63V0.33UF
C257	044	TBF014D0104J CAP. M.P.63V0.1UF
C258	043	TC50VCH270 CAP. CERA.50V27PF
C509	043	TC50V103 CAP. CERA.50V0.01UF
C511	041	TUVX1E470MDA1TA CAP. ELEC.25V47UF
C513	044	TBF014D0104J CAP. M.P.63V0.1UF
C601	041	TUVX1C102MPA1TA CAP. ELEC.16V1000UF
C602	046	T50V473K CAP. CERA.50V0.047UF
C611	041	20SG100MC CAP. ELEC.20V100UF
C612	046	T50V473K CAP. CERA.50V0.047UF
C631	041	20SG22MF CAP. ELEC.20V22UF
C632	046	T50V473K CAP. CERA.50V0.047UF
C633,634	043	TC50VCH220 CAP. CERA.50V22PF
C651,652	041	25BGF47M CAP. ELEC.25V47UF
C655,656	041	25BGF47M CAP. ELEC.25V47UF

SYMBOL	PARTS NO.	DESCRIPTION
C659,660	041	25BGF47M CAP. ELEC.25V47UF
C661-668	046	T50V473K CAP. CERA.50V0.047UF
C673,674	041	25BGF47M CAP. ELEC.25V47UF
C677,678	041	25BGF47M CAP. ELEC.25V47UF
C681,682	041	25BGF47M CAP. ELEC.25V47UF
C685,686	041	25BGF47M CAP. ELEC.25V47UF
C689-694	046	T50V473K CAP. CERA.50V0.047UF
C701,702	044	S63V10000PF CAP. STYROL63V10000PF
C703,704	044	S63V8200PF CAP. STYROL63V8200PF
C711,712	044	S630V560PF CAP. STYROL630V560PF
C713,714	044	S250V1000PF CAP. STYROL250V1000PF
C717,718	041	25BGF100M CAP. ELEC.25V100UF
C731,732	044	100UPZ103J CAP. P. P.100V0.01UF
C741-744	041	25BGF100M CAP. ELEC.25V100UF
C901	043	TC500V103 CAP. CERA.500V0.01UF
C903	043	TC500V103 CAP. CERA.500V0.01UF
C905	043	TC500V103 CAP. CERA.500V0.01UF
C906	041	UTSS1V101-FB CAP. ELEC.35V100UF
C907	041	UVX1C332MHA1AA CAP. ELEC.16V3300UF
C908	041	TUVX1E101MEA1TA CAP. ELEC.25V100UF
C909	043	TC50V103 CAP. CERA.50V0.01UF
C910,911	041	UTSS1H100-FB CAP. ELEC.50V10UF
C921,922	043	TC500V103 CAP. CERA.500V0.01UF
C923	041	UTSS1H010-FB CAP. ELEC.50V1UF
C924	041	UTSS1E101-FB CAP. ELEC.25V100UF
C931	041	UTSS1H010-FB CAP. ELEC.50V1UF
C932	041	TUVX1E101MEA1TA CAP. ELEC.25V100UF
C941	043	TC50V103 CAP. CERA.50V0.01UF
C951-954	043	TC500V103 CAP. CERA.500V0.01UF
C955,956	041	ALC20S1051CD CAP. ELEC.35V4700UF
C959,960	046	T50V473K CAP. CERA.50V0.047UF
C961,962	041	25BGF100M CAP. ELEC.25V100UF
C965,966	041	25BGF100M CAP. ELEC.25V100UF
C967,968	046	T50V473K CAP. CERA.50V0.047UF
C981,982	041	25BGF100M CAP. ELEC.25V100UF
C985,986	041	25BGF100M CAP. ELEC.25V100UF
C987,988	046	T50V473K CAP. CERA.50V0.047UF
D511	034	TRD3.9HST1 ZENER DIODE
D512	034	T1N4148-86 DIODE
D731	034	T1N4148-86 DIODE
D901	034	T1N4003-TB DIODE
D903,904	034	T1N4003-TB DIODE
D905	034	TRD20JST1 ZENER DIODE
D921,922	034	T1N4003-TB DIODE
D923	034	TRD6.2JST1 ZENER DIODE
D951-954	034	T1N4003-TB DIODE
D961-964	034	T1N4148-86 DIODE
D965	034	TRD5.6JST1 ZENER DIODE
D967	034	TRD5.6JST1 ZENER DIODE
D981-984	034	T1N4148-86 DIODE

