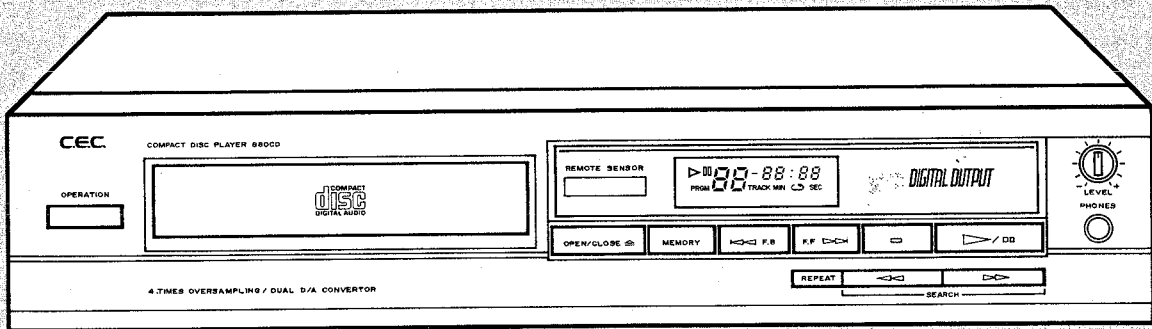
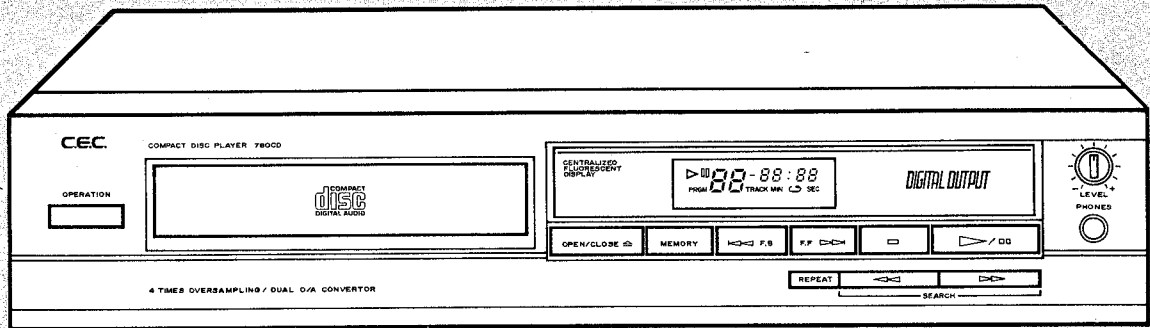


DIGITAL COMPACT DISC PLAYER

C.E.C.

780CD/880CD

SERVICE MANUAL



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Schematic Diagram is separately attached.

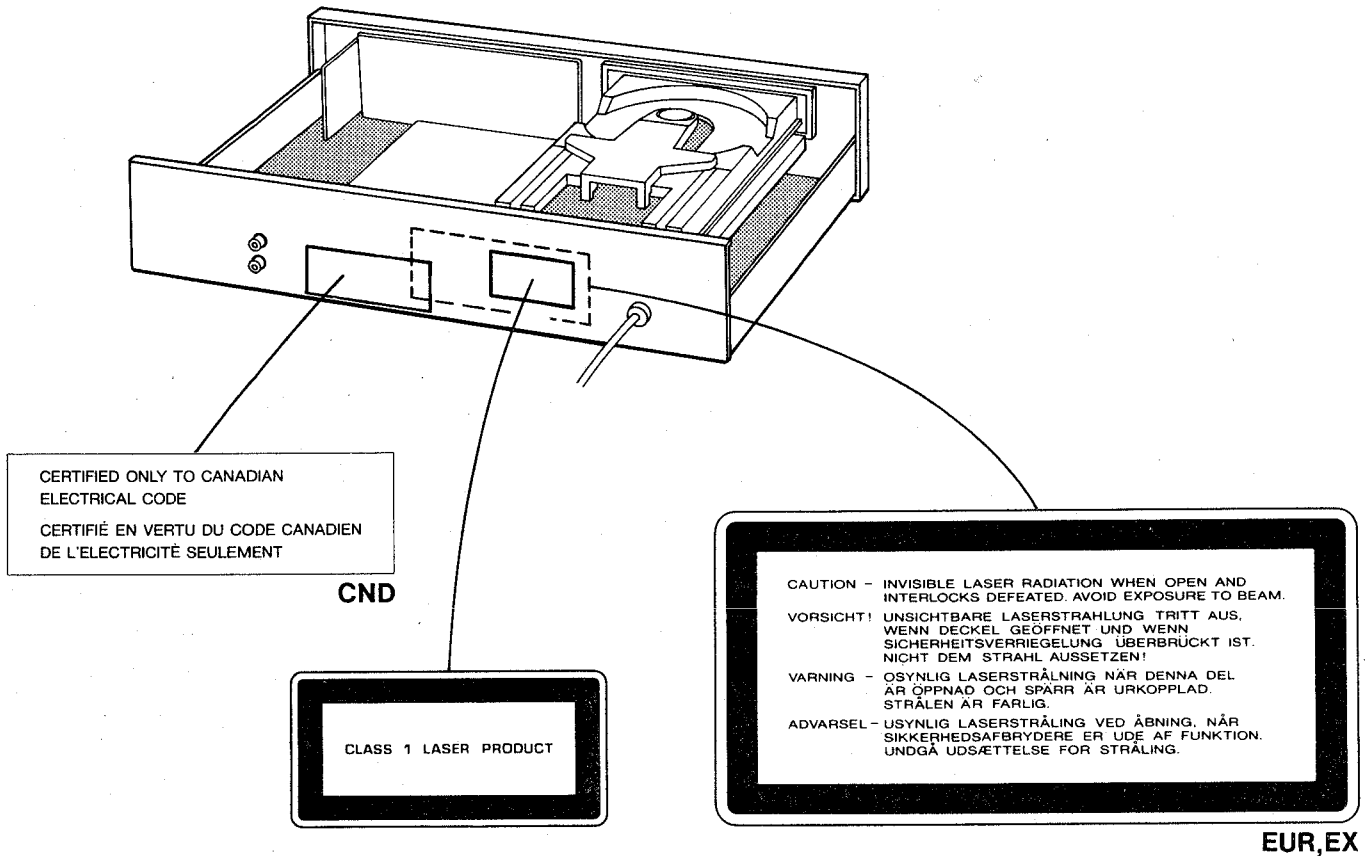
SPECIFICATIONS

DIGITAL COMPACT DISC PLAYER	780CD/880CD
System	Compact disc digital audio system
AUDIO CHARACTERISTICS Frequency Response	20Hz - 18kHz ± 1dB
Harmonic Distortion	Less than 0.07% (1kHz)
S/N Ratio (FLAT)	More than 80dB
Wow and Flutter	Unmeasurable
Channel Separation	More than 75dB (1kHz)
Output Voltage max.	2 Vrms ± 1.5dB (1kHz)
Headphone Output Voltage max.	75mV (Ro = 8Ω)
FUNCTIONS Instant Selection	Sequential, with F.F and F.B buttons
Search	Sequential, with SEARCH ►► and SEARCH ◄◄
Fast-Forward/Back	Fast-forward/back with sound
Program Functions	20 selections
Repeat	All selections or one selection
Reset	Press STOP button twice
Pause	Each selection
Time Display	Elapsed Time Remaining Time (880CD only) (Press DISPLAY button on the REMOTE CONTROL unit in turn)
Disc Loading	Motor driven horizontal loading
DIGITAL SIGNAL PROCESSING Optical Pickup	3-beam laser
Error Correction	CIRC
Sampling Frequency	44.1 kHz
D/A Conversion	16-bit Dual D/A converter
Filter	4-times Oversampling digital filter + 2 order analog filter
Digital Output Voltage (coaxial)	0.5Vp-p
GENERAL Power Requirements (50Hz)	120V AC ± 10% (for CND) 220V AC ± 10% (for EUR) 9 Watts 110V/220V AC ± 10% (for EX)
Dimensions (W × H × D)	435 × 90 × 290mm
Weight (approx.)	3.4kg (780CD) 3.5kg (880CD)

Design and specifications are subject to change without notice for improvements.

SAFETY CERTIFICATION

This Compact Disc Player is made and tested to meet exacting safety standards.

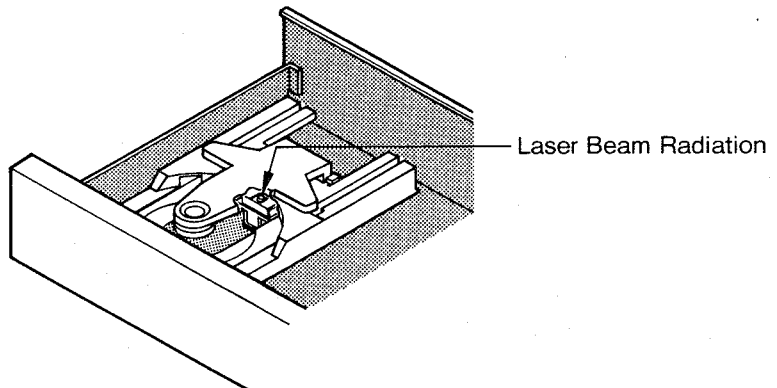


CAUTION - USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

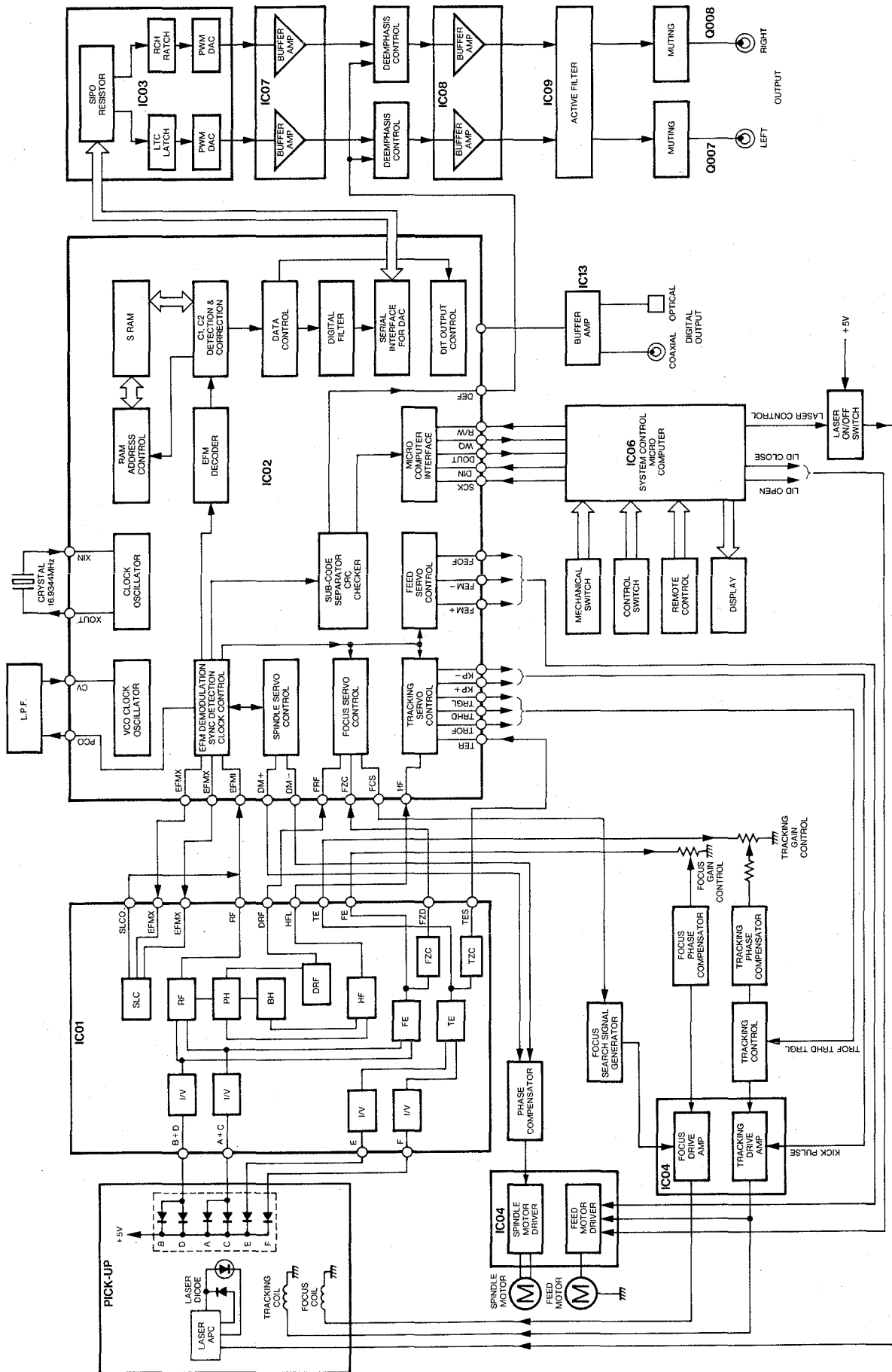
THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT QUALIFIED SERVICE PERSONNEL.

