

TEAC

SERVICE MANUAL

GF-650

Compact Hi-Fi Stereo System



NOTES

- PC board shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. they must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [] mark can be used only with the version designated.
[T/C]: U.S.A [E]: Europe [JIS]: Japan

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1 SAFETY INFORMATION

SAFETY INFORMATION

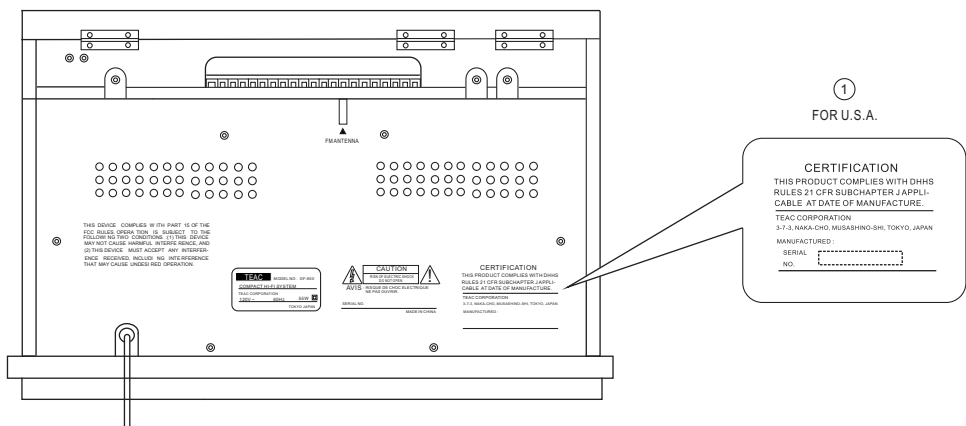
This product has been designed and manufactured according to FDA regulations "title 21, CFR, chapter 1, subchapter J, based on The Radiation Control for Health and Safety Act of 1968" and is classified as class 1 laser product. There is not hazardous invisible laser radiation during operation because invisible laser radiation emitted inside of this product is completely confined in the protective housings. The label required in this regulation is shown ①.

• **CAUTION**

USE OF CONTROLS OR ADJUSTMENT OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT REMOVE THE PROTECTIVE HOUSING USING SCREWDRIVER.

IF THIS PRODUCT DEVELOPS TROUBLE, MAKE A CONTACT WITH OUR SERVICEMAN, AND DO NOT USE THE PRODUCT A TROUBLED STATE.



Optical pickup:	Type :	SF-W36FR
	Manufacturer :	SANYO Electro-Mechanics Co., Ltd.
	Laser output :	Less than 1 mW (Play) on the objective lens
	Laser output :	Less than 5 mW (Record) on the objective lens
	Laser output :	Less than 10 mW (Erase) on the objective lens
	Wavelength :	783 nm

2 SPECIFICATIONS

AMPLIFIER Section

Output Power: 3.5W + 3.5W
 Frequency Response 60 Hz to 20 kHz
 Audio Input Sensitivity/Impedance
 AUX : -6dBV(0.5V/20k ohm)
 LINE : +6dBV(2.0V)

CD Player Section

Support : PHONO to CD, AUX to CD
 Sample Frequency : 44, 1kHz
 Frequency Response: 20 Hz to 20 kHz
 +/-2dB (Player)
 +/-3dB(Recording)
 Signal-to-Noise Ratio More than 90dB (Player)
 More than 80dB (Recording)
 Total Harmonic Distortion: Less than 0.05% (Player)
 Less than 0.07% (Recording)

TUNER Section

Frequency Range (FM): 87.5MHz to 108.00 MHz
 Frequency Range (AM): 530kHz to 1710 kHz (USA)
 522kHz to 1620 kHz (EUR)

RECORD Player Section

Motor: DC servo motor
 Driver System: Belt Drive
 Speed: 33-1/3 rpm, 45 rpm
 Wow and flutter: Less than 0.25% (WDT)
 Cartridge type: Ceramic Stereo Cartridge
 Stylus: STL-650
 Output Level: 150-360mV (5cm/sec at 1kHz)

SPEAKER SYSTEM Section

Unit 70 mm
 Impedance: 4 ohms

GENERAL

Power Requirements:
 120V AC,60Hz (U.S.A/Canada Model)
 100V AC,60Hz (Japan Model)
 230V AC,50Hz (European Model)
 Power Consumption: 55 W
 Dimension (W x H x D): 479 x 259.5 x 370 mm
 Weight: 12.5kg

Standard Accessories:

Owner's Manual x 1
 Warranty Card x 1
 45 RPM adaptor x 1
 Remote Control x 1
 Battery 1.5V AA/UM-3 x 2
 RCA Plug Cord 2P x 1

- Design and specifications are subject to change without notice.
- Weight and dimensions are approximate.
- Illustrations may differ slightly from production models.

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3 ADJUSTMENTS AND CHECKS

3-1 TUNER SECTION

- Use a screwdriver with a plastic or ceramic grip for all adjustment.

3-1-1 FM adjustment

1. Set the function switch to the FM position.
2. Connect the signal generator output through a 75 ohm dummy antenna to "ANT" on MAIN PCB.
3. Connect the oscilloscope to the speaker terminal.
4. Set the signal generator as listed in the alignment chart.

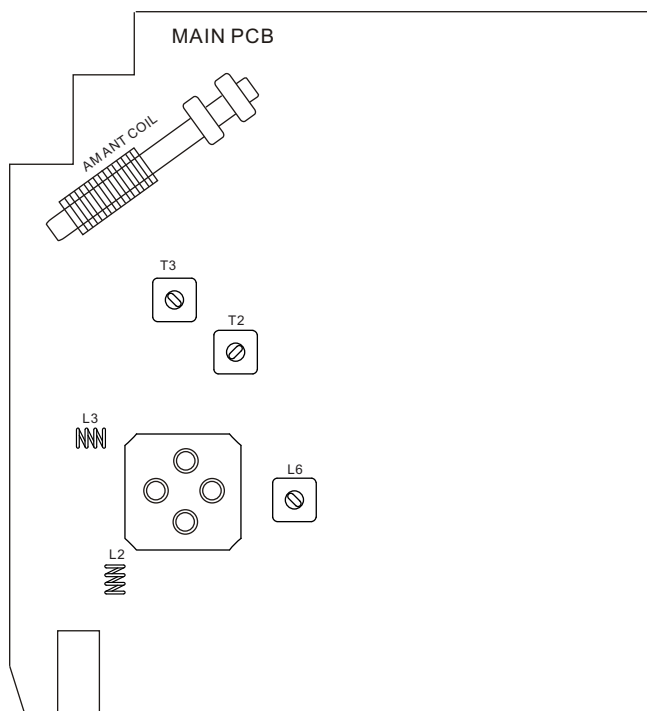
3-1-2 AM adjustment

1. Set the function switch to the AM position.
2. Connect the test loop antenna across the output of the signal generator.
3. Connect the oscilloscope to the speaker terminal.
4. Set the signal generator as listed in the alignment chart.

3-1-3 Turntable Section

1. Set the function switch to the PHONE position.
2. Connect the oscilloscope to the speaker terminal.
3. Use a HP-4005 record for all adjustment.