## Parts List-2

SYMBOL	PARTS NO.	DESCRIPTION
D985,986	034 TRD15JST1	ZENER DIODE
K31	068 CFF5116-0101	FFC CONNECTOR
L101	021 TRL-395	MICRO INDUCTOR 4.7UH
L151,152	021 TRL-395	MICRO INDUCTOR 4.7UH
L201	021 TRL-395	MICRO INDUCTOR 4.7UH
L202	021 TRL-385	DIGITA LOOUTPUT COIL
L601	021 TRL-395	MICRO INDUCTOR 4.7UH
L611	021 TRL-395	MICRO INDUCTOR 4.7UH
L631	021 TRL-395	MICRO INDUCTOR 4.7UH
L651-654	021 TRL-392	MICRO INDUCTOR 33UH
M4,5	017 4TR-2792#3	SUB HEATSINKER
M12	017 C-4401A01	SUB HEATSINKER
R105,106	054 TMF1503	R.METAL 150K
R107	054 TMF4702	R.METAL 47K
R108,109	054 TMF2202	R.METAL 22K
R110	054 TMF1002	R.METAL 10K
R111	054 TMF0100	R.METAL 10R
R112	054 TMF0120	R.METAL 12R
R151	054 TMF1001	R.METAL 1K
R152	054 TMF1000	R.METAL 100R
R153	054 TMF1003	R.METAL 100K
R154	054 TMF1502	R.METAL 15K
R155	054 TMF1003	R.METAL 100K
R156	054 TMF3302	R.METAL 33K
R157	054 TMF1502	R.METAL 15K
R158	054 TMF1002	R.METAL 10K
R159,160	054 TMF3301	R.METAL 3.3K
R161	054 TMK2100RFECZ	R.METAL 1% 100R
R162	054 TMF1004	R.METAL 1M
R163	054 TMF1003	R.METAL 100K
R164	054 TMF1002	R.METAL 10K
R165-167	054 TMK2100RFECZ	R.METAL 1% 100R
R168,169	054 TMF1000	R.METAL 100R
R201	054 TMF3300	R.METAL 330R
R202	054 TMK2027RFECZ	R.METAL 1% 27R
R203	054 TMK2075RFECZ	R.METAL 1% 75R
R251	054 TMF3903	R.METAL 390K
R252	054 TMF1503	R.METAL 150K
R254	054 TMF1503	R.METAL 150K
R255	054 TMF04R7	R.METAL 4.7R
R256	054 1WS4.7JF	R.METAL1 W 4.7R
R511	054 1WS4.7JF	R.METAL1 W 4.7R
R512	053 CR14-332J	R.CARBON 3.3K
R601	053 CR14-331J-A	R.CARBON 330R
R602	054 TMF1002	R.METAL 10K
R631	054 TMK2001MFECZ	R.METAL 1% 1M
R633,634	054 TMK2018RFECZ	R.METAL 1% 18R
R635	054 TMK2039RFECZ	R.METAL 1% 39R
R651,652	054 TMK2100RFECZ	R.METAL 1% 100R
R653,654	054 TMK2018RFECZ	R.METAL 1% 18R