LASER BEAM RADIATION SPOT

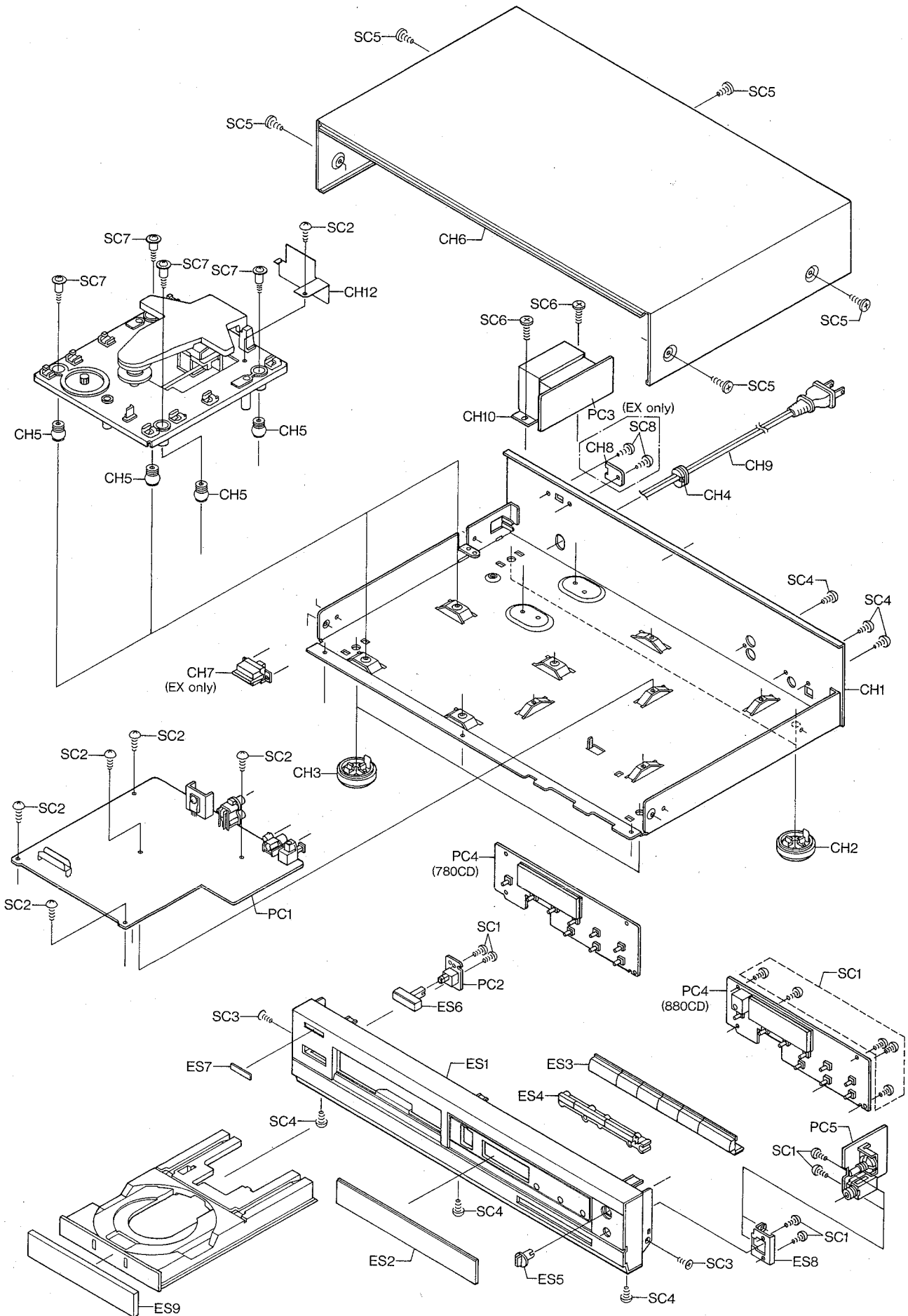
Laser Diode Properties
Material: Ga-Al-As
Wavelength: 755-815nm (25°C)
Laser Output: Continuous Wave max. 0.7mW



FUNCTIONAL BLOCK DIAGRAM



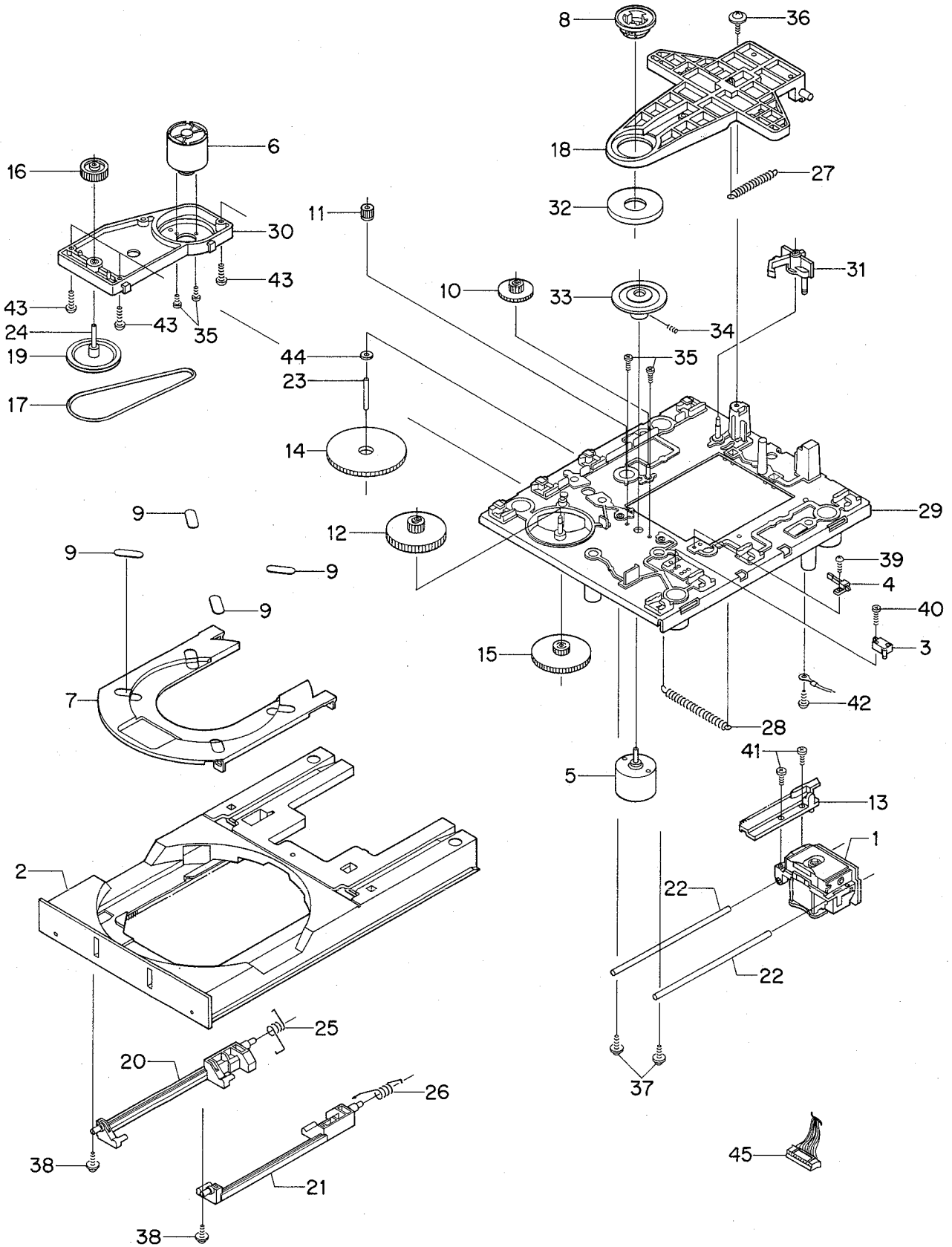
CABINET EXPLODED VIEW



CABINET PARTS LIST

Ref. No.	Part No.	Description	780CD			880CD		
			CND	EUR	EX	CND	EUR	EX
		PACKAGE						
	6K410X3500	PAD ASSY (F)	1	1	1	1	1	1
	6K410X3501	PAD ASSY (R)	1	1	1	1	1	1
	H49227000	PAD	1	1	1	1	1	1
	6K210X3500	CARTON	1	1	1	1	1	1
	14162519164900	SHEET POLYETHYLENE	1	1	1	1	1	1
		ACCESSORY						
	6P100X0679	MANUAL	1			1		
	H50215090	MANUAL		1	1			
	H510215060	MANUAL					1	1
	42369741300	PLUG CORD RCA	1	1	1	1	1	1
	13162719104010	BAG FAN	1	1	1	1	1	1
	4U100X0400	REMOCON				1	1	1
		CHASSIS						
CH1	23110X0610	CHASSIS	1	1		1	1	
CH1	23110X0611	CHASSIS			1			1
CH2	22510X1001	LEG	2	2	2	2	2	2
CH3	22510X1002	LEG	2	2	2	2	2	2
CH4	13126111142000	BUSHING	1	1	1	1	1	1
CH5	14124459473000	CUSHION RUBBER	4	4	4	4	4	4
CH6	21210X0600	COVER	1	1	1	1	1	1
CH7	42312026500	SW SLIDE 3P			1			1
CH8	13127104005000	PLATE PAD SWITCH			1			1
CH9	42439203900	POWER CORD	1			1		
CH9	42432005000	POWER CORD		1	1		1	1
CH10	4L500X2031	POWER TRANS	1			1		
CH10	4L500X2040	POWER TRANS		1			1	
CH10	4L500X2070	POWER TRANS			1			1
CH11	13123608141000	CRAMP WIRE	1	1	3	1	1	3
CH12	24620X4200	SHEET	1	1	1	1	1	1
	6P400X3004	LABEL RATING	1					
	6P400X3802	LABEL RATING		1				
	6P400X3108	LABEL RATING			1			
	6P400X3005	LABEL RATING				1		
	6P400X3803	LABEL RATING					1	
	6P400X3109	LABEL RATING						1
	H48981000	STANDARD LABEL	1			1		
	H49028000	LABEL, CAUTION	1			1		
	13164159402000	NOTES (LASER)		1	1		1	1
	H50178000	LABEL			1			1
	6P490X3500	LABEL	1	1	1	1	1	1
		ESCUTCHEON						
ES1	21410X1502	ESCUTCHEON	1	1	1			
ES1	21410X1503	ESCUTCHEON				1	1	1
ES2	21640X1400	WINDOW	1	1	1			
ES2	21640X1401	WINDOW				1	1	1
ES3	21750X5800	BUTTON	1	1	1	1	1	1
ES4	D32202120	KNOB C	1	1	1	1	1	1
ES5	D49348000	KNOB	1	1	1	1	1	1
ES6	D49923000	KNOB POWER	1	1	1	1	1	1
ES7	21630X1600	BADGE	1	1	1	1	1	1
ES8	A49835000	ANGLE MOUNT	1	1	1	1	1	1

MECHANISM EXPLODED VIEW



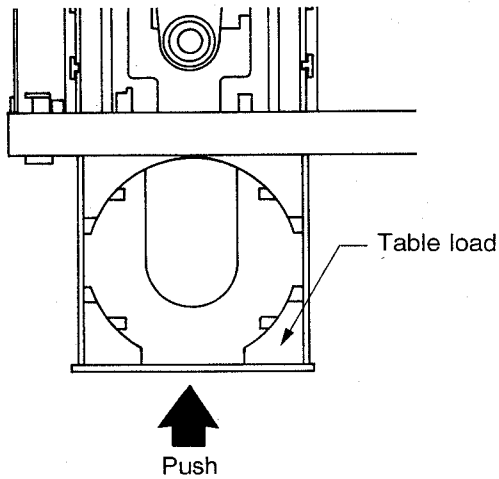
MECHANISM PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	C49862020	MECHANISM (CD86F2-A)	
1	IEA0A41A02000	Pick-up Assy SF-90EC	1
2	D498780000	Table Load	1
3	42312070100	Lever Switch 1PIT (SW101)	1
4	42319741700	Leaf Switch (SW102)	1
5	4M100X2000	Spindle Motor	1
6	45279717610	Motor	1
7	14121149648000	Table CD	1
8	14123519838000	Holder Disk	1
9	14124459513000	Pad Disk	4
10	14125519818000	Gear Pick-up	1
11	14125519819000	Gear Motor	1
12	14125519822000	Gear Table Load	1
13	14125519823000	Gear Pick-up Rack	1
14	14125519878000	Gear Load Pick-up	1
15	14125519879000	Gear Load T.L	1
16	14125519880000	Gear	1
17	14125649336000	Belt	1
18	14126229020000	Flap Disk Cramp	1
19	14126619086000	Pulley	1
20	14127429122000	Lever Hold Disk L	1
21	14127429123000	Lever Hold Disk R	1
22	14127519883000	Shaft Pick-up	2
23	14127519884000	Shaft Gear S	1
24	14127519912000	Shaft Pulley	1
25	14128529529000	Spring Lever Left	1
26	14128529530000	Spring Lever Right	1
27	14128549438000	Spring Frap Disk CR	1
28	14128549439000	Spring Arm	1
29	14103119286000	Chassis Assy	1
30	14103129031000	Chassis Sub Assy	1
31	14105559087000	Arm Assy	1
32	C50164000	Magnet Assy	1
33	14105229003000	Turntable Assy	1
34	14124219367000	SET Screw, V-CONE, M2.0×4	1
35	SE3PN173ROSM-	Screw, Pan Hd. Precision-3, +M1.7×3	4
36	13124201283000	Screw, Sems. Brazier Hd. Tapping-B, +M3.0×10	1
37	14124219427000	Screw, Pan Hd. Tapping-B, +M2.6×6	2
38	13124201282010	Screw, Sems. Brazier Hd. Tapping-B, +M3.0×8	2
39	SFBPN206ROSE-	Screw, Pan Hd. Tapping-B, +M2.0×6	1
40	ST3PN17100SM-	Screw, Pan Hd. Tapping-1, +M1.7×10	1
41	SF3FN205R0SA-	Screw, Flat Hd. Precision-3, +M2.0×5	2
42	SFBAN306ROSE	Screw, Brazier Hd. Tapping-B, +M3.0×6	1
43	SFBAN26140SE-	Screw, Brazier Hd. Tapping-B, +M2.6×14	3
44	14124539143000	Washer, M7	1
45	4J130X2100	Connector 9P Assy	1

DISASSEMBLY INSTRUCTIONS

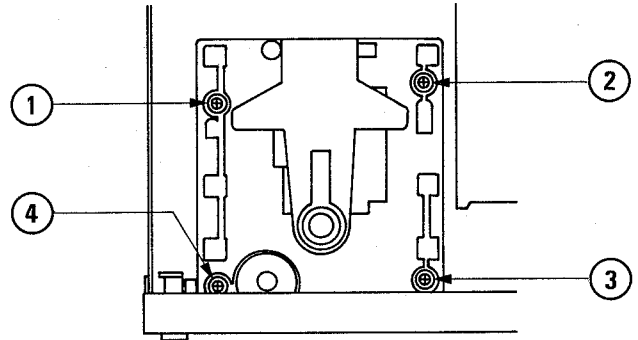
REMOVING THE DISC TRAY

1. Apply Power Switch to the set and press the OPEN/ CLOSE button to open the table load.
2. Apply OFF the Power Switch while the table load is open, and push the table load back in by hand to close it.