3-2 Adjustment and Test Points



3-2-1 FM/AM alignment chart

ITEM	SG SETTING	TUNER SETTING	ADJUSTMENT POINT	ADJUSTMENT
FM				
1.IFT adjustment	10.7 MHz 1kHz, +/-22.5kHz dev.	108MHz	T3	With 10.7 MHz at zero crossover
2. FM band	87.5MHz 1kHz, +/-22.5kHz dev.	87.5MHz	L2	Adjust for max.output and best waveform.
	108.0Hz 1kHz, +/-22.5kHz dev.	108.0MHz	PVC (FM OSC)	
3. Tracking	90MHz 1kHz, +/-22.5kHz dev.	90MHz	L3	
	106MHz 1kHz, +/-22.5kHz dev.	106MHz	PVC (FM ANT)	
	Repeat step 3			
AM				
1. IF adjustment	450kHz 1kHz, 30% mod	1710kHz (USA) 1620kHz (EUR)	T2	Center for max. output.
2. AM band	530kHz (USA) 522kHz (EUR) 1kHz, 30% mod	530kHz (USA) 522kHz (EUR)	L6	Adjust for max. output and best waveform.
	1710kHz (USA) 1620kHz (EUR) 1kHz, 30% mod	1710kHz (USA) 1620kHz (EUR)	PVC (AM OSC)	
3. Tracking	600kHz (USA) 603kHz (EUR) 1kHz, 30% mod	600kHz (USA) 603kHz (EUR)	AM ANT COIL	
	1400kHz (USA) 1404kHz (EUR) 1kHz, 30% mod	1400kHz (USA) 1404kHz (EUR)	PVC (AM ANT)	
	Repeat step 3			

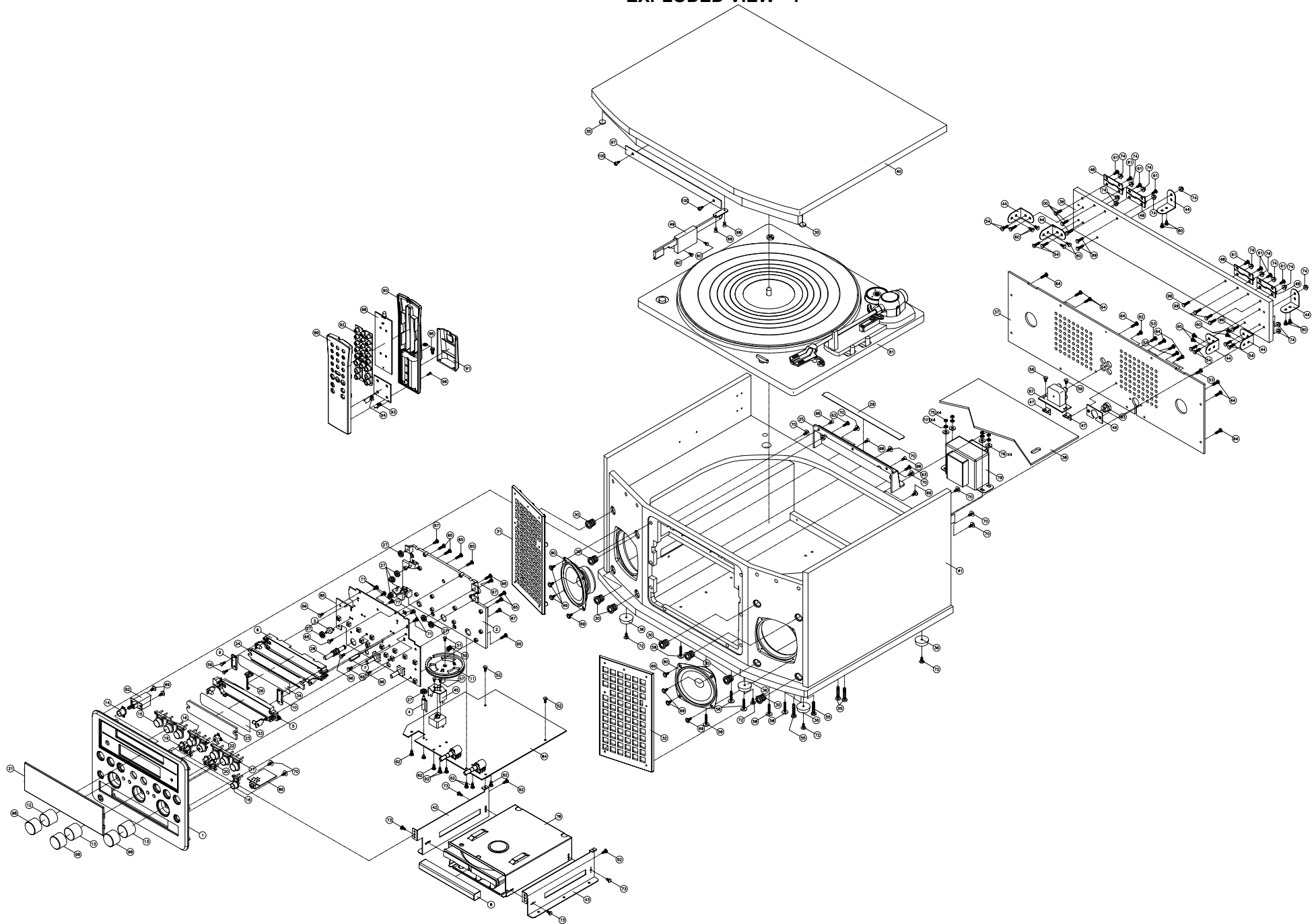
3-3 CD SECTION

Auto alignment.

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4 EXPLODED VIEWS AND PARTS LIST

EXPLODED VIEW - 1



EXPLODED VIEW-1

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
1-1	56-04GF3500B030	FRONT PANEL [E,T/C]	
	56-04GF3500B000	FRONT PANEL [JIS]	
1-2	56-07GF3500B000	DIAL BRACKET	
1-3	56-07GF3501B000	PULLEY BRACKET (1)	
1-4	56-07GF3502B000	PULLEY BRACKET(2)	
1-5	56-07GF35039000	LCD HOLDER	
1-6	56-07GF35049000	DIAL BACK LIGHT LENS HOLDER	
1-7	56-07GF3505B000	LAMP BRACKET	
1-8	56-14GF3500B010	CD DOOR [E,T/C]	
	56-14GF3500B000	CD DOOR [JIS]	
1-9	56-22GF35008010	DIAL BACK LIGHT LENS COVER (L)	
1-10	56-22GF35018010	DIAL BACK LIGHT LENS COVER (R)	
1-11	56-25GF3500B000	DIAL DRUM	
1-12	56-54GF6500B000	TUNING KNOB	
1-13	56-54GF6501B000	VOLUME KNOB	
1-14	56-54GF3502B000	POWER KNOB	
1-15	56-54GF3503B000	FUNCTION KNOB [E,T/C]	
	56-54GF3500B000	FUNCTION KNOB [JIS]	
1-16	56-54GF3504B000	RECORD KNOB	
1-17	56-54GF3505B010	STOP/PLAY/PAUSE KNOB	
1-18	56-54GF3506B010	OPEN/CLOSE KNOB [E,T/C]	
	56-54GF3500B010	OPEN/CLOSE KNOB [JIS]	
1-19	56-54GF3507B000	DELETE KNOB	
1-20	56-54GF3508B000	SKIP/REW KNOB	
1-21	56-57GF65000020	DISPLAY LENS [E]	
	56-57GF35000040	DISPLAY LENS [T/C]	
	56-57GF35000050	DISPLAY LENS [JIS]	
1-22	56-57GF35019000	REC KNOB LENS	
1-23	56-57GF35020000	LCD BACKLIGHT	
1-24	56-57GF35030010	DIAL BACKLIGHT LENS	
1-25	56-69GF3500B000	WOODEN BOX COVER PLATE	
1-26	56-75GF3500G000	POINTER	
1-27	56-76ST1500B000	DIAL PULLEY	
1-28	56-79GF3500B000	TUNER SHAFT	
1-29	57-083182120020	PVC PLATE 180x12x0.15mm	
1-30	56-80S16800B000	SPEAKER PANEL STUD	
1-31	56-86GF3500B000	SPEAKER FRAME-L	
1-32	56-86GF3501B000	SPEAKER FRAME-R	
1-33	57-26GF35000020	FILTER PLATE (1)	
1-34	57-26GF35000120	FILTER PLATE (2)	
1-35	58-263102200020	RUBBER FOOT DIA 10MM	
1-36	58-263182600020	RUBBER FOOT DIA 18MM	
1-37	58-70GF65000120	REAR BOARD [E]	
	58-70GF65000020	REAR BOARD [T/C]	
	58-70GF65000220	REAR BOARD [JIS]	