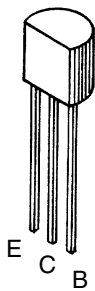
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R655,656	054 TMK2100RFECZ	R. METAL 1%100R
R703,704	054 EE10-101	R. METAL 100R
R707,708	054 TMF1/4-3901F	R. MRS25 3.9K
R711,712	054 TMF1/4-2201F	R. MRS25 2.2K
R715,716	054 TMF1/4-2201F	R. MRS25 2.2K
R717,718	054 TMF1/4-5603F	R. MRS25 560K
R719,720	054 TMF1/4-1000F	R. MRS25 100R
R731	053 CR14-391J-A	R. CARBON 390R
R732	053 CR14-223J-A	R. CARBON 22K
R901	054 TMF1002	R. METAL 10K
R902	053 CR14-391J-A	R. CARBON 390R
R921	053 CR14-223J-A	R. CARBON 22K
R922,923	053 CR14-103J-A	R. CARBON 10K
R924	053 CR14-563J-A	R. CARBON 56K
R925	053 CR14-104J-A	R. CARBON100K
R926	053 CR14-563J-A	R. CARBON 56K
R961,962	054 TMK2220RFECZ	R. METAL 1%220R
R965	054 TMK2047KFECZ	R. METAL 1%47K
R981,982	054 TMK2120RFECZ	R. METAL 1%120R
R985	054 TMK2047KFECZ	R. METAL 1%47K
S731	063 EG2-24NU	RELAY
T101	032 T2SB764AE-EF	TRANSISTOR
T731	032 T2SA1016KAA-FG	TRANSISTOR
T901	032 T2SA608KAA-FG	TRANSISTOR
T921-923	032 T2AC536KAA-FG	TRANSISTOR
T961	032 T2SA1016KAA-FG	TRANSISTOR
T962	032 T2SC2362KAA-FG	TRANSISTOR
T963	032 2SB1274-RS	TRANSISTOR
T964	033 2SD1913-RS	TRANSISTOR
T965	032 T2SC2362KAA-FG	TRANSISTOR
T966	032 T2SA1016KAA-FG	TRANSISTOR
T981	032 T2SA1016KAA-FG	TRANSISTOR
T982	032 T2SC2362KAA-FG	TRANSISTOR
T983	033 2SB1274-RS	TRANSISTOR
T984	033 2SD1913-RS	TRANSISTOR
T985	032 T2SC2362KAA-FG	TRANSISTOR
T986	032 T2SA1016KAA-FG	TRANSISTOR
U101	031 CXA1821M	IC
U151	031 CXD2545Q	IC
U201	031 TC74HCU04AP	IC
U251	031 BA6392FP	IC
U511	031 LB1641	IC
U601	031 PMD1000	IC
U611	031 TC74HC175AP	IC
U631	031 TC74HCU04AP	IC
U651,652	031 PCM63P	IC
U701,702	031 OPA2604AP	IC
U901	031 NJM7805FA	IC
U903	031 NJM7805FA	IC
X631	023 HC49U16.9344	CRYSTAL OSC.

## Parts List-3

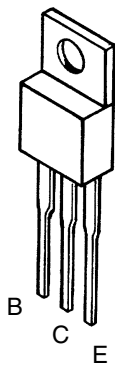
SYMBOL	PARTS NO.	DESCRIPTION
	019 TO-126	INSULATION SHEET(S)
	019 TO-220	INSULATION SHEET(L)
<b>X-1260-02 PCB ASSEMBLY</b>		
C352	041 UTSS1A101-FB	CAP. ELEC.10V100UF
D351	034 TRD6.2JST1	ZENER DIODE
K58	068 CGP1709-0101	CONNECTOR WAFER
O351	035 6BT209GK	FLTUBE
R351	054 TMF5601	R. METAL 5.6K
R352-354	054 TMF1801	R. METAL 1.8K
S351-356	061 4TR-2343	KEYBOARD SWITCH
U351	031 SBX1910-52	IC
<b>X-1260-03 PCB ASSEMBLY</b>		
R301	054 TMF1002	R. METAL 10K
R302	054 TMF2702	R. METAL 27K
R303	054 TMF1002	R. METAL 10K
R304	054 TMF2702	R. METAL 27K
R305	054 TMF1801	R. METAL 1.8K
R306	054 TMF2702	R. METAL 27K
R307	054 TMF3901	R. METAL 3.9K
S301-308	061 4TR-2343	KEYBOARD SWITCH
<b>X-1260-04 PCB ASSEMBLY</b>		
C401	043 TC50V103	CAP. CERA.50V0.01UF
C402	041 UTSS1A101-FB	CAP. ELEC.10V100UF
C403	043 TC50V103	CAP. CERA.50V0.01UF
C404	041 UTSS1A101-FB	CAP. ELEC.10V100UF
C405	041 UTSS1H2R2-FB	CAP. ELEC.50V2.2UF
C406,407	043 TC50VCH330	CAP. CERA.50V33PF
C408	043 TC50V103	CAP. CERA.50V0.01UF
D401,402	034 T1N4148-86	DIODE
K81	068 MB9P-90S	CONNECTOR WAFER
K83	068 MB2P-90S	CONNECTOR WAFER
L401	021 TRL-395	MICRO INDUCTOR 4.7UH