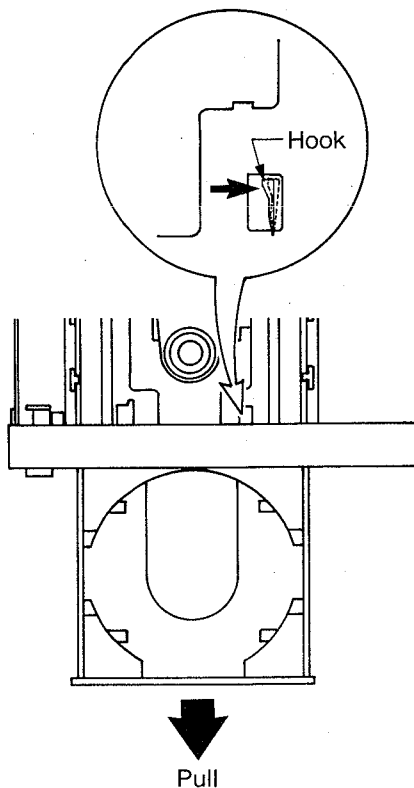


REMOVING THE MECHANISM

1. Take out the eight screws with which the Cabinet Front is mounted in place and remove the Cabinet Front.
2. Take out the four screws (1~4 in the diagram below) with which the mechanism is mounted in place and remove the mechanism.



3. Pull out the table load by hand to open it again. The table load will disengage easily and come out smoothly.
4. Now remove the table load from the cabinet while pressing the tab in the direction of the arrow in the diagram below.

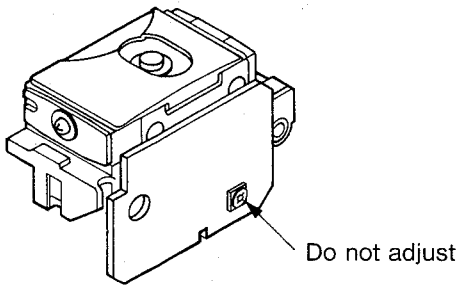
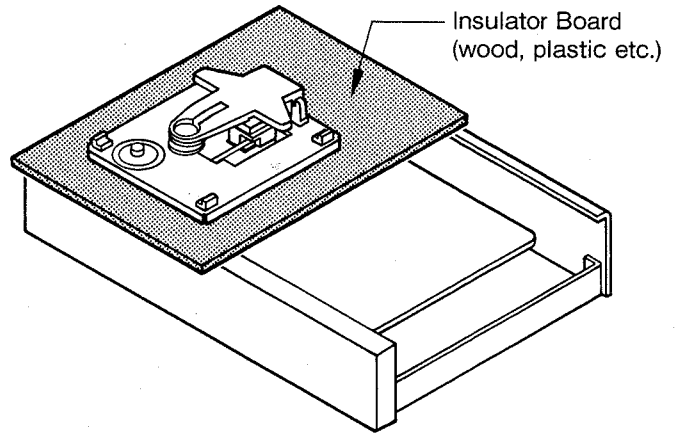


ADJUSTMENT PROCEDURES

CAUTION:
Avoid eye exposure to invisible laser beam which is emitted from laser pickup.

PRECAUTIONS REGARDING ADJUSTMENT

- Adjustment is performed in the indicated order.
- When adjustment is made for one item, check the other items which follow.
- The laser pick-up has already been precisely adjusted. Do not touch its mounting screws or controls.

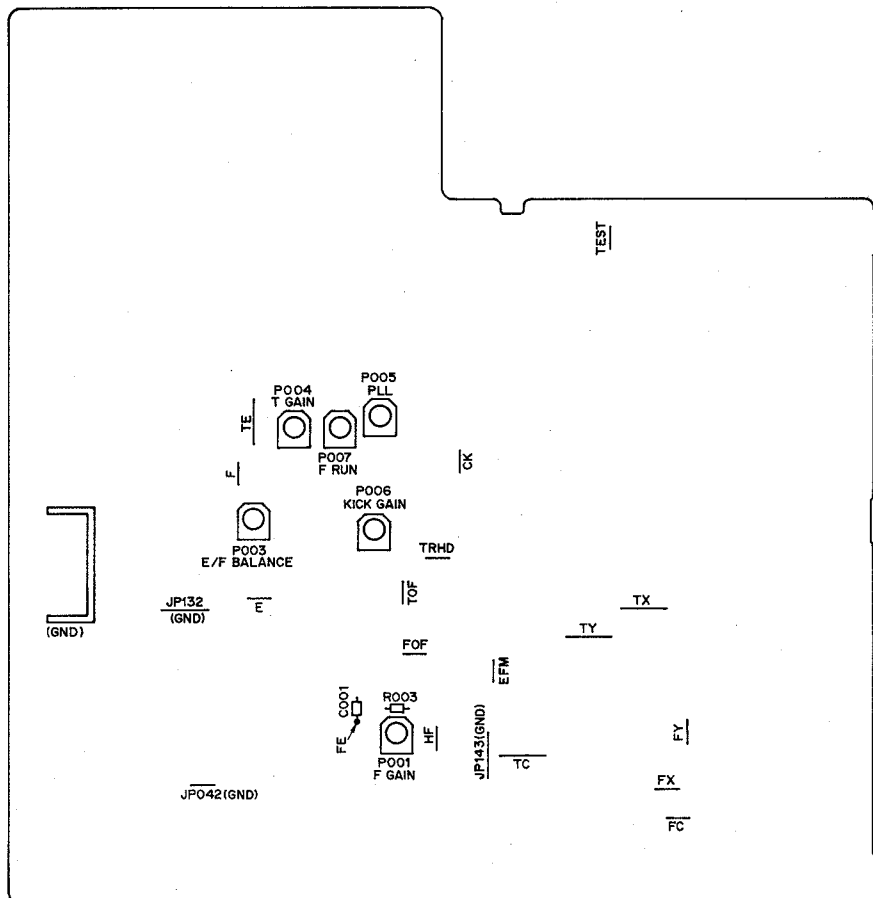


- When the diffraction grid is adjusted, remove the mechanism. It is convenient to place an insulating panel on top of the chassis, and then to place the mechanism on top of this. (The wires are connected.)

- Refer to the adjustment diagram for the test points and adjustment controls.

- The ground point for the measurement equipment is the test point indicated as **GND**.

ground point of P.C.BORD:
JP042, JP132, JP143



ADJUSTMENT PROCEDURES(Continued)

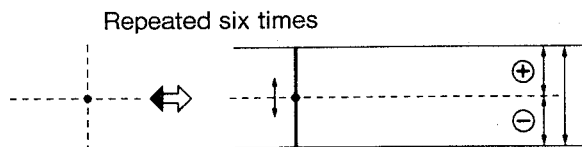
REQUIRED EQUIPMENTS

- DC Voltmeter
- Dualtrace Oscilloscope
- Frequency Counter
- Signal Generator
- Plastic Screwdriver
- Diffraction Grating Adjustment Jig
- Test Disc (SONY: YEDS4, SANYO: MODERN WAVE II)

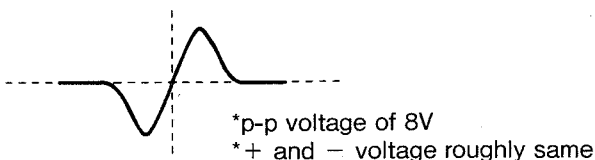
CHECKING FOCUS ERROR SIGNAL

Checking the focus error signal of the pick-up allows for an evaluation of the pick-up. Be sure this is carried out before repair.

1. Turn on the power and set the unit to the STOP mode.
2. Connect an oscilloscope between jumper **C001 (FE)** and **GND**. (Set the time axis to 0.5 seconds/division.)
3. Connect **R003 (FOF)** to **GND**.
4. Press the OPEN/CLOSE button and place the test disc YEDS4 on the table load. Press the OPEN/CLOSE button again.
5. The waveform shown below is displayed six times on the oscilloscope when the table load closes. Check that the p-p voltage is about 8V and that the top and bottom of the waveform are symmetrical.



(When recorded on a memory scope)



6. The waveform appears again if the OPEN/CLOSE button is pressed again. This allows for confirmation to be made. The pick-up is faulty if confirmation cannot be made.

SETTING OF INITIAL POSITION OF VOLUME

1. The variable resistors are set to the following initial positions.

P001 (FOCUS GAN)Mechanical center
P003 (E-F BALANCE)Mechanical center
P004 (TRACKING GAIN)Mechanical center
P005 (VPLL)Mechanical center
P006 (KICK GAIN)Mechanical center
P007 (PLL)Mechanical center

VOLTAGE PLL ADJUSTMENT

1. Turn on the power and set the unit to the STOP mode.
2. Connect a DC voltmeter between + and - lead of **C019**.
3. Adjust **P005** so that the DC voltmeter indicates 3.95V.

FREE RUN FREQUENCY ADJUSTMENT

1. Turn on the power and set the unit to the STOP mode.
2. Connect the frequency counter between jumper **CK** and **GND** (use probes 10 : 1).
3. Adjust **P007** so that the frequency counter indicates 4.3218MHz.

FOCUS OFFSET CONFIRMATION

1. Turn on the power and set the unit to the STOP mode.
2. Connect a DC voltmeter and oscilloscope between jumper **FC** and **GND**.
3. Short jumper **FOF** and **GND**.
4. Confirm that the indication on the DC voltmeter is -0.7 ~ -1.5V.

TRACKING OFFSET CONFIRMATION

1. Turn on the power and set the unit to the STOP mode.
2. Connect a DC voltmeter and oscilloscope between jumper **TC** and **GND**.
3. Short jumper **TOF** and **GND**.
4. Confirm that the indication on the DC voltmeter is -50mV ~ -250mV.

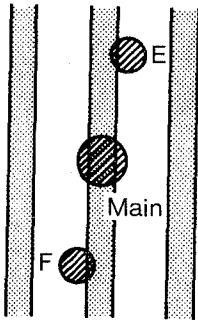
NOTE:

This adjustment should be made again after the adjustment of Tracking Gain and E-F balance.

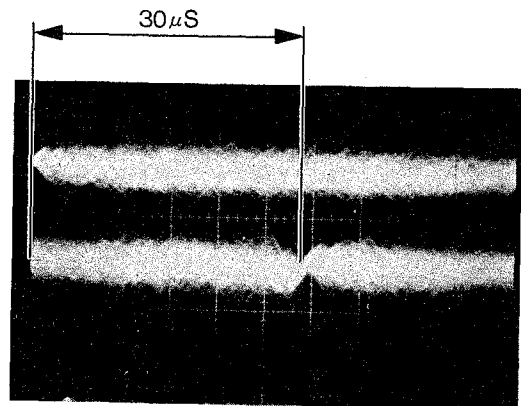
ADJUSTMENT PROCEDURES(Continued)

OBSERVATION OF DIFFRACTION GRID

This unit uses a three beam method for the laser pick-up. The position of the E and F beams of provided pick-up is adjusted in relation to the main beam so that they are in the same line.



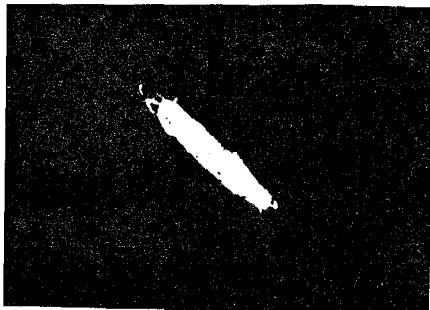
6. Observe the waveform of the signal between jumper **E** and jumper **F** using the dualtrace oscilloscope (Monitored in ALT mode). The beam **E** and **F** are in the same pit line if the trigger of waveform **F** is approximately $30\mu\text{s}$ behind the point (Position where waveform hollows out) where the waveform **E** is triggered.