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EXPLODED VIEW-1

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
1-38	58-71GF65000020	WOODEN PLATE 230x292x3mm	
1-39	58-71GF35000020	WOODEN BOARD	
1-40	58-71GF35000120	WOODEN TOP COVER	
1-41	58-73GF35000020	WOODEN BOX	
1-42	61-11GF35000020	CD MACHINE BRACKET (L)	
1-43	61-11GF35000120	CD MACHINE BRACKET (R)	
1-44	61-11GF35000221	WOODEN BRACKET	
1-45	61-11SN11600021	PVC BRACKET	
1-46	61-22SG19000020	BUSHING MOUNTING PLATE	
1-47	61-25SCD6600020	CONTACT PLATE	
1-48	61-57GF35000020	LOOSE LEAF	
1-49	61-57GF65000020	WOODEN BOX OPEN/CLOSE SHAFT	
1-50	61-95T060800020	SPRING DIAL	
1-51	66-120226150321	MACHINE SCREW MS/BH 2.6x5mm	
1-52	66-120230180321	MACHINE SCREW MS/BH 3x8mm	
1-53	66-120230210321	MACHINE SCREW MS/BH 3x10mm	
1-54	66-120230214121	MACHINE SCREW MS/BH 3x14mm (BLK)	
1-55	66-120240222321	MACHINE SCREW MS/BH 4x22mm	
1-56	66-120330160321	MACHINE SCREW MS/PH 3x6mm	
1-57	66-120526140321	MACHINE SCREW MS/KH 2.6x4mm	
1-58	66-120830220321	MACHINE SCREW MS/WH 3x20mm	
1-59	66-140226180321	SELF-TAPPING SCREW TA/BH 2.6x8mm	
1-60	66-140230180121	SELF-TAPPING SCREW TA/BH 3x8mm (BLK)	
1-61	66-140230210121	SELF-TAPPING SCREW TA/BH 3x10mm (BLK)	
1-62	66-140230210321	SELF-TAPPING SCREW TA/BH 3x10mm	
1-63	66-140230212121	SELF-TAPPING SCREW TA/BH 3x12mm (BLK)	
1-64	66-140230214121	SELF-TAPPING SCREW TA/BH 3x14mm (BLK)	
1-65	66-140230214321	SELF-TAPPING SCREW TA/BH 3x14mm	
1-66	66-140330180321	SELF-TAPPING SCREW TA/PH 3x8mm	
1-67	66-140330210321	SELF-TAPPING SCREW TA/PH 3x10mm	
1-68	66-140530180121	SELF-TAPPING SCREW TA/KH 3x8mm (BLK)	
1-69	66-140830210321	SELF-TAPPING SCREW TA/WH 3x10mm	
1-70	66-141430210321	SELF-TAPPING SCREW TA/WH 3x10mm	
1-71	66-150330160321	SELF-TAPPING SCREW TB/PH 3x6mm	
1-72	66-150830180121	SELF-TAPPING SCREW TB/WH 3x8mm (BLK)	
1-73	66-170230160321	HARDEN SCREW TT/BH 3x6mm	
1-74	67-021300000120	NUT+WASHER DIAM3MM	
1-75	67-021400000020	NUT M4MM	
1-76	68-112403101000	METAL WASHER 4x10x1mm	
1-77	68-412400000000	RING "E" TYPE 4mm	
1-78	02-20GF35000000	CD MECHANISM ASSY	
1-79	18-205GF3500120	H/TRANSFORMER EI66 230V [E]	
	18-203GF3500120	H/TRANSFORMER EI66 120V [T/C]	
	18-201GF3500120	H/TRANSFORMER EI66 100V [JIS]	
1-80	19-021093100220	SPEAKER 3" 10W - 4 OHM	

EXPLODED VIEW-1

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
1-81	20-60GF65000020	PHONOGRAPH MECHANISM	
1-82	41-193220000220	POWER SWITCH	
1-83	43-500000002020	AC CORD BUSHING	
1-84	05-01GF65000010	COMPLETE MAIN PCB ASSY [E]	
	05-01GF65000100		
	05-01GF65000000	COMPLETE MAIN PCB ASSY [T/C]	
	05-01GF65000100		
	05-01GF65000020	COMPLETE MAIN PCB ASSY [JIS]	
	05-01GF65000110		
1-85	05-04GF35000010	DISPLAY PCB ASSY [E]	
	05-04GF35000000	DISPLAY PCB ASSY [T/C, JIS]	
1-86	05-09GF65000000	HP PCB ASSY	
1-87	05-09GF65000100	AUX PCB ASSY	
1-88	05-13GF35000000	REMOTE PCB ASSY	
1-89	56-43GF3500B010	REMOTE FRONT CABINET [E, T/C]	
	56-43GF3501B010	REMOTE FRONT CABINET [JIS]	
1-90	56-43GF3501B000	REMOTE BOTTOM CABINET [E, T/C]	
	56-43GF3501B000	REMOTE BOTTOM CABINET [JIS]	
1-91	56-44GF3500B000	BATTERY DOOR	
1-92	58-23GF35008120	RUBBER KEY	
1-93	61-26GF35000020	REMOTE BATTERY SPRING (+)	
1-94	61-26GF35000120	REMOTE BATTERY SPRING (-)	
1-95	61-26GF35000220	REMOTE BATTERY SPRING (+/-)	
1-96	66-140320180321	SELF-TAPPING SCREW TA/PH 2x8mm	
1-97	57-08GF65000020	FRONT SHEET (PVC)	
1-98	61-29GF65000020	VOLUME CAP	
1-99	66-120930214121	MACHINE SCREW MS/CH 3x14mm (BLK)	
1-100	66-350430180121	HEXAGON SCREW TB/HA 3x8mm	
1-101	68-312400000000	SPRING WASHER M4	