SYMBOL	PARTS NO.	DESCRIPTION
R401,402	053 CR16-104J-A	R. CARBON 100K
R403-407	053 CR16-103J-A	R. CARBON 10K
R423	054 SE8102J	THICK FILMRS NETWORK
R424	054 SE8104J	THICK FILMRS NETWORK
R425	054 TMF4702	R. METAL47K
U401	031 CXP82440A-166Q	IC
X401	023 CSA10.0MHZ	CERAMIC RESONATOR
<b>X-1260-05 PCB ASSEMBLY</b>		
F001	036 5ST1	MINI FUSE 250VT1A
L001	021 TRL-365	LINE CHOCK COIL
	069 C-3417A	FUSE CLIP
<b>X-1260-06 PCB ASSEMBLY</b>		
C001	044 DE1307E472M	SPARK KILLER
S001	061 C-3600B-T	POWER SWITCH
<b>OTHERS</b>		
011	FP-486	FRONT PANEL
012	4TQF-15	POWER BUTTON
012	RZ3-10A00	TACT BUTTON 8KEY
012	RZ3-11A00	TACT BUTTON 6KEY
014	C-4550A03	UPPER COVER
014	FP-488	PLASTIC DOOR
014	4TR-2797#1	ORNAMENT SIDE BOARD
014	RZ3-08A00	BOTTOM BOARD
019	4TSH-19#2	PLASTIC FOOT
022	T-1058N02	POWER TRANSFORMER
072	C-4572A01	AC CORD for UK
072	C-3763	AC CROD fo rAUSTRALIA
072	4TR-1037	AC CORD for CEE
072	4TR-670#4	AC CROD for STD
072	4TR-2785	PIN PLUG CORD
081	TZ-167	STYROL SIDE MOULDING
081	RZ4-14A00	INSIDE CARTON
092	KSL-2130CCM	CD MECHANISM
092	RR-D91	REMOTE UNIT

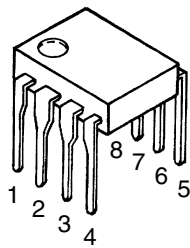
# Case Outlines



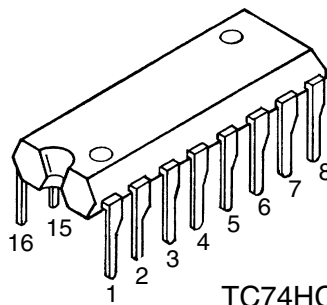
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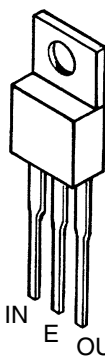
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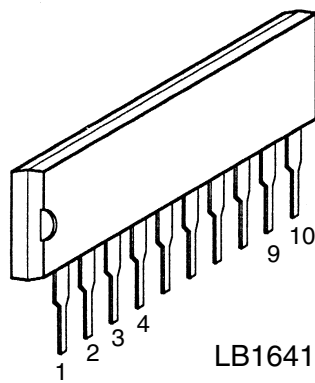
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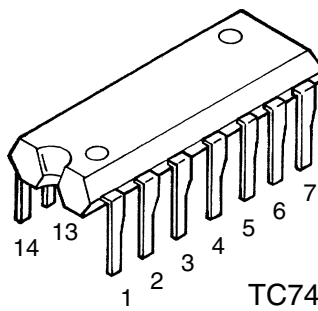
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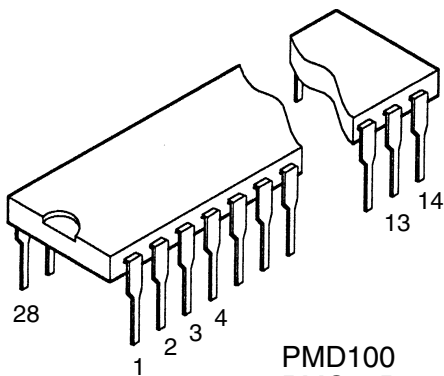
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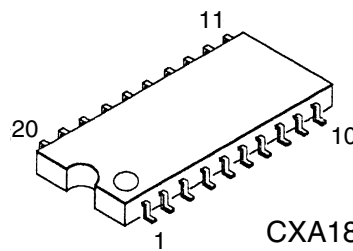
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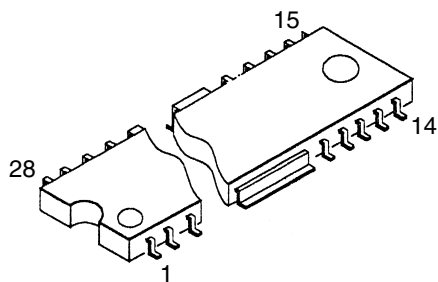
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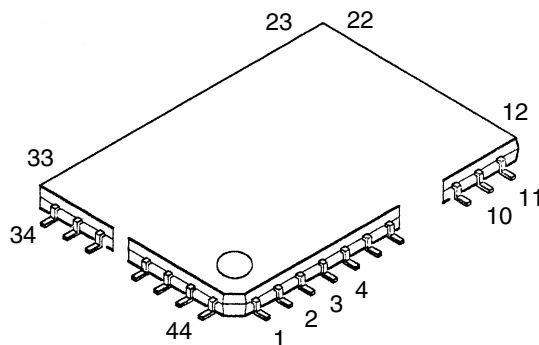
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CXA1821M