The two beams are on the same pit line.
(100mV/DIV: 5 μ Sec/DIV)

The following is the observation procedure. Carefully check when pick-up is replaced.

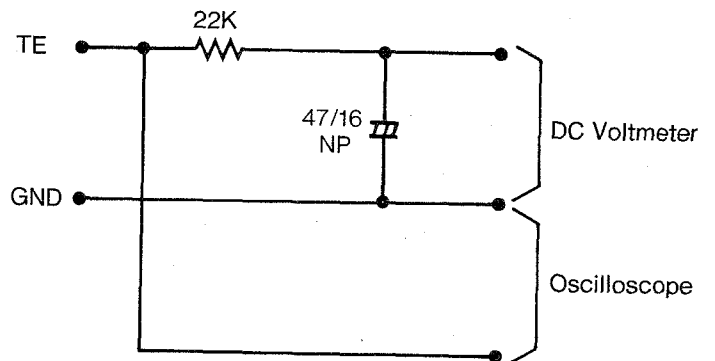
1. Press the PLAY button. Short jumper **TEST** and **GND**, and jumper **TX** and **GND** so that tracking servo is off.
2. Connect the dualtrace oscilloscope, jumper **E** to CH1 and jumper **F** to CH2.
3. Place test disc YEDS4 on the table load and press the PLAY button.
4. Observe the lissajous figure of the waveform indicated on the oscilloscope.



When observation of the waveform is difficult, the trigger level can be varied.

E-F BALANCE ADJUSTMENT

1. Turn on the power. Short jumper **TEST** and **GND**, and jumper **TX** and **GND** so that tracking servo is off.
2. Place test disc MODERN WAVE II on the table load.
3. Connect a DC voltmeter and oscilloscope to jumper **TE** and **GND** through the low-pass filter shown below.



5. Press the STOP button. Remove the short between jumper **TEST** and **GND**, and jumper **TX**.

4. Press the PLAY button.

5. Adjust **P003** so that the DC voltmeter and oscilloscope is minimum voltage (wave form on oscilloscope is symmetrical to 0V line).

ADJUSTMENT PROCEDURES(Continued)

CONFIRMING JITTER

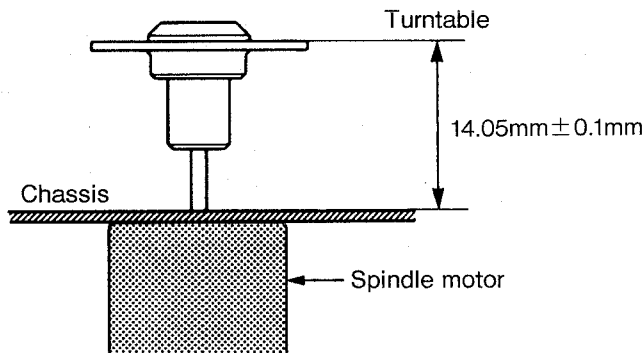
This procedure can be omitted in the case that no jitter counter is equipped.

1. Turn on the power and mount test disc MODERN WAVE II on the table load, and play the fourth program of the disc.
2. Connect an oscilloscope to jumper **HF** and **GND**, and observe the indication is 2.0 ~ 3.3Vp-p.
3. Connecting the jitter counter to jumper **EFM**, make sure that the value of 3T is less than 20nSec. (WINDOW WIDTH:600 ~ 850nSec, SET LEVEL: 2.5V)
4. Play tenth program of the disc and observe in the same procedure.

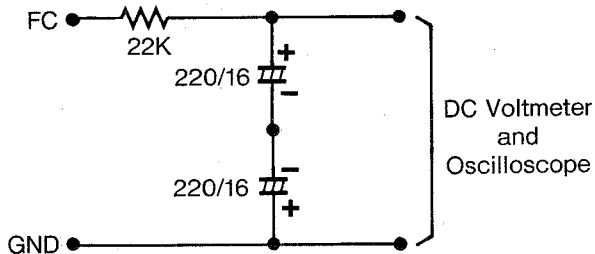
ADJUSTMENT OF TURNTABLE HEIGHT

This adjustment must be made when the motor is replaced.

1. Attach the turntable so that its top surface is 14.05mm \pm 0.1mm from the top of the chassis.



2. Connect test jumper **FC** to a DC voltmeter and oscilloscope through the low-pass filter.



3. Turn on the power and playback the first selection on test disc MODERN WAVE II.
4. Readjust the height of the turntable if the reading on the DC voltmeter is not in the range of below.

INSIDE (first selection): 0V \pm 0.2V
 OUTSIDE (tenth selection): 0V \pm 0.35V
 Adjusting turntable height by 0.55 ~ 0.65mm shift voltage by 1V.

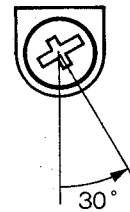
ADJUSTMENT OF FOCUS/TRACKING GAIN

The measurement circuit shown the next page is necessary for accurate adjustment of the focus and tracking gain. If this circuit cannot be made, make adjustments using the simplified procedure.

Simplified adjustment procedure

● Focus gain adjustment

P001 is set to a position 30° from its mechanical center as shown in the diagram below.



● Tracking gain adjustment

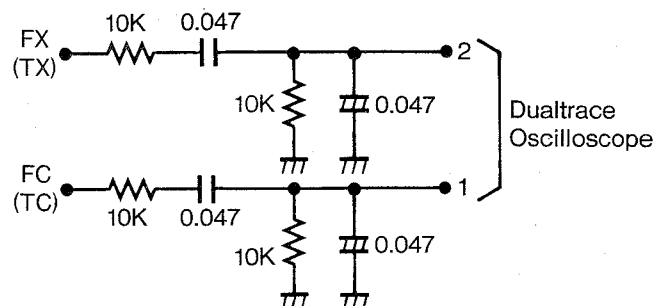
P004 is set to a position 30° from its mechanical center as shown in the diagram below.



Precise adjustment procedure

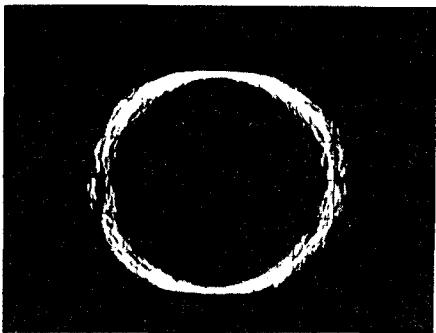
● Focus gain adjustment

1. Set the variable resistor **P001** to mechanical center.
2. Turn on the power and playback the test disc MODERN WAVE II.
3. Connect jumper **FX** and **FC** to a dualtrace oscilloscope through the filter circuit as shown below.



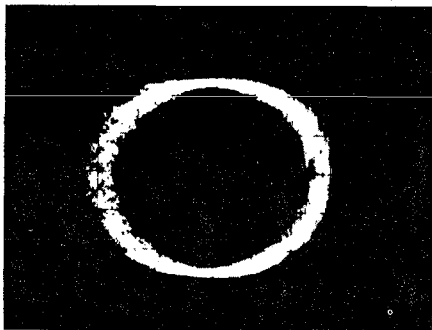
ADJUSTMENT PROCEDURES(Continued)

4. Apply a 550Hz 0.3Vp-p signal from the signal generator to jumper **FY**.
5. Observe the resurge waveforms on the oscilloscope, and adjust **P001** so that the phase difference of outputs X and Y from the measurement circuit is 90° as shown below.
3. Switch on the power. In the state of playing the first tune, make it pause and observe the waveforms of **HF** and **TE** triggered by **TRHD**.
4. Adjust the **P006** so that the waveform is observed, for making a track jump between 1 and 1.5 track.



● TRACKING GAIN adjustment

1. Set the variable resistor **P004** to mechanical center.
2. Playback the test disc MODERN WAVE II.
3. Connect jumper **TX** and **TC** to a dualtrace oscilloscope through the filter circuit as same as ADJUSTMENT OF FOCUS GAIN.
4. Apply a 1.6kHz 0.3Vp-p signal from the signal generator to jumper **TY**.
5. Observe the resurge waveforms on the oscilloscope, and adjust **P004** so that the phase difference of outputs X and Y from the measurement circuit is 90° as shown below.

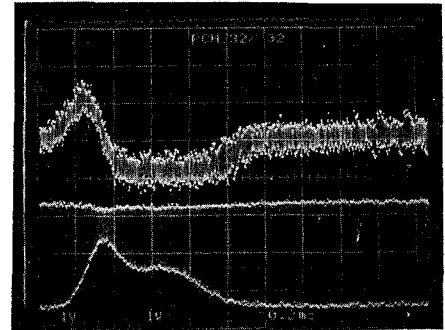


ADJUSTMENT OF KICK GAIN

1. Place the test disc MODERN WAVE II on the turntable.
2. Set the oscilloscope at the NORMAL TRIG. and connect jumper **TRHD** to the external trigger terminal. Then, connect the channels, 1 and 2, to the jumper, **HF** and **TE**, respectively.

TE
1V/DIV
(0.2mSec/DIV)

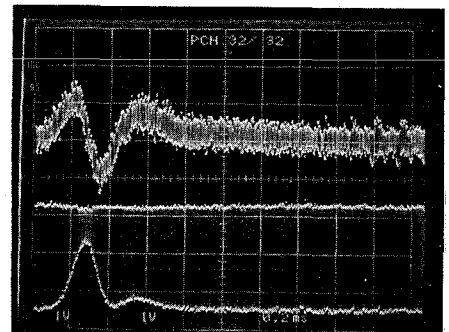
HF
1V/DIV
(0.2mSec/DIV)



Waveform showing Short Kick Gain

TE
1V/DIV
(0.2mSec/DIV)

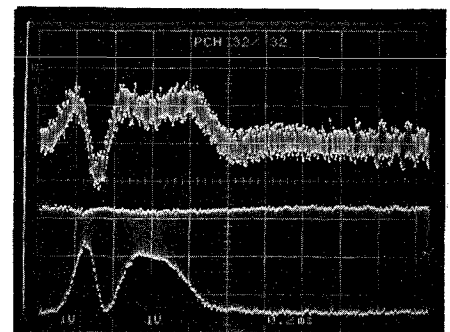
HF
1V/DIV
(0.2mSec/DIV)



Waveform showing Proper Kick Gain

TE
1V/DIV
(0.2mSec/DIV)

HF
1V/DIV
(0.2mSec/DIV)



Waveform showing Excessive Kick Gain

CONFIRMATION OF ACCESS MOVEMENT

Shift the PLL FREQUENCY 4.3218MHz by ± 50 kHz (4.2700 ~ 4.3700MHz), and check search operation is adequate, while searching first selection through the last repeatedly. Readjust the PLL FREQUENCY 4.3218MHz.

SAFETY INTERLOCK

The Digital Compact Disc Player reads the disc signal by detecting the laser beam. It must be avoided for the human body to directly receive the beam. Especially human eyes are badly affected by the beam. Therefore, the unit is equipped with an interlock to prevent the unnecessary laser outputs.

The laser outputs are controlled by the injection or cutoff of the constant voltage source to the laser diode with Pin 43 of IC06 (LC6554H-4301). When Pin 43 is in "L" (Low) level, the laser emits the beam. When Pin 43 is in "H" (High) level, the laser does not emit the beam.

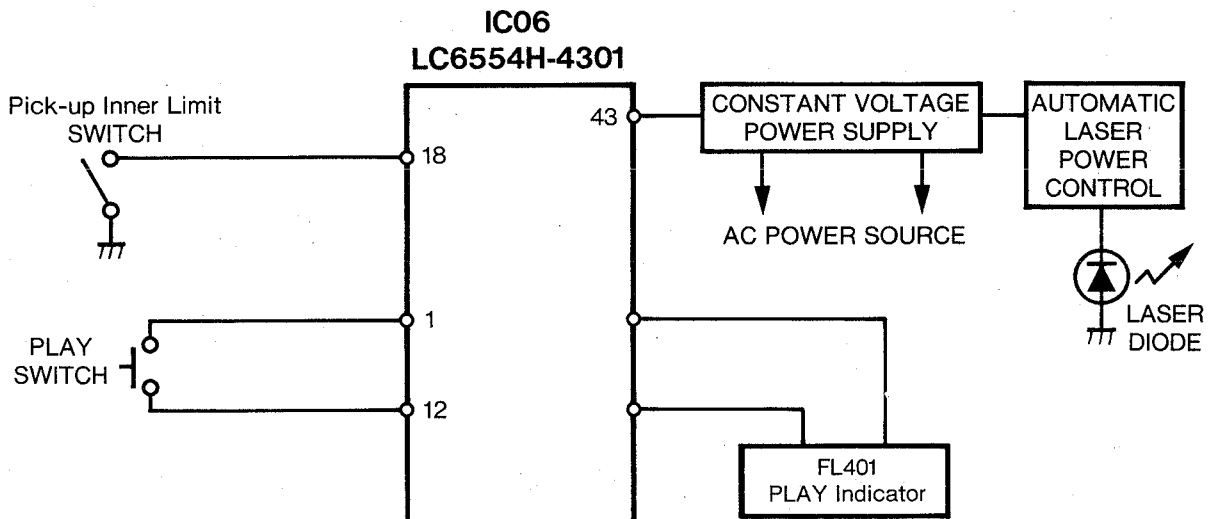
Pin 43 is set in "H" level when the unit is loaded with the disc and it reads the index signals or when the unit is set in the play mode after that. When the unit reads the index

signals and the following two conditions are met, the laser emits the beam.