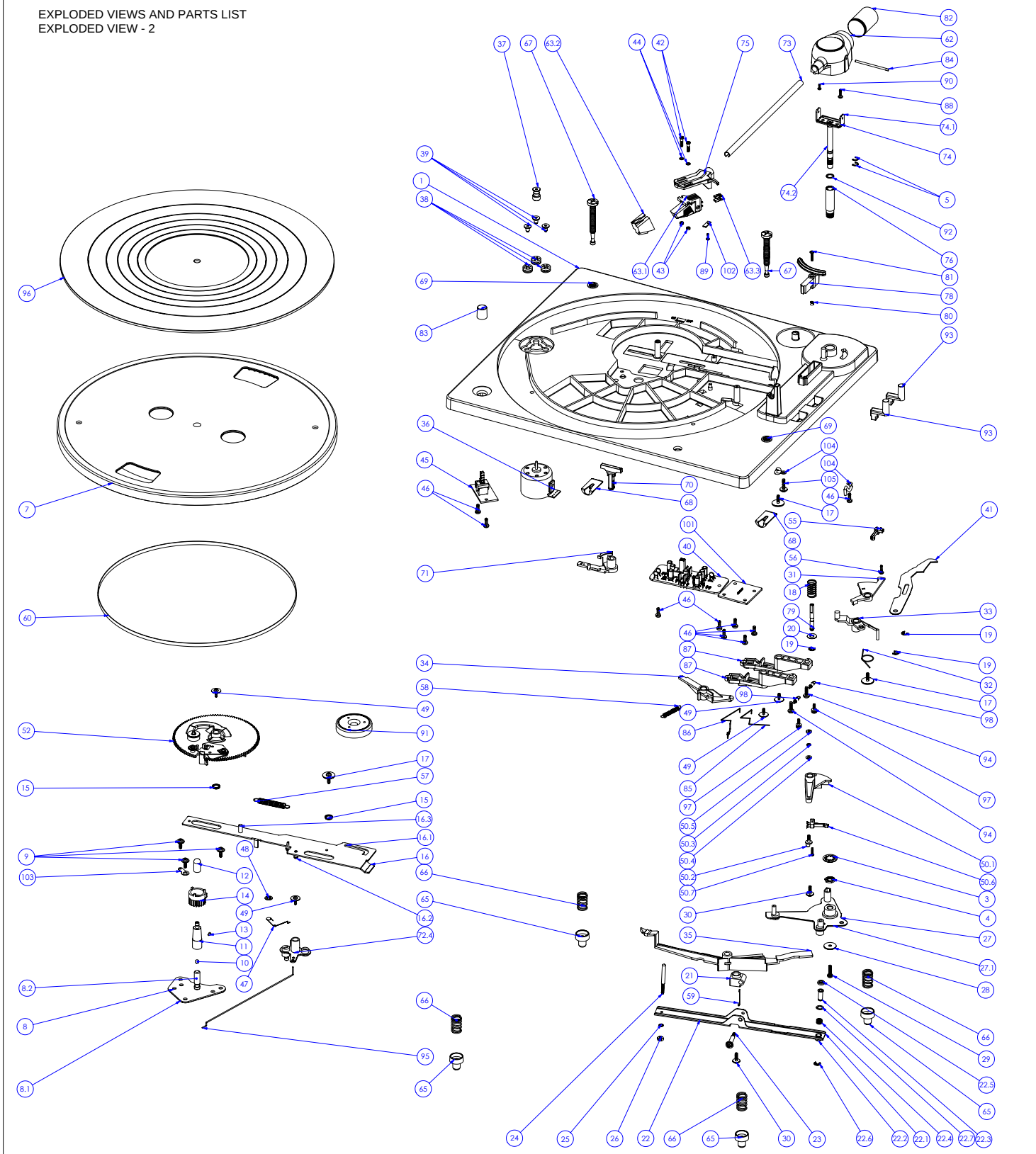
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5 PC BOARDS AND PARTS LIST

MAIN PCB ASSY

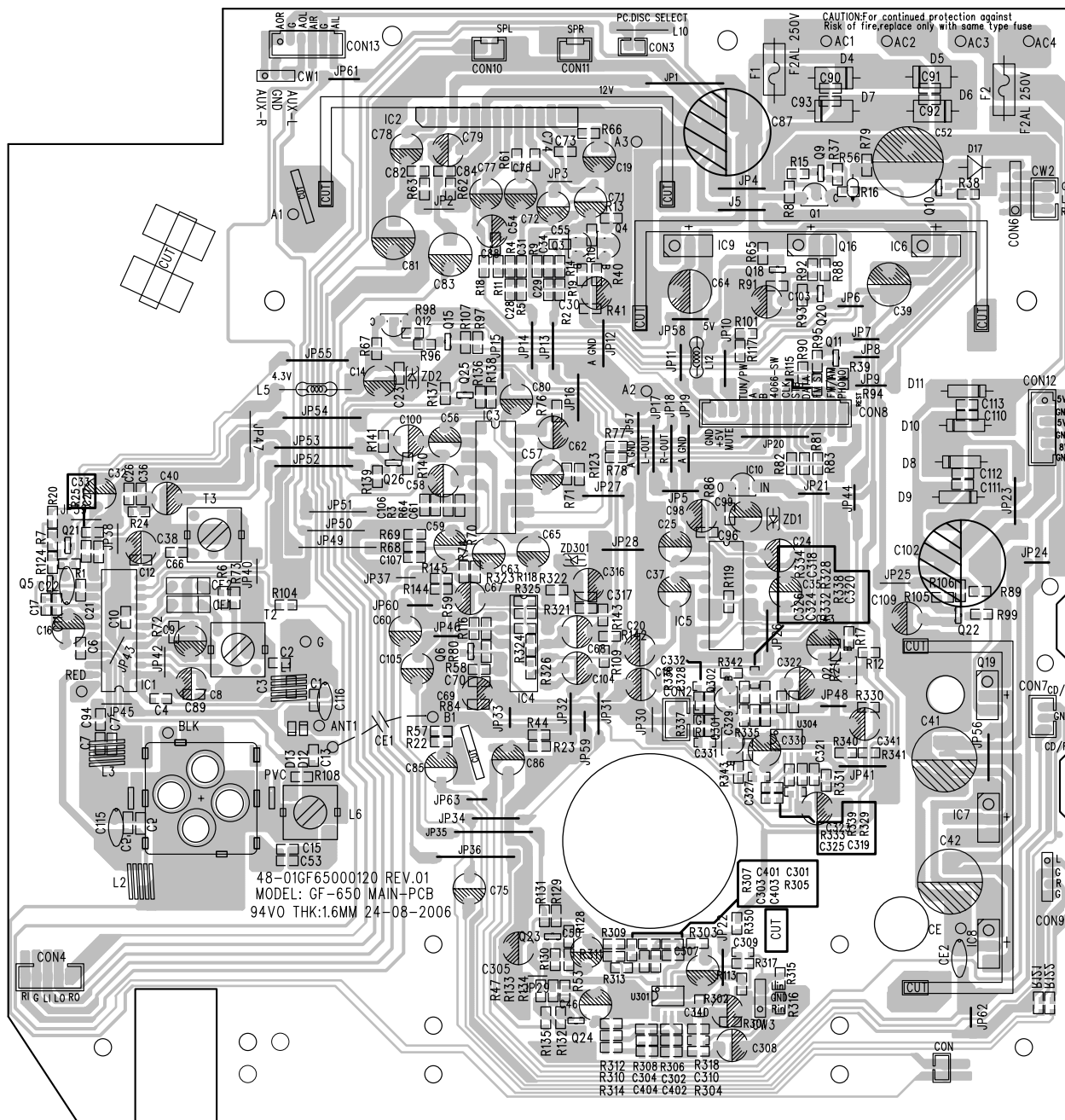
REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	05-01GF65000010]	COMPLETE MAIN PCB ASSY [E]	
	05-01GF65000100]	COMPLETE MAIN PCB ASSY [T/C]	
	05-01GF65000000]	COMPLETE MAIN PCB ASSY [JIS]	
	05-01GF65000100]	COMPLETE MAIN PCB ASSY [JIS]	
	05-01GF65000020]	COMPLETE MAIN PCB ASSY [JIS]	
	05-01GF65000110]	COMPLETE MAIN PCB ASSY [JIS]	
	48-01GF65000120	MAIN PCB	
	27-010000130120	PVC #443DF-1DF	
C41,42	⚠ 26-017220750111	E.CAP 2200UF/16V	
C52	⚠ 26-017220850111	E.CAP 2200UF/25V	
C81,83	⚠ 26-017100750111	E.CAP 1000UF/16V	
C87,102	⚠ 26-017470850111	E.CAP 4700UF/256V	
CF1	31-026465000120	CERAMIC FILTER LTP465Y	
CF2	31-028107000110	CERAMIC FILTER SFE10.7MA5-A	
CON3	43-012200120120	WAFER 2MM 2PIN	
CON4	43-012200150120	WAFER 2MM 5PIN	
CON8	43-012200214120	WAFER 2MM 14PIN	
CON10,11	43-012250120120	WAFER 2.5MM 2PIN	
CON13	43-012200160120	WAFER 2MM 6PIN	
CW2	43-012200130120	WAFER 2MM 3PIN	
D4-7	⚠ 12-RL2020000021	RECTIFIER DIODE RL-202	
D8-11	⚠ 12-1N5401000021	RECTIFIER DIODE 1N5401	
D12,13	12-LS4148000021	SMD DIODE LS4148	
D17	12-1N40010000P1	RECTIFIER DIODE 1N4001	
F1,2	⚠ 46-015200300010	AXIAL FUSE 2A/250V	
IC1	16-SA2111000021	IC - SA2111N	
IC2	16-BA5417000021	IC - BA5417	
IC3	16-TC4052BP0021	IC - TC4052BP	
IC4	16-HEF4066B012	IC - HEF4066BP	
IC5	16-TC9260P00021	IC - TC9260PAG	
IC6,8	16-KA7808000021	IC - KA7808E	
IC7,9	16-KA7805000121	IC - LA7805E	
IC10	16-LM78L05000021	IC - LM78L05-AC	
L1,2	40-351450135020	FM COIL 4.5X3.5TX0.8MM	
L3	40-351550125020	FM COIL 5.5X2.5TX0.8MM	
L5,12	38-013100050020	AXIAL INDUCTOR 10UH	
L6	40-019100002020	IFT - 10MM 910(RED)	
Q1,12	11-8550D0000025	TR - 8550D 2W	
Q2-4,301,302	11-2SD1936T0125	TR - 2SD1936T	
Q5	11-DTA124EK0021	SMD TR - DTA124EKA	
Q6,9,11,15,18, Q20-26	11-PMBT39040021	SMD TR - PMBT3904	
Q10	11-PMBT39060021	SMD TR - PMBT3906	
Q16,19	11-KSB772YS0021	TR - KSB772YS	
T2	40-01A049004020	IFT - 10MM A049(YELLOW)	
T3	40-017400003020	IFT - 10MM 740 (ORANGE)	
U301,304	16-YD4558000021	IC - YD4558	
ZD1	12-011270320125	ZENER DIODE 2.7V	
ZD2	12-011430320125	ZENER DIODE 4.3V	