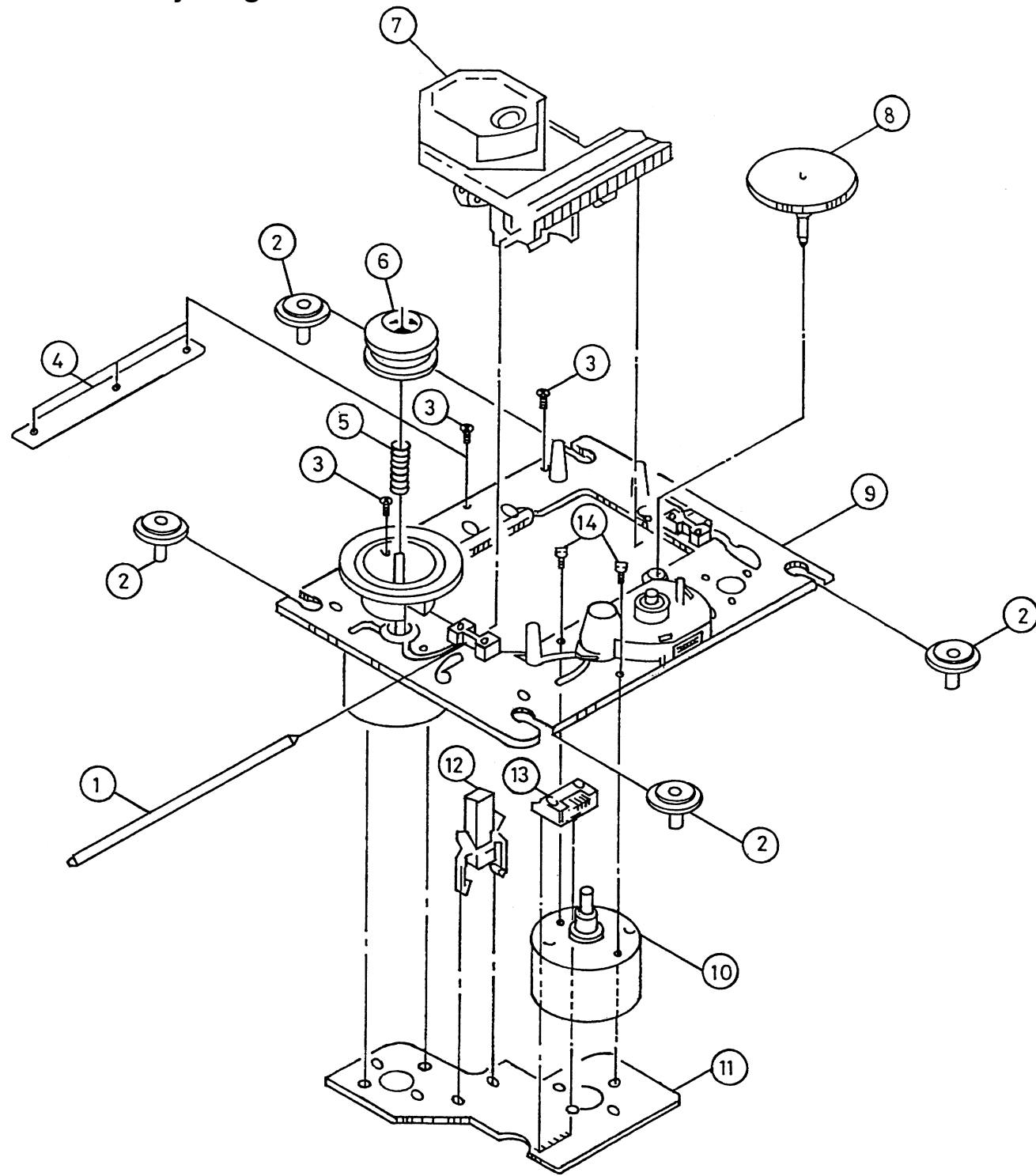


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