- 1) When the Pick-up Inner Limit Switch is on. (The disc tray is closed.)
- 2) The pickup is located at the area of the minimum internal circumference.

After the above conditions are met and the index signals have been read, the laser emits the beam when the following two conditions are met.

- 1) When the PLAY button is pressed.
- 2) When the PLAY indicator is on.



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
PC1	OB100X5810	MAIN P.C.B. ASSY		C044	CKXEA0040000A	CERAM 0.1μ Z 50V	1
	4B100X5810	PCB MAIN	1	C045	CF1H683KANALC	POLY 0.068μ K 50V	1
	13126201215000	PLATE HEAT SINK	1	C046	CK1H471KFABNA	CERAM 470P K 50V	1
	13126201400000	PLATE HEAT SINK	1	C047	CH1H104JAAALC	MT-CO 0.1μ J 50V	1
T001	1EA4L13A00100	TRANS, PULSE	1	C048	CKXEA0040000A	CERAM 0.1μ Z 50V	1
JK04	4U230X0100	CONVERTER	1	C049	CK1H222KAFBLC	CERAM 2200P K 50V	1
	30031000190000	TNW 0.6	78	C050	CP1H1ROMBAALC	NP-EL 1μ M 50V	1
	30031000220000	TNW 0.6	52	C050	CP1H1ROMBBALC	NP-EL 1μ M 50V	1
	33810500000000	SOLDER		C051	CE1C100MDFALC	ELECT 10μ M 16V	1
	52010900001180	SILICON G 746		C052	CP1H1ROMEALC	NP-EL 1μ M 50V	1
	5801CEME575---	CEMEDINE 575		C052	CP1H1ROMBBALC	NP-EL 1μ M 50V	1
	SFBAN308R9SE-	S-TPG BRZ 3×6	1	C053	CP1H1ROMBAALC	NP-EL 1μ M 50V	1
	14124729050000	STAPLE 5	1	C053	CP1H1ROMBBALC	NP-EL 1μ M 50V	1
	5801CEME575---	CEMEDINE 575	1	C054	CF1H123KANALC	POLY 0.012μ K 50V	1
C001	CC1H680JFAGNA	CERAM 68P J 50V	1	C055	CF1H123KANALC	POLY 0.012μ K 50V	1
C002	CE1HR47MDFALC	ELECT 0.47μ M 50V	1	C056	CK1H222KAFBLC	CERAM 2200P K 50V	1
C003	CK1H181KFABNA	CERAM 180P K 50V	1	C057	CB1C103MFAGNA	CERAM 0.01μ M 16V	1
C004	CC1H680JFAGNA	CERAM 68P J 50V	1	C058	CE0J221MDFALC	ELECT 220μ M 6.3V	1
C005	CP1HR47MBAALC	NP-EL 0.47μ M 50V	1	C059	CE1C100MDFALC	ELECT 10μ M 16V	1
C005	CP1HR47MBBALC	NP-EL 0.47μ M 50V	1	C060	CE1C100MDFALC	ELECT 10μ M 16V	1
C005	CP1HR47MBRALC	NP-EL 0.47μ M 50V	1	C061	CE1E4R7MDFALC	ELECT 4.7μ M 25V	1
C006	CE1C100MDFALC	ELECT 10μ M 16V	1	C064	CKXEA0040000A	CERAM 0.1μ Z 50V	1
C007	CB1C103MFAGNA	CERAM 0.01μ M 16V	1	C066	CK1H102KFABNA	CERAM 1000P K 50V	1
C008	CC1H2ROCABGLC	CERAM 2P C 50V	1	C067	CE0J101MDFALC	ELECT 100μ M 6.3V	1
C009	CC1H100DABGLC	CERAMC 10P D 50V	1	C068	CE0J470MDFALC	ELECT 47μ M 6.3V	1
C010	CE1C100MDFALC	ELECT 10μ M 16V	1	C069	CC1H3R3KFAGNA	CERAM 3.3P K 50V	1
C011	CC1H330JFAGNA	CERAM 33P J 50V	1	C070	CC1H3R3KFAGNA	CERAM 3.3P K 50V	1
C012	CC1H330JFAGNA	CERAM 33P J 50V	1	C071	CE0J470MDFALC	ELECT 47μ M 6.3V	1
C013	CB1C103MFAGNA	CERAM 0.01μ M 16V	1	C072	CB1E393KADRLC	CERAM 0.039μ K 25V	1
C014	CK1H102KFABNA	CERAM 1000P K 50V	1	C073	CB1E393KADRLC	CERAM 0.039μ K 25V	1
C015	CH1H154JAAALC	MT-CO 0.15μ J 50V	1	C074	CE1E4R7MDFALC	ELECT 4.7μ M 25V	1
C016	CP1HR47MBRALC	NP-EL 0.47μ 50V	1	C075	CE1E4R7MDFALC	ELECT 4.7μ M 25V	1
C016	CP1HR47MBAALC	NP-EL 0.47μ 50V	1	C076	CK1H222KAFBLC	CERAM 2200P K 50V	1
C016	CP1HR47MBBALC	NP-EL 0.47μ 50V	1	C077	CK1H222KAFBLC	CERAM 2200P K 50V	1
C017	CK1H471KFABNA	CERAM 470P K 50V	1	C078	CB1E123KADRLC	CERAM 0.012μ K 25V	1
C018	CP1HR47MBRALC	NP-EL 0.47μ 50V	1	C079	CB1E123KADRLC	CERAM 0.012μ K 25V	1
C018	CP1HR47MBAALC	NP-EL 0.47μ 50V	1	C080	CP1C4R7MBAALC	NP-EL 4.7μ M 16V	1
C018	CP1HR47MBBALC	NP-EL 0.47μ 50V	1	C080	CP1C4R7MBBALC	NP-EL 4.7μ M 16V	1
C023	CK1H103ZAFFLC	CERAM 0.01μ 50V	1	C080	CP1C4R7MBRALC	NP-EL 4.7μ M 16V	1
C019	CE0J101MDFALC	ELECT 100μ M 6.3V	1	C081	CP1C4R7MBAALC	NP-EL 4.7μ M 16V	1
C020	CE1E4R7MDFALC	ELECT 4.7μ M 25V	1	C081	CP1C4R7MBBALC	NP-EL 4.7μ M 16V	1
C021	CB1E333KADRLC	CERAM 0.033μ M 25V	1	C081	CP1C4R7MBRALC	NP-EL 4.7μ M 16V	1
C022	CKXEA0040000A	CERAM 0.1μ Z 50V	1	C082	CK1H152KAFBLC	CERAM 1500P K 50V	1
C023	CK1H103ZAFFLC	CERAM 0.01μ Z 50V	1	C083	CK1H152KAFBLC	CERAM 1500P K 50V	1
C025	CK1H101KFABNA	CERAM 100P K 50V	1	C084	CK1H103ZAFFLC	CERAM 0.01μ Z 50V	1
C026	CE1E4R7MDFALC	ELECT 4.7μ M 25V	1	C085	CK1H223ZAFFLC	CERAM 0.022μ Z 50V	1
C029	CB1C103MFAGNA	CERAM 0.01μ M 16V	1	C086	CK1H102KFABNA	CERAM 1000P K 50V	1
C030	CC1H300JABCLC	CERAM 30P J 50V	1	C087	CK1H103ZAFFLC	CERAM 0.01μ Z 50V	1
C031	CC1H300JABCLC	CERAM 30P J 50V	1	C088	CE1C222MDFANN	ELECT 2200μ M 16V	1
C032	CB1C223NFCGNA	CERAM 0.022μ N 16V	1	C089	CE1C222MDFANN	ELECT 2200μ M 16V	1
C036	CE0J221MDFALC	ELECT 220μ M 6.3V	1	C090	CE1V471MDFANN	ELECT 470 M 35V	1
C037	CK1H103ZAFFLC	CERAM 0.01μ Z 50V	1	C091	CE1V471MDFANN	ELECT 470 M 35V	1
C040	CB1C223NFCGNA	CERAM 0.022μ N 16V	1	C092	CE1V220MDFALC	ELECT 22 M 35V	1
C042	CP1C4R7MBAALC	NP-EL 4.7μ M 16V	1	C093	CK1H473ZAFFLC	CERAM 0.047μ M 50	1
C042	CP1C4R7MBBALC	NP-EL 4.7μ M 16V	1	C094	CE0J470MDFALC	ELECT 47μ M 6.3V	1
C042	CP1C4R7MBRALC	NP-EL 4.7μ M 16V	1	C095	CE0J470MDFALC	ELECT 47μ M 6.3V	1
C043	CC1H4R7KFAGNA	CERAM 4.7P K 50V	1	C096	CE0J470MDFALC	ELECT 47μ M 6.3V	1
				C097	CE1C100MDFALC	ELECT 10μ M 16V	1