EXPLODED VIEWS AND PARTS LIST
EXPLODED VIEW - 2



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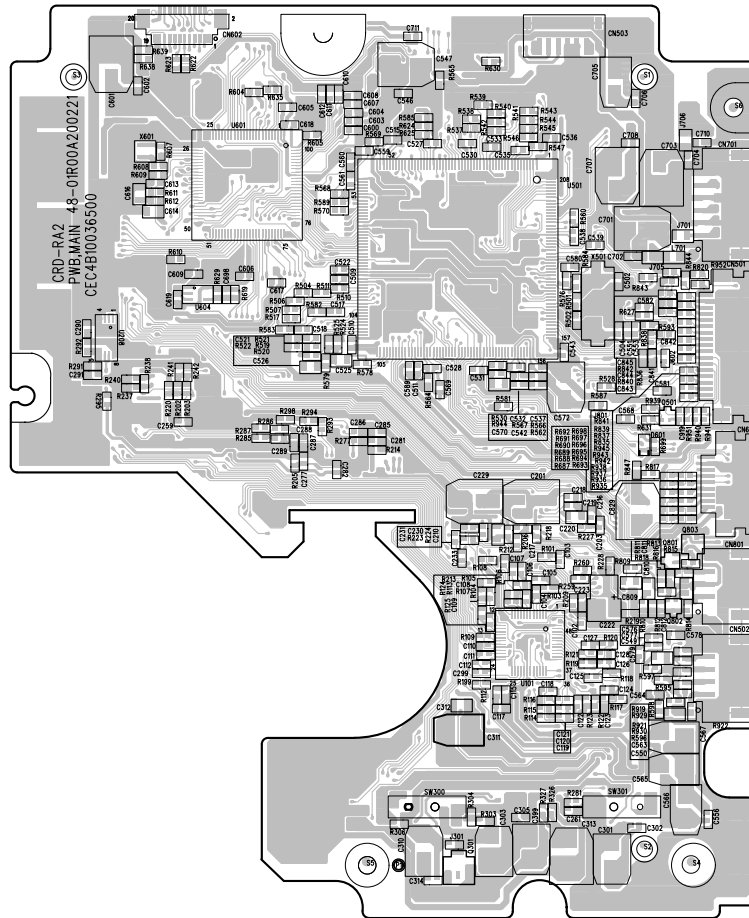


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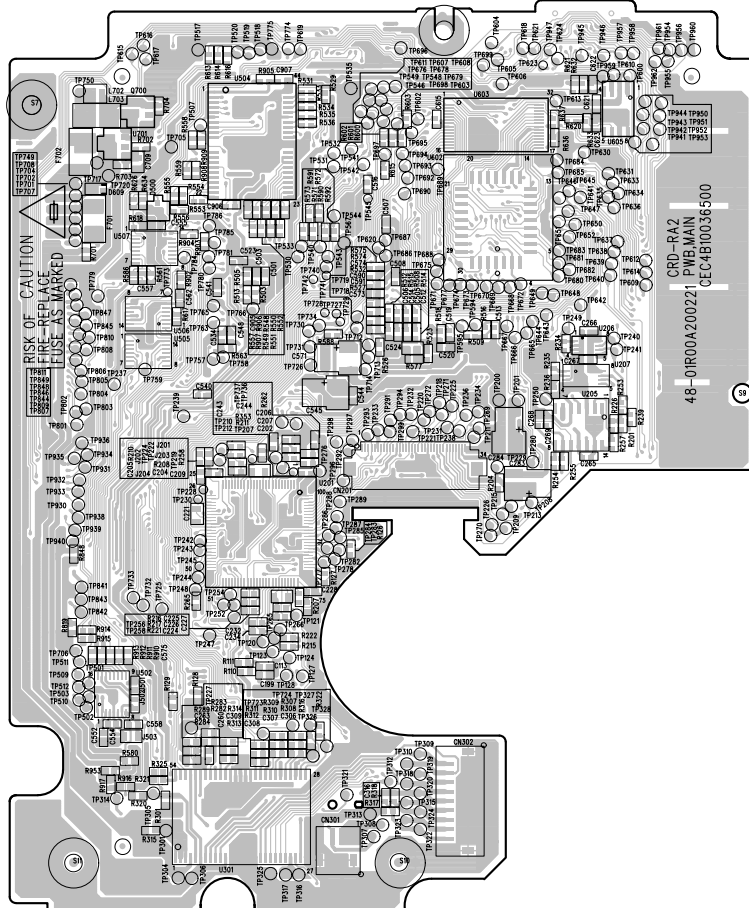
POWER MAIN PCB ASSY (CD MECHAN. ASSY)

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	05-01RA00200020	POWER MAIN PCB ASSY (CD MECHAN. ASSY)	
	48-01R00A200223	POWER MAIN PCB	
CN201	43-011500234120	SMD WAFER 0.5MM 34PIN	
CN301	43-022150120520	SMD WAFER 1.5MM 2PIN	
CN302	43-022150190520	SMD WAFER 1.5MM 9PIN	
CN501	43-012100217530	SMD FFC WAFER 1MM 17PIN	
CN502	43-022200140520	SMD WAFER 2MM 4PIN	
CN503	43-022150160520	SMD WAFER 1.5MM 6PIN	
CN601	43-012100190530	SMD FFC WAFER 1MM 9PIN	
CN602	43-021800220520	SMD WAFER 0.8MM 20PIN	
CN701	43-022200160520	SMD WAFER 2MM 6PIN	
CN801	43-022200130520	SMD WAFER 2MM 3PIN	
D500	12-DAN217000021	DIODE - DAN217	
D601	12-011510320521	SMD ZENER DIODE 5.1V	
D609	12-011560320511	SMD ZENER DIODE 5.6V	
F701,702	⚠ 46-125200200010	SMT FUSE 6125T-2A	
Q301,700	11-2SB113200021	SMD TR - 2SB1132	
Q801,802	11-2SC455570021	SMD TR - 2SC4555-7	
Q803	11-DTA124EK0021	SMD TR - DTA124EKA	
SW300,301	41-061120100020	LEAF SWITCH	
U101	16-BH3802KV0021	IC - BH3802KV-E2	
U201	16-AK8567000021	IC - AK8567	
U205	16-AD8402AR0021	IC - AD8402AR10	
U206	16-TC4W53FU0021	IC - TCW53FU	
U207,208	16-NJM3404A0021	IC - NJM3404AV	
U301	16-BA5960FS0021	IC - BA5960FS	
U501	16-LC8958700021	IC - LC89587-UKI	
U502	16-AK5353VT0021	IC - AK5353VT	
U504	16-M54160000021	IC - MSM5416258B	
U505	16-TC74VHC00021	IC - TC74VHC08FT	
U506	16-TC74VHC30021	IC - TC74VHC32FT	
U507	16-TC74VHC10021	IC - TC74VHC14FT	
U601	16-TMP95C260021	IC - TMP95C265FG	
U602	16-EN29F0020021	IC - EN29F002ANT	
U604	16-PST597EN0021	IC - PST597ENR	
U605	16-BR9080AF0021	IC - BR9080AF-W-E2	
U701	16-M5237ML00021	IC - M5237ML-600C	
X501	31-018338600115	V/CHIP CRYSTAL 33.8688MHZ	
X601	31-048225701415	CHIP RESONATOR 22.57MHZ	