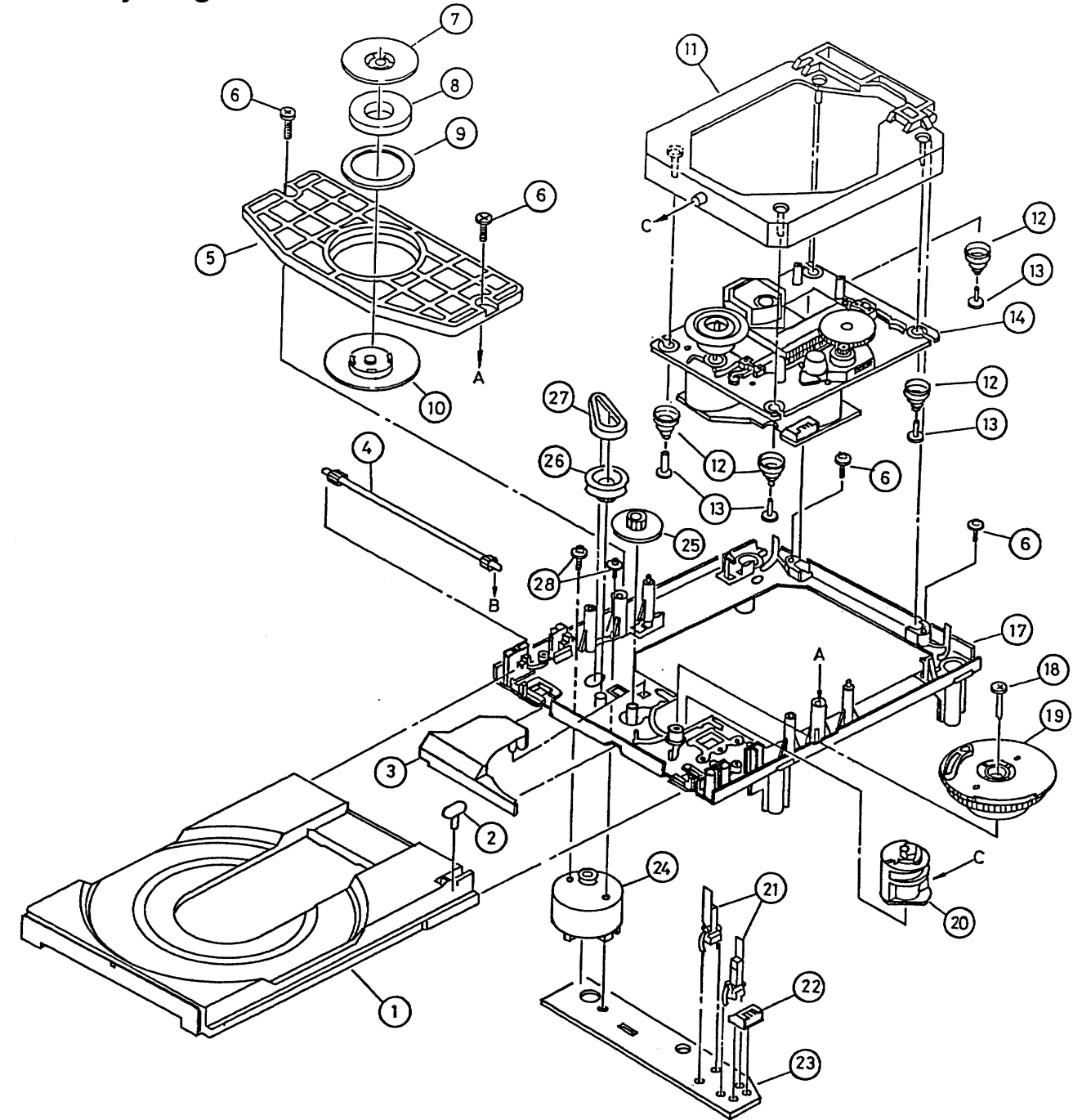
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**Disassembly Diagram-1**