P.C.BOARD PARTS LIST(Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
C098	CE1E4R7MDFALC	ELECT 4.7μ M 25V	1	D022	4D600X0500	DI 1A2-E	1
C099	CK1H221KFABNA	CERAM 220P K 50V	1	D022	DD1D3-E----A	DI 1D3-E	1
C100	CE0J221MDFALC	ELECT 220μ M 6.3V	1	D023	4D600X0400	DI MPG06B	1
C101	CB1C103MFAGNA	CERAM 0.01μ M 16V	1	D023	4D600X0500	DI 1A2-E	1
C102	CE1C100MDFALC	ELECT 10μ	1				
C103	CE1H1R0MDFALC	ELECT 1μ M 50V	1	D023	DD1D3-E----A	DI 1D3-E	1
C104	CC1H470KABGLC	CERAM 47P	1	D024	4D600X0400	DI MPG06B	1
C105	CC1H470KABGLC	CERAM 47P	1	D024	4D600X0500	DI 1A2-E	1
C112	CK1H221KFABNA	CERAM 220P K 50V	1	D024	DD1D3-E----A	DI 1D3-E	1
C113	CE0J470MDFALC	ELECT 47μ M 6.3V	1	D025	4D600X0400	DI MPG06B	1
				D025	4D600X0500	DI 1A2-E	1
C114	CK1H822KAFBLC	CERAM 8200P K 50V	1	D025	DD1D3-E----A	DI 1D3-E	1
C115	CK1H121KAFBLC	CERAM 120P K 50V	1	D026	DZMTZJ20A---A	ZD MTZJ20A	1
C116	CK1H223ZAFFLC	CERAM 0.022μ Z 50V	1	D027	DZMTZJ7.5A--A	ZD MTZJ7.5A	1
C117	CK1H102ZAFFLC	CERAM 1000P Z 50V	1	D028	DD1SS254----A	DI 1SS254	1
C120	CE1E4R7MDFALC	ELECT 4.7μ M 25V	1				
C121	CE1C100MDFALC	ELECT 10V 16V	1	D028	DDGMA01----A	DI GMA01	1
C122	CE1C100MDFALC	ELECT 10V 16V	1	D028	DDWG4148----T	DI WG4148	1
				D029	DD1SS254----A	DI 1SS254	1
CN01	42369749200	PLUG 6P	1	D029	DDGMA01----A	DI GMA01	1
CN02	42369751200	PLUG 6P	1	D029	DDWG4148----T	DI WG4148	1
CN03	42369759400	PLUG 9P	1	D030	DZMTZJ5.6B--A	ZD MTZJ5.6B	1
CN04	F49843020	PLUG 7P	1	D034	DDGMA01----A	DI GMA01	1
				D034	DDISS254----A	DI 1SS254	1
				D034	DDWG4148----T	DI WG4148	1
D001	DD1SS254----A	DI 1SS254	1				
D001	DDGMA01----A	DI GMA01-BT	1				
D001	DDWG4148----T	DI WG4148	1	IC01	QLA9200NM---N	IC LA9200NM	1
D002	DD1SS254----A	DI 1SS254	1	IC02	4D610X1700	IC YM7121B	1
D002	DDGMA01----A	DI GMA01	1	IC03	QLC7881-----N	IC LC7881	1
D002	DDWG4148----T	DI WG4148	1	IC04	QFA5205P----N	IC FA5205P	1
D003	DD1SS254----A	DI 1SS254	1	IC06	4D610X1800	IC LC6554H4301	1
D003	DDGMA01----A	DI GMA01	1	IC07	QLA6458SS---N	IC LA6458SS	1
D003	DDWG4148----T	DI WG4148	1	IC07	QLA6462S---N	IC LA6462S	1
D005	DD1SS254----A	DI 1SS254	1	IC07	QNJM2068S---N	IC NJM2068S	1
				IC08	QNJM2068S---N	IC NJM2068S	1
D005	DDGMA01----A	DI GMA01-BT	1	IC08	QUPC4570HA--N	IC UPC4570HA	1
D005	DDWG4148----T	DI WG4148	1				
D008	DD1SS254----A	DI 1SS254	1	IC09	QLA6458SS---N	IC LA6458SS	1
D008	DDGMA01----A	DI GMA01-BT	1	IC09	QNJM2068S---N	IC NJM2068S	1
D008	DDWG4148----T	DI WG4148	1	IC09	QUPC4570HA--N	IC UPC4570HA	1
D012	DD1SS254----A	DI 1SS254	1	IC10	QTA78L006AP-N	IC TA78L006AP	1
D012	DDGMA01----A	DI GMA01	1	IC11	QL78M05-----N	IC L78M05	1
D012	DDWG4148----T	DI WG4148	1	IC11	QNJM78M05A--N	IC NJM78M05A	1
D013	DD1SS254----A	DI 1SS254	1	IC11	QNJM78M05FA-N	IC NJM78M05FA	1
D013	DDGMA01----A	DI GMA01	1	IC11	QBA178M05---N	IC BA178M05	1
				IC11	QMC7805-----N	IC MC7805	1
D014	DD1SS254----A	DI 1SS254	1	IC12	QTA79L006P--N	IC TA79L006P	1
D014	DDGMA01----A	DI GMA01	1				
D014	DDWG4148----T	DI WG4148	1	IC13	QMC74HC00---N	IC MC74HC00	1
D015	DD1SS254----A	DI 1SS254	1	IC13	QMLC74HC00--N	IC MLC74HC00	1
D015	DDGMA01----A	DI GMA01	1				
D015	DDWG4148----T	DI WG4148	1	JK01	42352054600	PIN JACK 2P WH/RED	1
D016	DD1SS254----A	DI 1SS254	1	JK03	4J120X0600	PIN JACK 1P ORANGE	1
D016	DDGMA01----A	DI GMA01-BT	1				
D016	DDWG4148----T	DI WG4148	1	P001	42229761360	POTENTIOMETER 10KB	1
D020	4D600X0400	DI MPG06B	1	P001	42229765610	POTENTIOMETER 10KB	1
				P003	F49599030	POTENTIOMETER 50KB	1
D020	4D600X0500	DI 1A2-E	1	P004	42229761350	POTENTIOMETER 22KB	1
D020	DD1D3-E----A	DI 1D3-E	1	P004	42229765620	POTENTIOMETER 20KB	1
D021	4D600X0400	DI MPG06B	1	P005	42229761360	POTENTIOMETER 10KB	1
D021	4D600X0500	DI 1A2-E	1	P006	42229767400	POTENTIOMETER 100KB	1
D021	DD1D3-E----A	DI 1D3-E	1	P006	4R200X0302	POTENTIOMETER 100KB	1
D022	4D600X0400	DI MPG06B	1	P006	42229761340	POTENTIOMETER 100KB	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
P006	42229765600	POTENTIOMETER 100KB	1	R022	RDD1502JPAANA	CARBON 15K JA 1/6W	1
				R023	RDD2702JPAANA	CARBON 27K JA 1/6W	1
P007	42229761360	POTENTIOMETER 10KB	1	R024	RDD2203JPAANA	CARBON 220K JA 1/6W	1
				R025	RDD4702JPAANA	CARBON 47K JA 1/6W	1
Q001	T2SA608-E-NPC	TR 2SA608-E-NP-AA	1	R026	RDD4702JPAANA	CARBON 47K JA 1/6W	1
Q001	T2SA608-F-NPC	TR 2SA608-E-NP-AA	1				
Q001	TJA101-Q---C	TR JA101	1	R028	RDD1002JPAANA	CARBON 10K JA 1/6W	1
Q002	T2SC536-F-NPC	TR 2SC536-F-NP-AA	1	R029	RDD1003JPAANA	CARBON 100K JA 1/6W	1
Q002	T2SC536-G-NPC	TR 2SC536-G-NP-AA	1	R030	RDD1003JPAANA	CARBON 100K JA 1/6W	1
Q002	TJC501-Q---C	TR JC501	1	R031	RDD2202JPAANA	CARBON 22K JA 1/6W	1
Q003	T2SC536-F-NPC	TR 2SC536-F-NP-AA	1	R032	RDD2202JPAANA	CARBON 22K JA 1/6W	1
Q003	T2SC536-G-NPC	TR 2SC536-G-NP-AA	1				
Q003	TJC501-Q---C	TR JC501	1	R033	RDD5601JPAANA	CARBON 5.6K JA 1/6W	1
Q004	T2SD1012-G-SC	TR 2SD1012-G-SPA-AC	1	R034	RDD8200JPAANA	CARBON 820 JA 1/6W	1
				R035	RDD8203JPAANA	CARBON 820K JA 1/6W	1
Q005	T2SC536-F-NPC	TR 2SC536-F-NP-AA	1	R037	RDD2200JPAANA	CARBON 220 JA 1/6W	1
Q005	T2SC536-G-NPC	TR 2SC536-G-NP-AA	1	R041	RDD2201JPAANA	CARBON 2.2K JA 1/6W	1
Q006	T2SC536-F-NPN	TR 2SC536-F-NP-AA	1	R042	RDD1004JPAANA	CARBON 1M JA 1/6W	1
Q006	T2SC536-G-NPN	TR 2SC536-G-NP-AA	1	R043	RDD6800JPAANA	CARBON 680 JA 1/6W	1
Q007	T2SD1012-G-SC	TR 2SD1012-G-SPA-AC	1	R044	RDD6800JPAANA	CARBON 680 JA 1/6W	1
Q008	T2SD1012-G-SC	TR 2SD1012-G-SPA-AC	1	R045	RDD1003JPAANA	CARBON 100K JA 1/6W	1
Q009	T2SC536-F-NPC	TR 2SC536-F-NP-AA	1	R046	RDD6802JPAANA	CARBON 68K JA 1/6W	1
Q009	T2SC536-G-NPC	TR 2SC536-G-NP-AA	1				
Q009	TJC501-G---C	TR JC501	1	R047	RDD1003JPAANA	CARBON 100K JA 1/6W	1
Q010	T2SA608-E-NPC	TR 2SA608-E-NP-AA	1	R048	RDD1003JPAANA	CARBON 100K JA 1/6W	1
				R049	RDD3303JPAANA	CARBON 330K JA 1/6W	1
Q010	T2SA608-F-NPC	TR 2SA608-F-NP-AA	1	R050	RDD3303JPAANA	CARBON 330K JA 1/6W	1
Q010	TJA101-Q---C	TR JA101	1	R051	RDD1003JPAANA	CARBON 100K JA 1/6W	1
Q011	T2SC3400---C	TR 2SC3400	1	R052	RDD1003JPAANA	CARBON 100K JA 1/6W	1
Q012	T2SA608-E-NPC	TR 2SA608-E-NP-AA	1	R053	RDD4702JPAANA	CARBON 47K JA 1/6W	1
Q012	T2SA608-F-NPC	TR 2SA608-F-NP-AA	1	R054	RDD4702JPAANA	CARBON 47K JA 1/6W	1
Q012	TJA101-Q---C	TR JA101	1	R060	RDD4702JPAANA	CARBON 47K JA 1/6W	1
Q013	T2SA608-E-NPC	TR 2SA608-E-NP-AA	1	R061	RDD1801JPAANA	CARBON 1.8K JA 1/6W	1
Q013	T2SA608-F-NPC	TR 2SA608-F-NP-AA	1				
Q013	TJA101-Q---C	TR JA101	1	R062	RDD1003JPAANA	CARBON 100K JA 1/6W	1
Q014	T2SC3400---C	TR 2SC3400	1	R063	RDD4702JPAANA	CARBON 47K JA 1/6W	1
				R064	RDD3301JPAANA	CARBON 3.3K JA 1/6W	1
Q020	T2SC3400---C	TR 2SC3400	1	R065	RDD1803JPAANA	CARBON 180K JA 1/6W	1
Q021	T2SC3400---C	TR 2SC3400	1	R066	RDD6802JPAANA	CARBON 68K JA 1/6W	1
Q022	T2SD1012-G-SC	TR 2SD1012	1	R067	RDD6803JPAANA	CARBON 680K JA 1/6W	1
Q023	T2SC1012-G-SC	TR 2SD1012	1	R068	RDD2702JPAANA	CARBON 27K JA 1/6W	1
				R069	RDD3303JPAANA	CARBON 330K JA 1/6W	1
R001	RDD1003JPAANA	CARBON 100K JA 1/6W	1	R070	RDD10R0JPAANA	CARBON 10 JA 1/6W	1
R002	RDD1003JPAANA	CARBON 100K JA 1/6W	1	R071	RDD2R20JPAANA	CARBON 2.2 JA 1/6W	1
R003	RDD1502JPAANA	CARBON 15K JA 1/6W	1				
R004	RDD5601JPAANA	CARBON 5.6K JA 1/6W	1	R072	RDD3903JPAANA	CARBON 390K JA 1/6W	1
R005	RDD470JPAANA	CARBON 47 JA 1/6W	1	R073	RDD2202JPAANA	CARBON 22K JA 1/6W	1
R006	RDD5601JPAANA	CARBON 5.6K JA 1/6W	1	R074	RDD1201JPAANA	CARBON 1.2K JA 1/6W	1
R007	RDD1004JPAANA	CARBON 1M JA 1/6W	1	R075	RDD2703JPAANA	CARBON 270K JA 1/6W	1
R008	RDD75R0JPAANA	CARBON 75 JA 1/6W	1	R076	RDD4702JPAANA	CARBON 47K JA 1/6W	1
R009	RDD1001JPAANA	CARBON 1K JA 1/6W	1	R077	RDD10R0JPAANA	CARBON 10 JA 1/6W	1
R010	RDD2202JPAANA	CARBON 22K JA 1/6W	1	R078	RDD2R20JPAANA	CARBON 2.2 JA 1/6W	1
				R079	RDD1002JPAANA	CARBON 10K JA 1/6W	1
R011	RDD1502JPAANA	CARBON 15K JA 1/6W	1	R080	RDD8202JPAANA	CARBON 82K JA 1/6W	1
R012	RDD1002JPAANA	CARBON 10K JA 1/6W	1	R081	RDD2R20JPAANA	CARBON 2.2 JA 1/6W	1
R013	RDD1503JPAANA	CARBON 150K JA 1/6W	1				
R014	RDD1203JPAANA	CARBON 120K JA 1/6W	1	R082	RDD5603JPAANA	CARBON 560K JA 1/6W	1
R015	RDD2001JPAANA	CARBON 2.2K JA 1/6W	1	R083	RDD5603JPAANA	CARBON 560K JA 1/6W	1
R017	RDD2202JPAANA	CARBON 22K JA 1/6W	1	R084	RDD1003JPAANA	CARBON 100K JA 1/6W	1
R018	RDD2700JPAANA	CARBON 270 JA 1/6W	1	R085	RDD2R20JPAANA	CARBON 2.2 JA 1/6W	1
R019	RDD1202JPAANA	CARBON 12K JA 1/6W	1	R086	RDD1803JPAANA	CARBON 180K JA 1/6W	1
R020	RDD3902JPAANA	CARBON 39K JA 1/6W	1	R087	RDD1002JPAANA	CARBON 10K JA 1/6W	1
R021	RDD3902JPAANA	CARBON 39K JA 1/6W	1	R088	RDD1002JPAANA	CARBON 10K JA 1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
R089	RDD1202JPAANA	CARBON 12K JA 1/6W	1	R150	RDD1003JPAANA	CARBON 100K JA 1/6W	1
R090	RDD1501JPAANA	CARBON 1.5K JA 1/6W	1	R153	RDD3303JPAANA	CARBON 330K JA 1/6W	1
R091	RDD8201JPAANA	CARBON 8.2K JA 1/6W	1	R154	RDD1000JPAANA	CARBON 100 JA 1/6W	1
R092	RDD1002JPAANA	CARBON 10K JA 1/6W	1	R158	RDD1000JPAANA	CARBON 100 JA 1/6W	1
R093	RDD1002JPAANA	CARBON 10K JA 1/6W	1	R162	RDD6800JPAANA	CARBON 680 JA 1/6W	1
R094	RDD1002JPAANA	CARBON 10K JA 1/6W	1	R163	RDD6800JPAANA	CARBON 680 JA 1/6W	1
R095	RDD1002JPAANA	CARBON 10K JA 1/6W	1	R164	RDD1002JPAANA	CARBON 10K JA 1/6W	1
R096	RDD1002JPAANA	CARBON 10K JA 1/6W	1	R165	RDD2703JPAANA	CARBON 270K	1
R097	RDD1503JPAANA	CARBON 150K JA 1/6W	1	R166	RDD2202JPAANA	CARBON 22K	1
R098	RDD1503JPAANA	CARBON 150K JA 1/6W	1	R167	RDD2202JPAANA	CARBON 22K	1
R099	RDD4701JPAANA	CARBON 4.7K JA 1/6W	1	R168	RDD2202JPAANA	CARBON 22K	1
R104	RDD1002JPAANA	CARBON 10K JA 1/6W	1	R169	RDD2202JPAANA	CARBON 22K	1
R105	RDD1000JPAANA	CARBON 100 JA 1/6W	1	R173	RDD1501JPAANA	CARBON 1.5K JA 1/6W	1
R106	RDD1002JPAANA	CARBON 10K JA 1/6W	1	R174	RDD1501JPAANA	CARBON 1.5K JA 1/6W	1
R107	RDD1002JPAANA	CARBON 10K JA 1/6W	1	R175	RDD10R0JPAANN	CARBON 10 JA 1/6W	1
R108	RDD1201JPAANA	CARBON 1.2K JA 1/6W	1	W06	75330000800505	TW UL1007	1
R109	RDD1201JPAANA	CARBON 1.2K JA 1/6W	1	W08	F49609060	CONNECTOR	1
R110	RDD2203JPAANA	CARBON 220K JA 1/6W	1	X001	42259511000	CRYSTAL	1
R111	RDD2203JPAANA	CARBON 220K JA 1/6W	1	X001	42259711010	CRYSTAL	1
R112	RDD3900JPAANA	CARBON 390 JA 1/6W	1	X002	42259712200	CERAMIC RESONATOR	1
R113	RDD3900JPAANA	CARBON 390 JA 1/6W	1	X002	1EA4V10A01100	CERAMIC RESONATOR	1
R114	RDD1002JPAANA	CARBON 10K JA 1/6W	1	PC2	OB1X5820	SWITCH P.C.B. ASSY	
R115	RDD1002JPAANA	CARBON 10K JA 1/6W	1		4B100X5820	PCB, STANDBY SW	1
R116	RDD1003JPAANA	CARBON 100K JA 1/6W	1	SW201	4S110X0400	SWITCH, PUSH	1
R117	RDD1003JPAANA	CARBON 100K JA 1/6W	1	W02	13129800010240	JUMPER 20	1
R118	RDD5602JPAANA	CARBON 56K JA 1/6W	1		5801CEME575---	CEMEDINE 575	1
R119	RDD5602JPAANA	CARBON 56K JA 1/6W	1	PC3	OB100X5830	TRANS P.C.B ASSY	
R120	RDD1202JPAANA	CARBON 12K JA 1/6W	1		42372008300	EC TERMINAL	2
R121	RDD1202JPAANA	CARBON 12K JA 1/6W	1		4B100X5830	PCB, TRANS	1
R122	RDD1501JPAANA	CARBON 1.5K JA 1/6W	1	W01	13129800018400	JUMPER 3P	1
R123	RDD1501JPAANA	CARBON 1.5K JA 1/6W	1		30031000190000	TNW 0.6	3
R124	RDD1001JPAANA	CARBON 1K JA 1/6W	1		30031000220000	TNW 0.6	3
R125	RDD1001JPAANA	CARBON 1K JA 1/6W	1		5801CEME575---	CEMEDINE575	
R126	RDD1003JPAANA	CARBON 100K JA 1/6W	1	PC3	OB100X5831	TRANS P.C.B. ASSY	
R127	RDD1003JPAANA	CARBON 100K JA 1/6W	1		42372008300	EC TERMINAL	2
R128	RDD2201JPAANA	CARBON 2.2K JA 1/6W	1		4B100X5830	PCB, TRANS	1
R129	RDD2201JPAANA	CARBON 2.2K JA 1/6W	1	W01	13129800018400	JUMPER 6P	1
R130	RDD6801JPAANA	CARBON 6.8K JA 1/6W	1		30031000220000	TNW 0.6	2
R131	RDD6801JPAANA	CARBON 6.8K JA 1/6W	1		5801CEME575---	CEMEDINE575	
R132	RDD1001JPAANA	CARBON 1K JA 1/6W	1		F49858000	FUSE HOLDER	4
R133	RFXEA01610RON	FUSIBLE 10 JA 1/4W	1		42352019400	FUSE CLIP	4
R134	RFXEA00810RON	FUSIBLE 10 J- 1/2W	1		△42349203100	FUSE T500MA	2
R135	RFXEA01610RON	FUSIBLE 10 JA 1/4W	1	PC3	OB100X5833	TRANS P.C.B ASSY	
R136	RFXEA00810RON	FUSIBLE 10 J- 1/2W	1		F49762110	WIRE ASSY	1
R137	RFXEA00810RON	FUSIBLE 10 J- 1/2W	1		F49762120	WIRE ASSY	1
R138	RDD22R0JPAANA	CARBON 22 JA 1/6W	1		F49762130	WIRE ASSY	1
R139	RDD22R0JPAANA	CARBON 22 JA 1/6W	1		F49858000	FUSE HOLDER	4
R140	RDD4700JPAANA	CARBON 470 JA 1/6W	1		△42349203100	FUSE T500mA	2
R141	RDD1001JPAANA	CARBON 1K JA 1/6W	1		42352019400	FUSE CLIP	4
R142	RDD4702JPAANA	CARBON 47K JA 1/6W	1		42372008300	EC TERMINAL	2
R143	RDD2200JPAANA	CARBON 220 JA 1/6W	1		4B100X5830	PCB, TRANS	1
R144	RDD2202JPAANA	CARBON 22K JA 1/6W	1		30031000220000	TNW 0.6	1
R145	RDD4702JPAANA	CARBON 47K JA 1/6W	1		5801CEME575---	CEMEDINE 575	
R146	RDD3301JPAANA	CARBON 3.3K JA 1/6W	1		13129800018400	JUMPER 6P	1
R147	RDD1001JPAANA	CARBON 1K JA 1/6W	1				
R148	RDD2202JPAANA	CARBON 22K JA 1/6W	1				
R149	RDD6800JPAANA	CARBON 680	1				