POWER MAIN PCB (CD MECHAN. ASSY) - TOP



POWER MAIN PCB (CD MECHAN. ASSY) - BOTTOM



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DISPLAY PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
CN502 CN504	05-04GF35000010	DISPLAY PCB ASSY [E]	
	05-04GF35000000	DISPLAY PCB ASSY [T/C,JIS]	
	48-04GF35000222	DISPLAY PCB	
	43-012100190530	SMD FFC WAFER 1MM 9PIN	
	43-022200160120	WAFER 2MM 6PIN	
D502	13-011306622020	LED LAMP 3mm (BLUE)	
D503-506	13-011200022020	LED LAMP 2x5x7mm (WHITE)	
D507	13-011292121020	LED LAMP (RED)	
LCD501	13-05GF35000021	LCD DISPLAY #SDT-DA870	
Q501	11-DTA124ES0025	TR - DTA124ES	
S500,501	22-501200000820	ROTARY ENCODER E1211A3AV1NG0000	
SW511-517, SW521-526	41-150010030020	TACT SW 6x6mm	
U501	16-LC877C32C021	IC - LC877C32C	
U502	17-05FM60380011	OPTIC SENSER #FM-6038TM2-5A	
U503	16-PST600D00021	IC - PST600D	
X501	31-047450000020	CERAMIC RESONATOR 4.5MHZ	

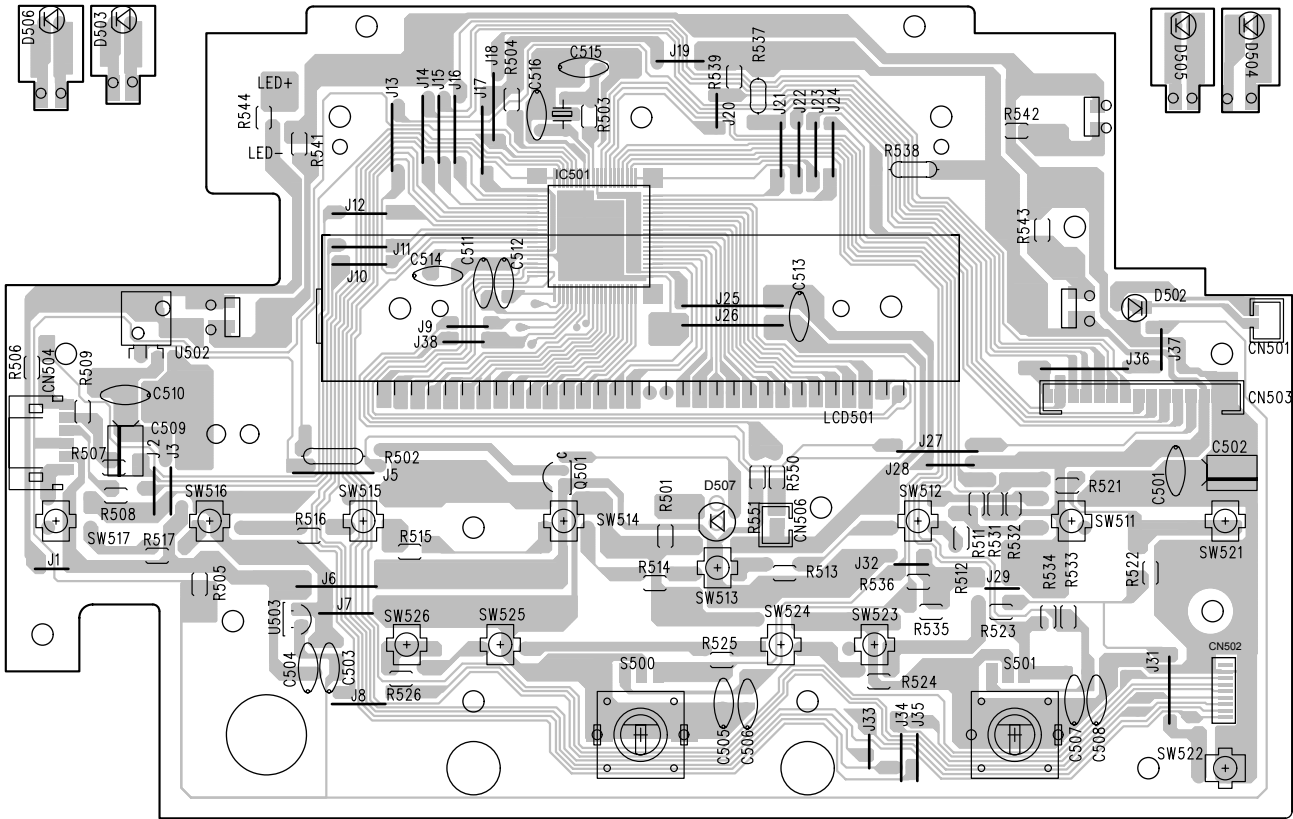
HP PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
L4,8,9 PHONE J	05-09GF65000000	HP PCB ASSY	
	48-09GF35000120	HP PCB	
	38-013100050120	AXIAL INDUCTOR 10UH #EC-24	
	43-431360006020	PH 3.6MM JY353507001	

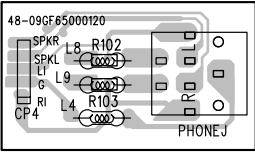
AUX PCB ASSY

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
JK1	05-09GF65000100	AUX PCB ASSY	
	48-09GF35000220	AUX PCB	
	43-451400002020	RCA JACK 4PIN	
L1-6	38-013100050220	AXIAL INDUCTOR 10UH #EC-36	