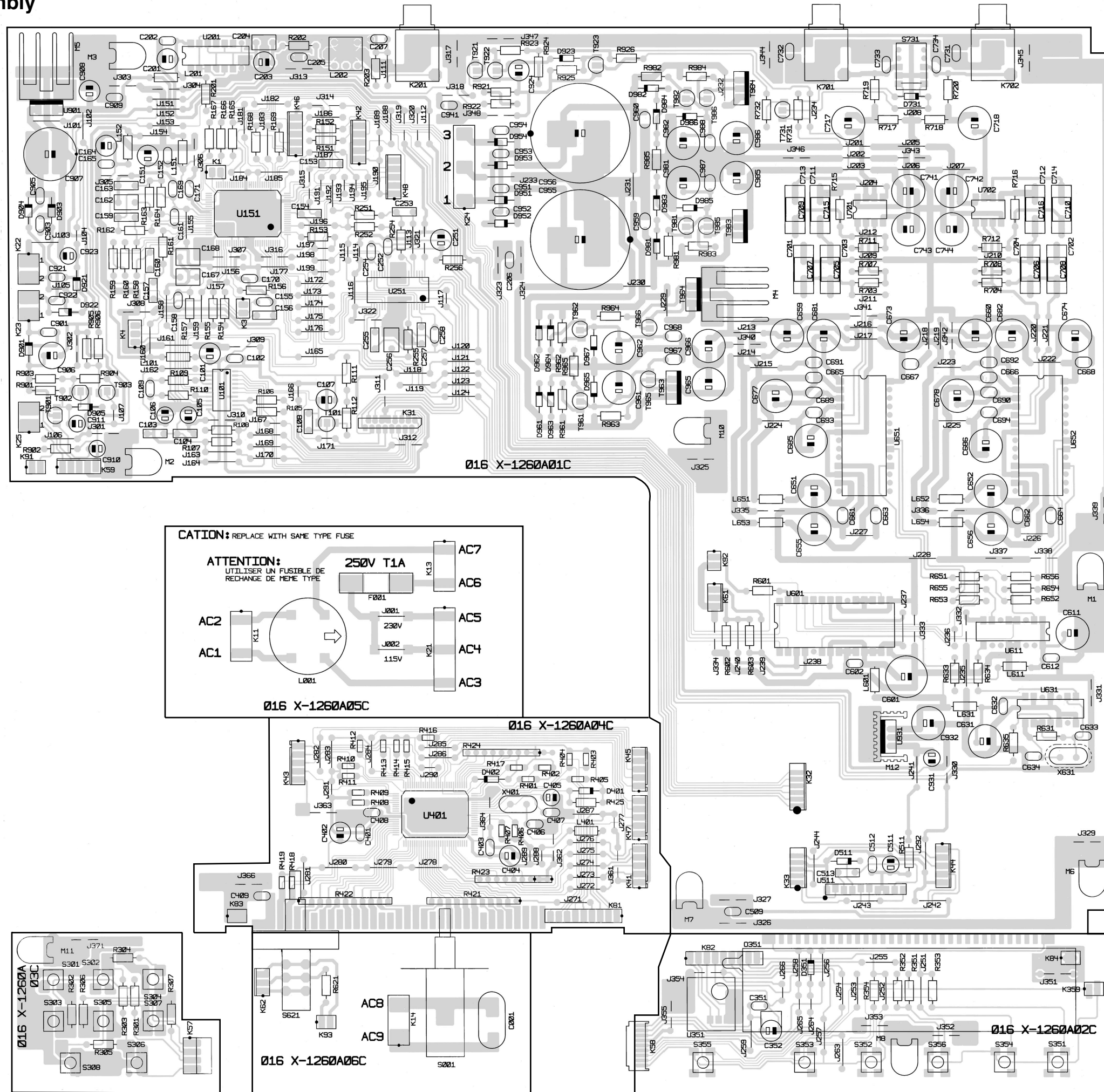


ITEM	DESCRIPTION	SPEC. NO.
1	CHAFT(S). SLED	2-625-464-(01)
2	INSULATOR(S)	2-625-538-(01)
3	SCREW(2X5). TAPPING(S)	2-641-386-(01)
4	REINFORCEMENT(S)	2-625-625-(01)
5	SPRING(S). COMPRESSION	2-626-465-(01)
6	RING(LO)(S). CENTER	2-626-477-(01)
7	PICK UP KSS 213C	
8	GEAR(A)(S)	2-626-462-(01)
9	CHASSIS ASS'Y(MB). 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				





# Schematic Diagram