P.C.BOARD PARTS LIST(Continued)

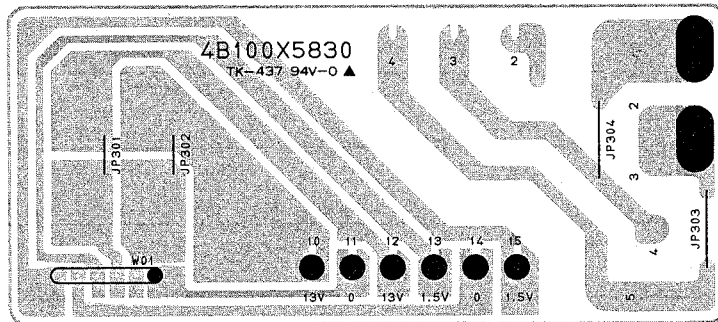
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PC4	OB100X5840	CONTROL P.C.B. ASSY		R403	RDD2202JPAANA	CARBON 22K JA 1/6W	1
	F50250000	PAD	1	R404	RDD2202JPAANA	CARBON 22K JA 1/6W	1
	F50266000	TACT SW	1	R405	RDD2202JPAANA	CARBON 22K JA 1/6W	1
	F50266010	TACT SW	1	R406	RDD2202JPAANA	CARBON 22K JA 1/6W	1
	4B100X5840	PCB, CONTROL	1	R407	RDD2202JPAANA	CARBON 22K JA 1/6W	1
	30031000190000	TNW 0.6	5	R408	RDD4702JPAANA	CARBON 47K JA 1/6W	1
	30031000220000	TNW 0.6	4	R409	RDD1002JPAANA	CARBON 10K JA 1/6W	1
				R410	RDD4702JPAANA	CARBON 47K JA 1/6W	1
D401	DDGMA01-----A	DI GMA01	1	RU401	F49595010	BX-1466	1
D401	DD1SS254----A	DI 1SS254	1	RU401	4D610X1002	SBX1610-92	1
D401	DDWG4148----T	DI WG4148	1	RU401	4D610X1010	GPIU501X	1
D402	DDGMA01-----A	DI GMA01	1				
D402	DD1SS254----A	DI 1SS254	1	W03	4W300X1483	WIRE 8P×160	1
D402	DDWG4148----T	DI WG4148	1	W04	4W300X1473	WIRE 7P×160	1
D403	DDGMA01-----A	DI GMA01	1	W05	4W300X1413	WIRE 11P×160	1
D403	DD1SS254----A	DI 1SS254	1				
D403	DDWG4148----T	DI WG4148	1	PC5	OB100X3300	HEADPHONE P.C.B. ASSY	
FL401	F50267000	FLT CPF2377	1		F32279000	PCB H.P.	1
					P49510000	HOTMELT	
R401	RDD2202JPAANA	CARBON 22K JA 1/6W	1	C401	CE1H2R2MDFALC	ELECT 2.2μ M 50V	1
R402	RDD2202JPAANA	CARBON 22K JA 1/6W	1	C402	CE1H2R2MDFALC	ELECT 2.2μ M 50V	1
R403	RDD2202JPAANA	CARBON 22K JA 1/6W	1	C403	CB1E473KADRLC	CERAM 0.047μ K 25V	1
R404	RDD2202JPAANA	CARBON 22K JA 1/6W	1	C404	CE1E473KADRLC	CERAM 0.047μ K 25V	1
R405	RDD2202JPAANA	CARBON 22K JA 1/6W	1	C405	CE1H1ROMDFALC	ELECT 1μ M 50V	1
R406	RDD2202JPAANA	CARBON 22K JA 1/6W	1	C406	CE1H1ROMDFALC	ELECT 1μ M 50V	1
R407	RDD2202JPAANA	CARBON 22K JA 1/6W	1				
W03	4W300X1483	WIRE 8P×160	1	CN10	F49842020	JUMPER 7P	1
W04	4W300X1473	WIRE 7P×160	1				
W05	4W300X1413	WIRE 11P×160	1	IC401	ONJM4556D---N	IC NJM4556D	1
PC4	OB100X5841	CONTROL P.C.B. ASSY		JK401	4J120X0201	JACK 3P	1
	F50250000	PAD	1	Q401	T2SC536-F-NPC	TR 2SC536-F-NP-AA	1
	F50266000	TACT SW	9	Q401	T2SC536-G-NPC	TR 2SC536-G-NP-AA	1
	F50266010	TACT SW	9	Q402	T2SC536-F-NPC	TR 2SC536-F-NP-AA	1
	4B100X5840	PCB, CONTROL	1	Q402	T2SC536-G-NPC	TR 2SC536-G-NP-AA	1
	30031000190000	TNW 0.6	4				
	30031000220000	TNW 0.6	4	R401	RDD1001JPAANA	CARBON 1K JA 1/6W	1
C401	CE1C470MDLALC	ELECT 47μ M 16V	1	R402	RDD1001JPAANA	CARBON 1K JA 1/6W	1
D401	DDGMA01-----A	DI GMA01	1	R403	RDD6801JPAANA	CARBON 6.8K JA 1/6W	1
D401	DD1SS254----A	DI 1SS254	1	R404	RDD6801JPAANA	CARBON 6.8K JA 1/6W	1
D401	DDWG4148----T	DI WG4148	1	R405	RDD1001JPAANA	CARBON 1K JA 1/6W	1
D402	DDGMA01-----A	DI GMA01	1	R406	RDD1001JPAANA	CARBON 1K JA 1/6W	1
D402	DD1SS254----A	DI 1SS254	1	R407	RDD4701JPAANA	CARBON 4.7K JA 1/6W	1
D402	DDWG4148----T	DI WG4148	1	R408	RDD4701JPAANA	CARBON 4.7K JA 1/6W	1
D403	DDGMA01-----A	DI GMA01	1	R409	RDD5600JPAANA	CARBON 560 JA 1/6W	1
D403	DD1SS254----A	DI 1SS254	1	R410	RDD5600JPAANA	CARBON 560 JA 1/6W	1
D403	DDWG4148----T	DI WG4148	1				
FL401	F50267000	FLT CPF2377	1	R411	RDD1000JPAANA	CARBON 100 JA 1/6W	1
L401	F50271000	CHOKE COIL 100μH	1	R412	RDD1000JPAANA	CARBON 100 JA 1/6W	1
Q401	T2SC536-G-NPC	TR 2SC536-G	1	R413	RDD5600JPAANA	CARBON 560 JA 1/6W	1
Q401	T2SC536-F-NPC	TR 2SC536-F	1	R414	RDD5600JPAANA	CARBON 560 JA 1/6W	1
R401	RDD2202JPAANA	CARBON 22K JA 1/6W	1	VR401	42229767800	VR 50KA×2	1
R402	RDD2202JPAANA	CARBON 22K JA 1/6W	1				

PRODUCT SAFETY NOTICE

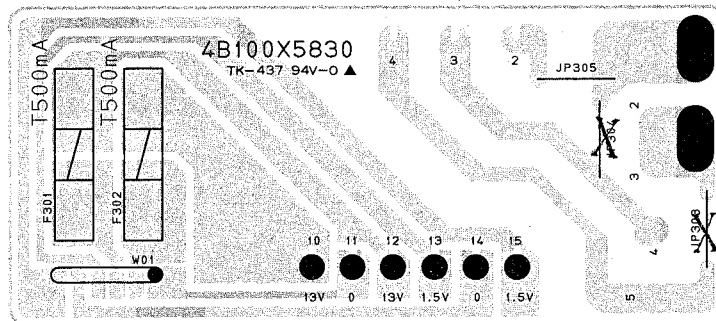
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POWER SWITCH P.C.BOARD (TOP VIEW)