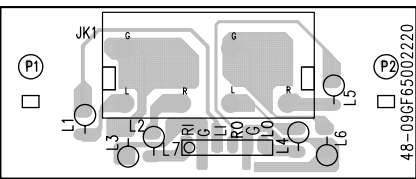
DISPLAY PCB



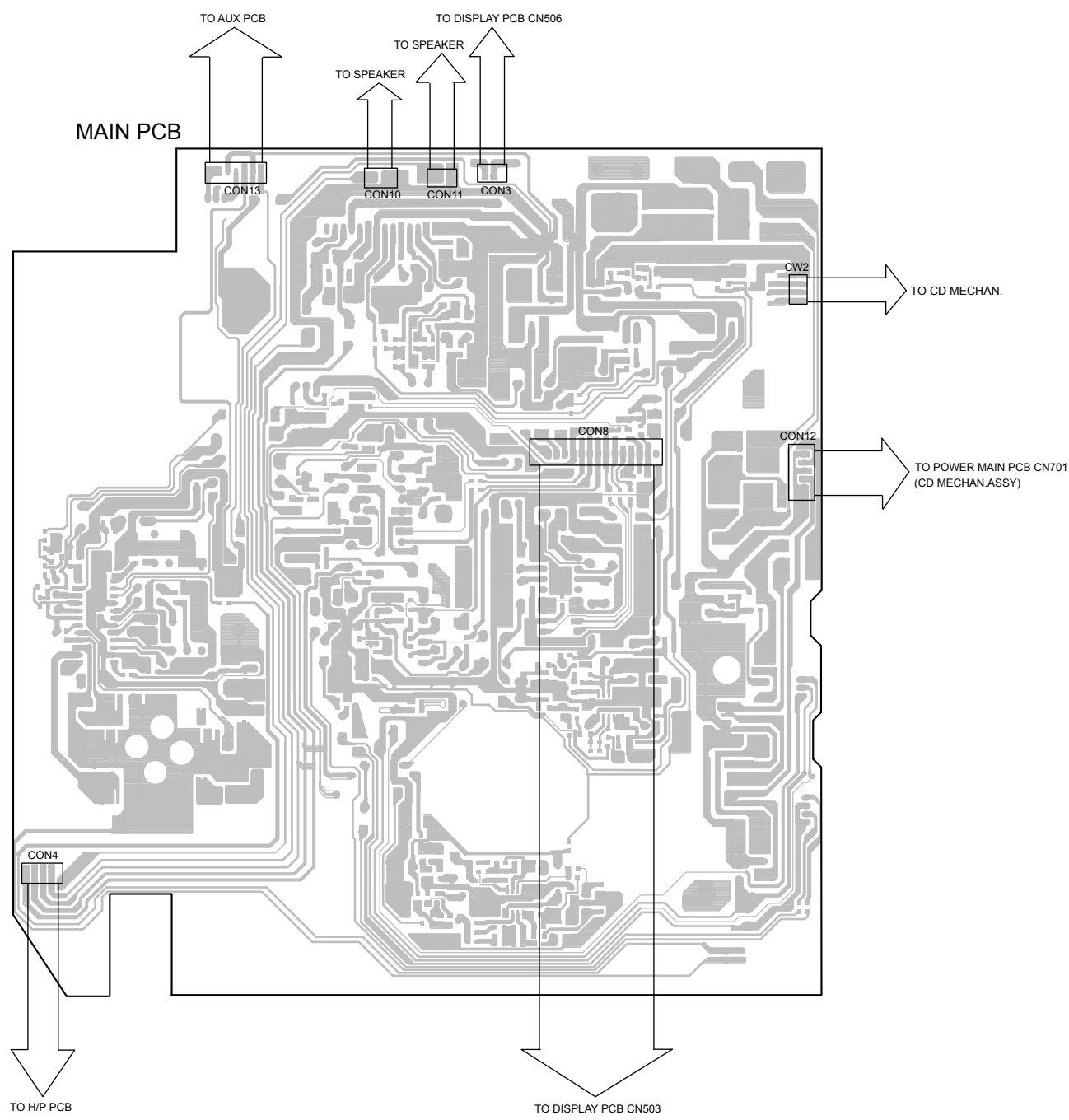
HP PCB

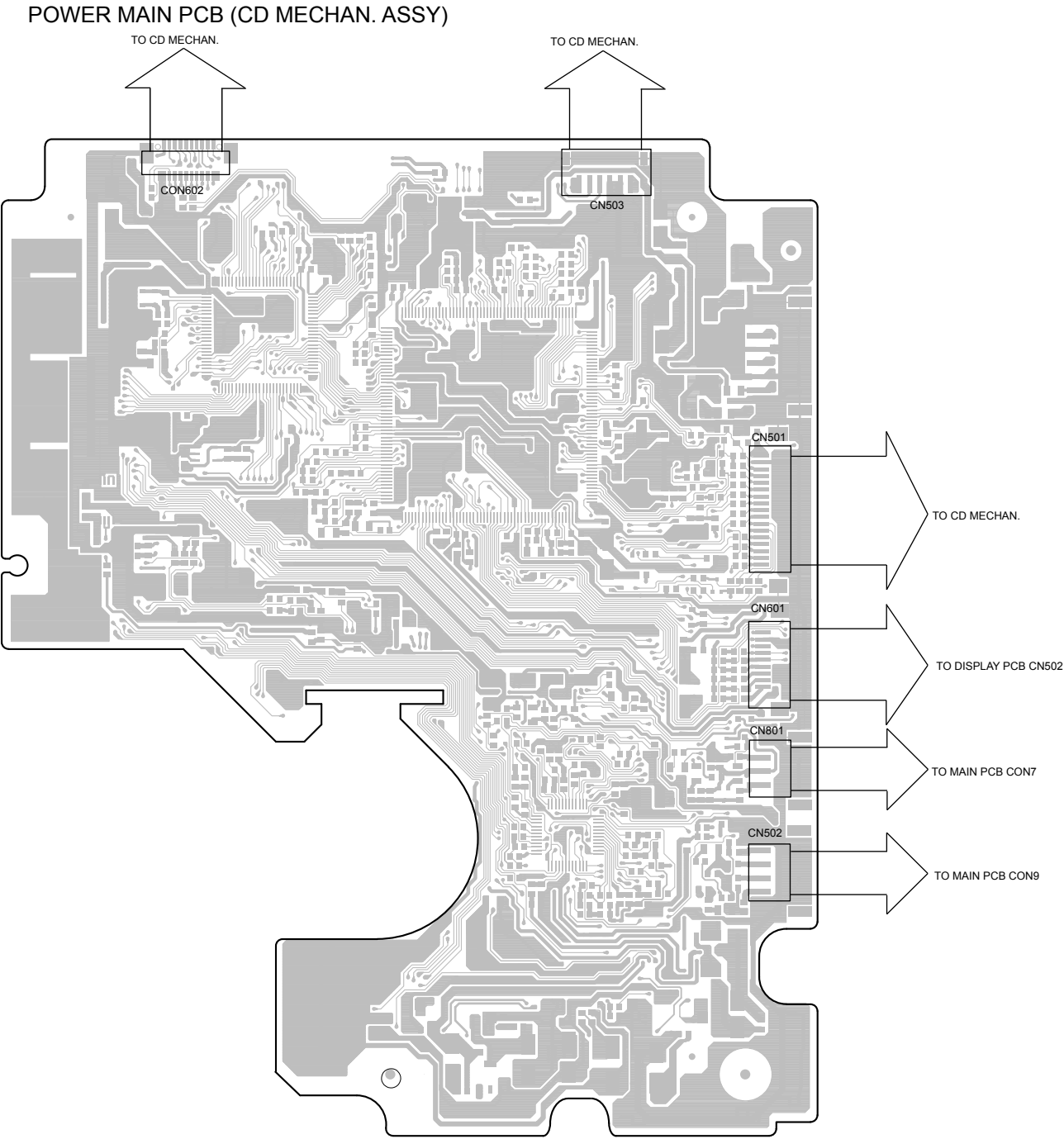


AUX PCB



6 WIRING DIAGRAM





GF-650

7 INCLUDED ACCESSORIES

INCLUDED ACCESSORIES

REF. NO	PARTS NO.	DESCRIPTION	REMARKS
	77-20GF65000120	INSTRUCTION MANUAL-E [E]	
	77-20GF65000020	INSTRUCTION MANUAL-E /F/S [T/C]	
	77-20GF65000220	INSTRUCTION MANUAL-JAPAN [JIS]	
	45-203840005220	RCA PLUG CORD 2PIN	
	51-011150300010	BATTERY 1.5V AA/UM-3	
	02-17GF35000000	REMOTE CONTROL [E,T/C]	
	02-17GF35000010	REMOTE CONTROL [JIS]	
		45 RPM ADAPTOR	

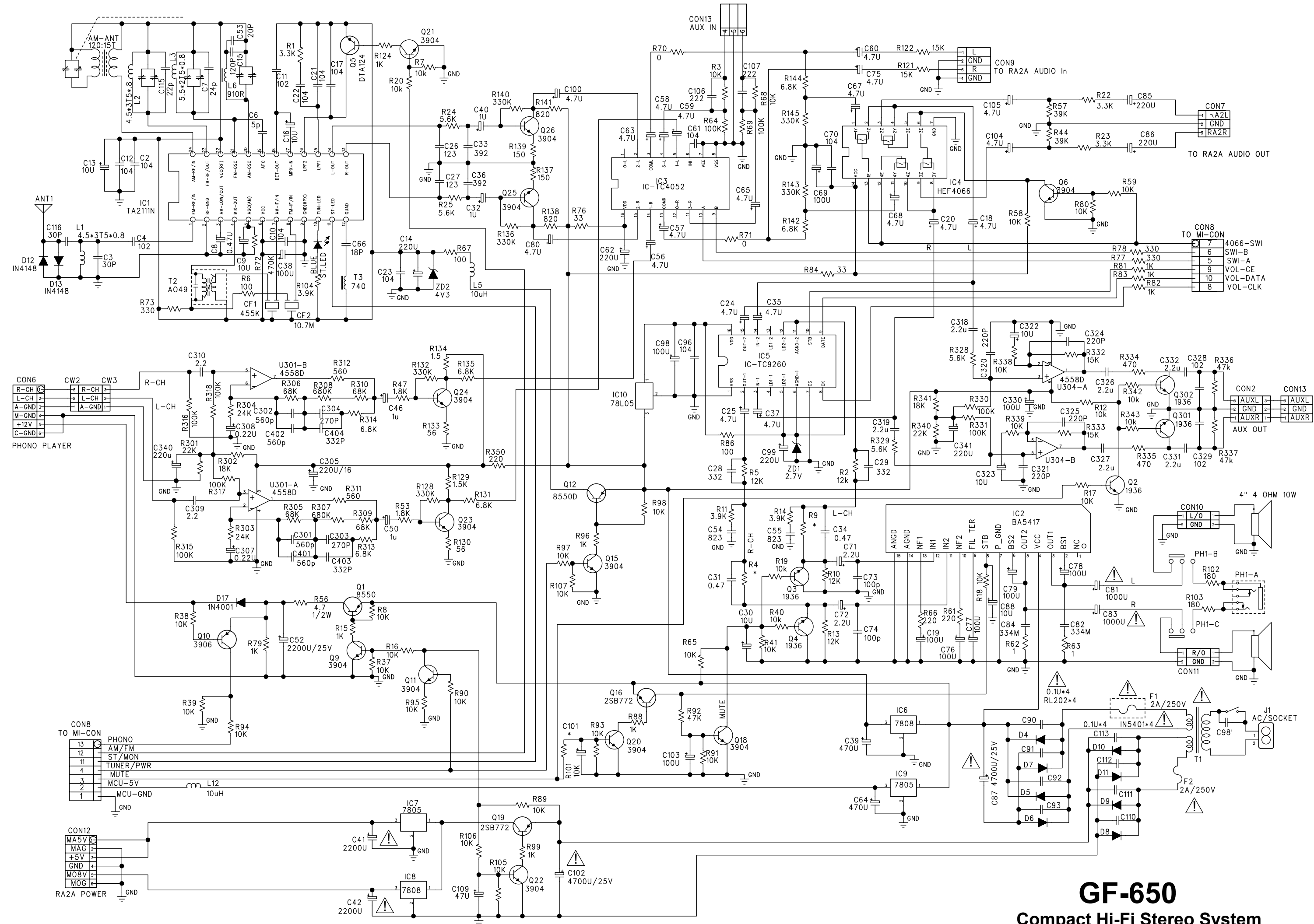
GF-650

TEAC

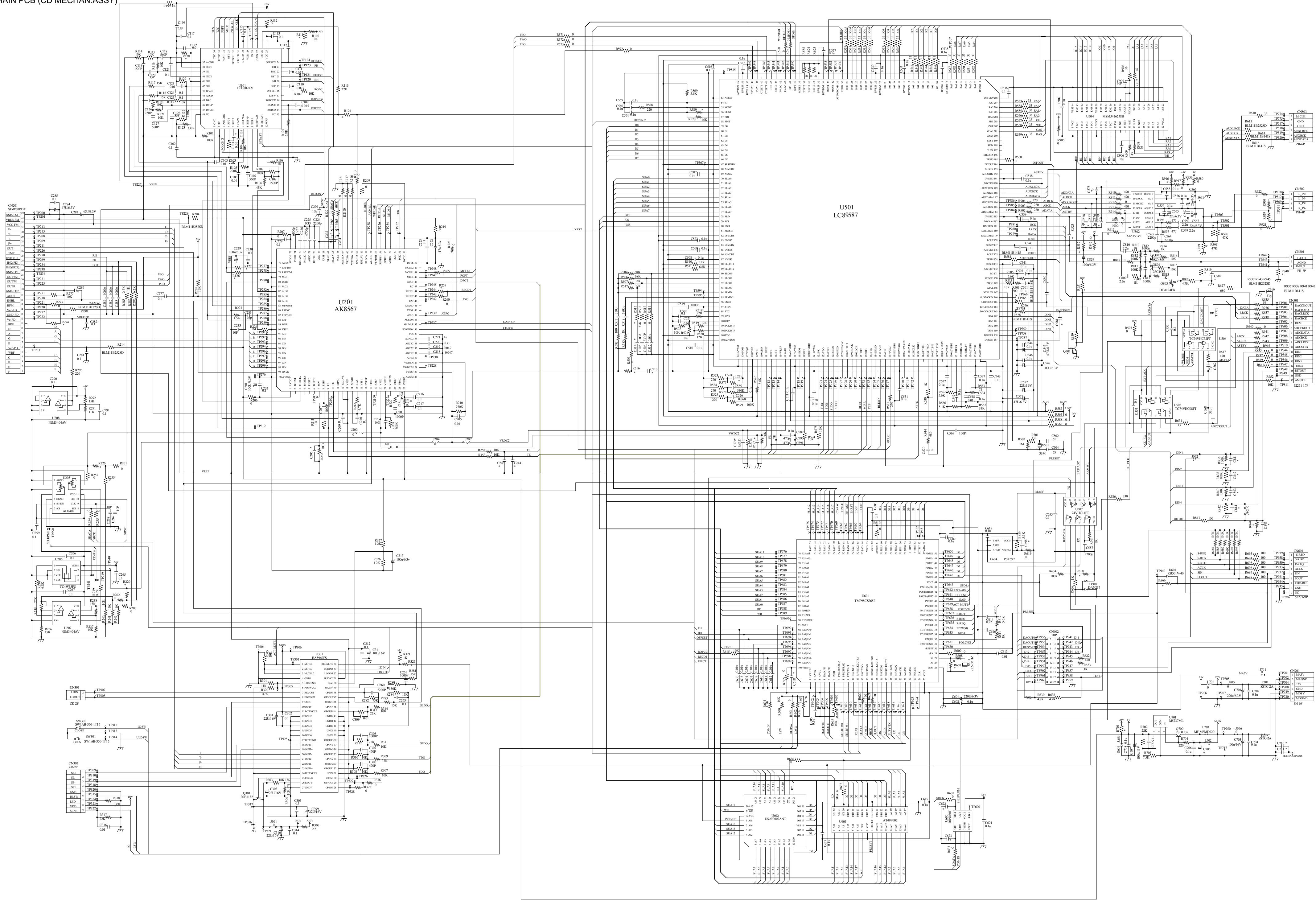
TEAC CORPORATION	3-7-3 Nakacho, Musashino-shi, Tokyo 180-8550, Japan Phone:(0422)52-5081
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GF-650
Compact Hi-Fi Stereo System



DISPLAY PCB