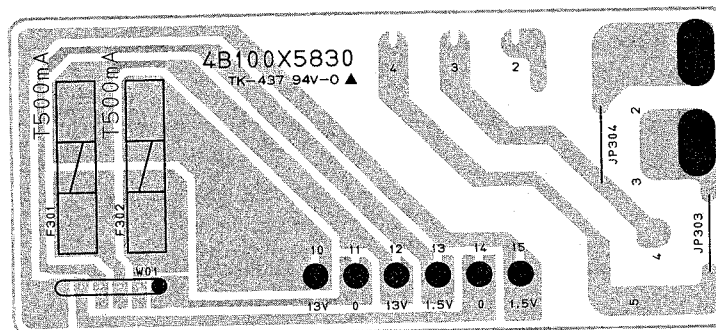
CND



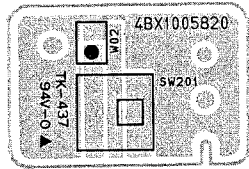
EX



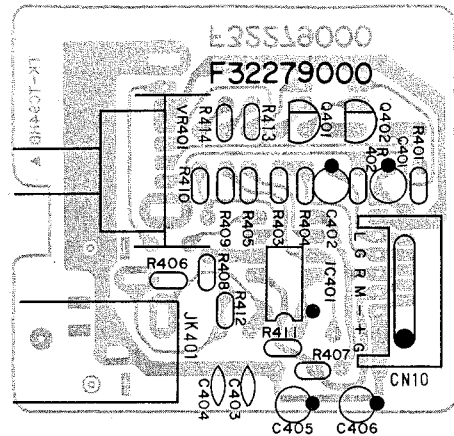
EUP



SWITCH P.C.BOARD (TOP VIEW)

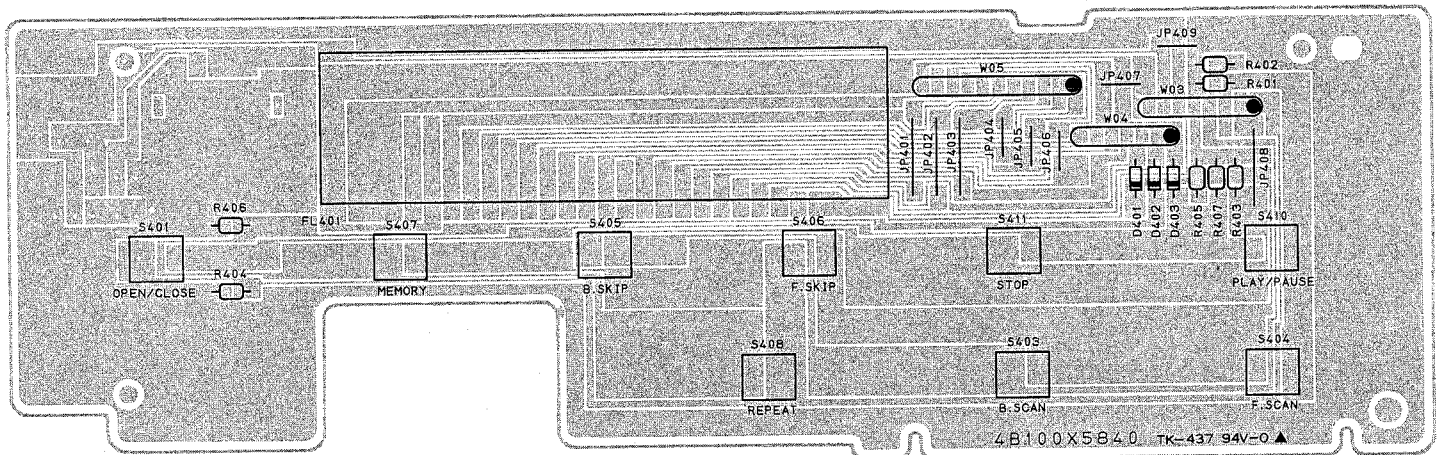


HEADPHONE P.C.BOARD (TOP VIEW)

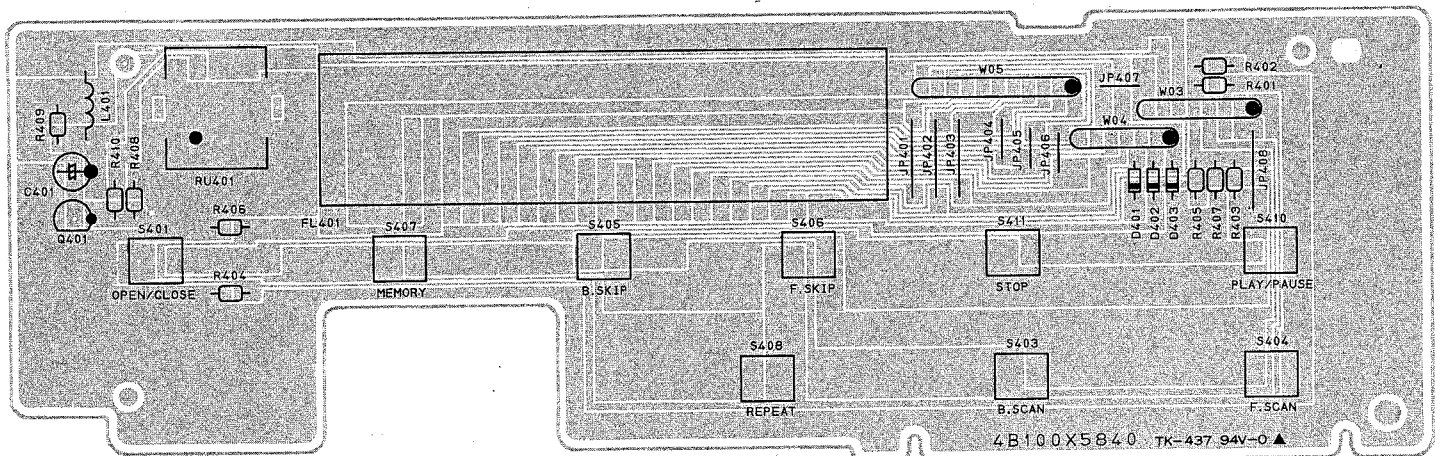


CONTROL P.C.BOARD (TOP VIEW)

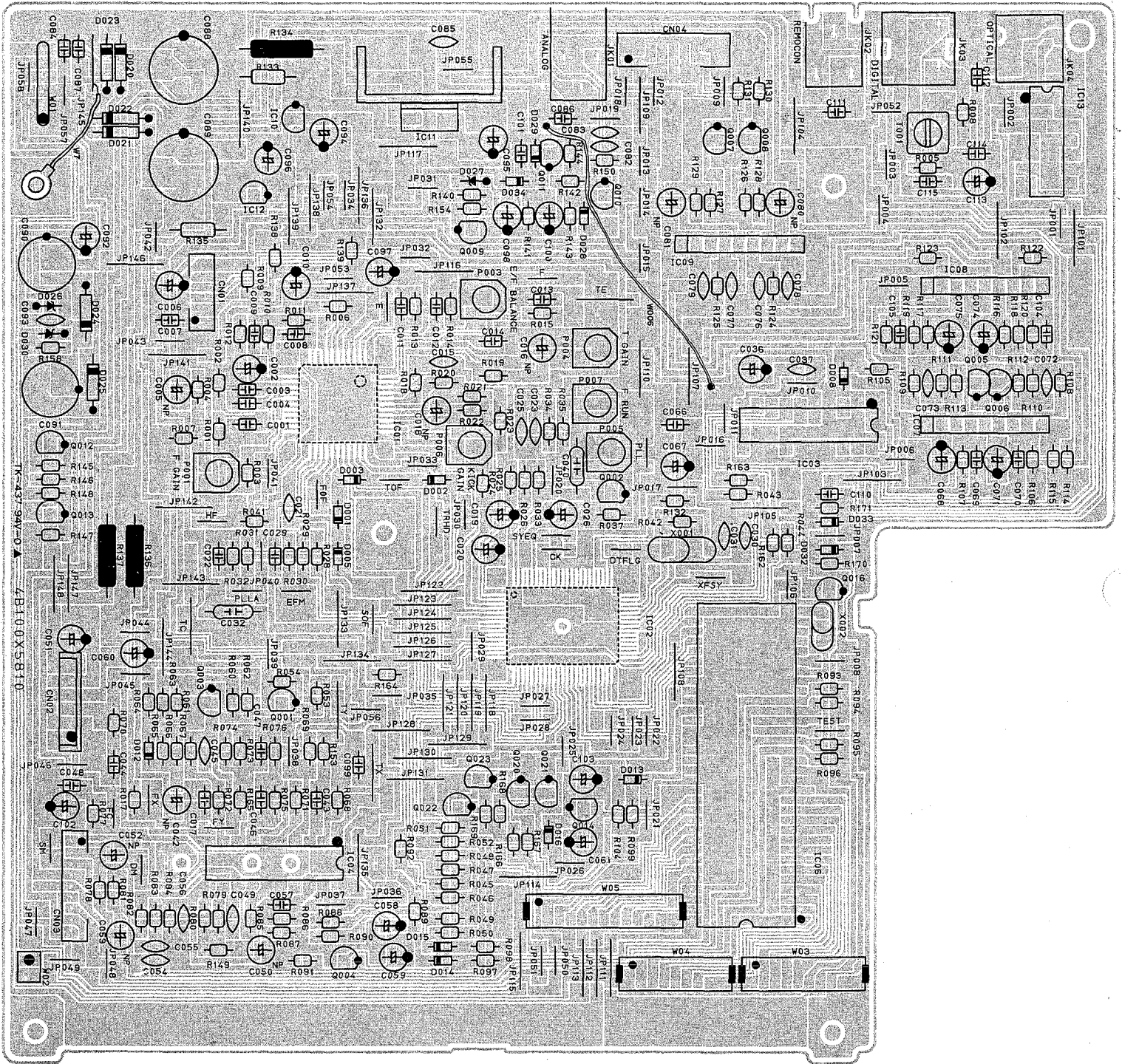
780CD



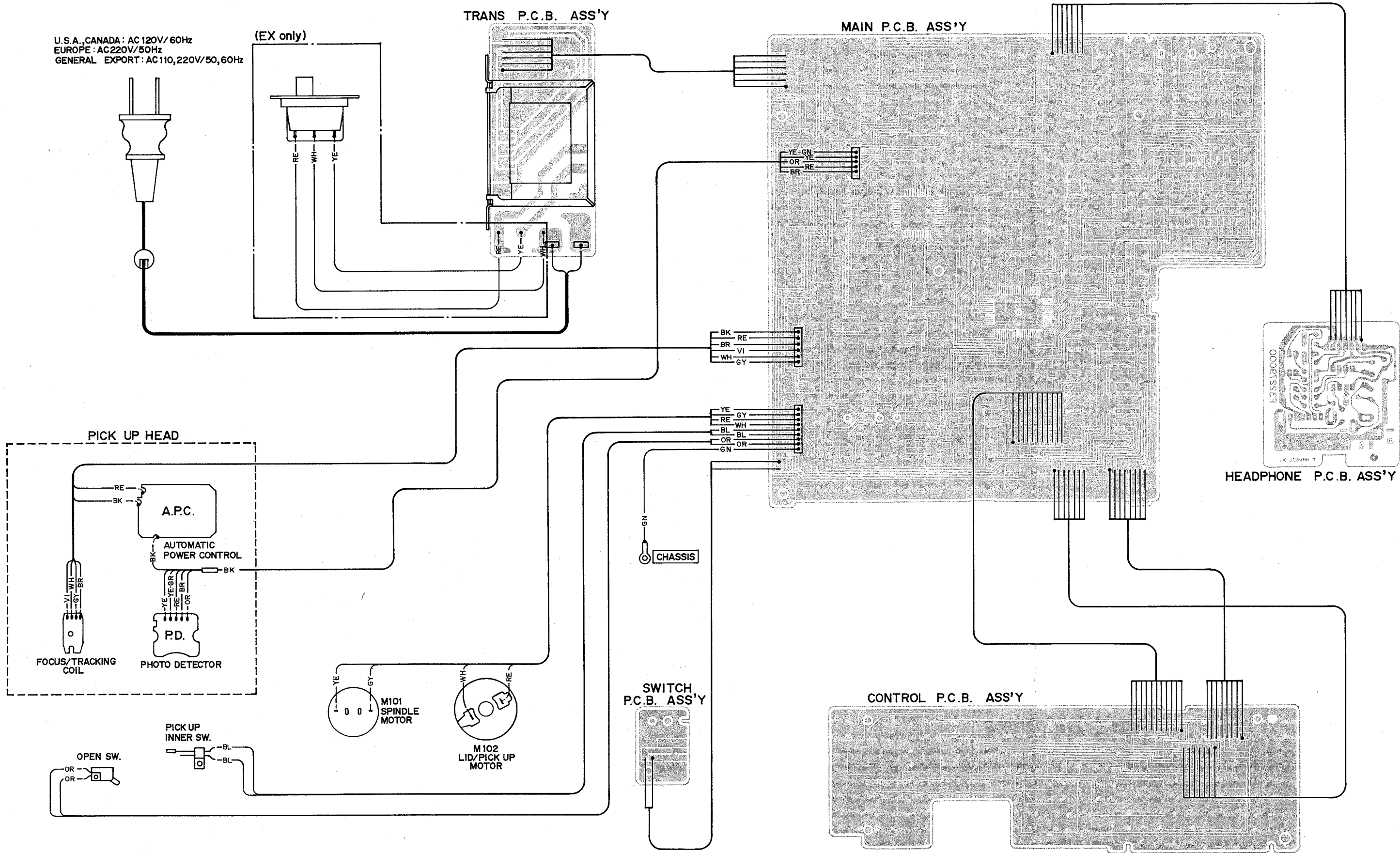
880CD



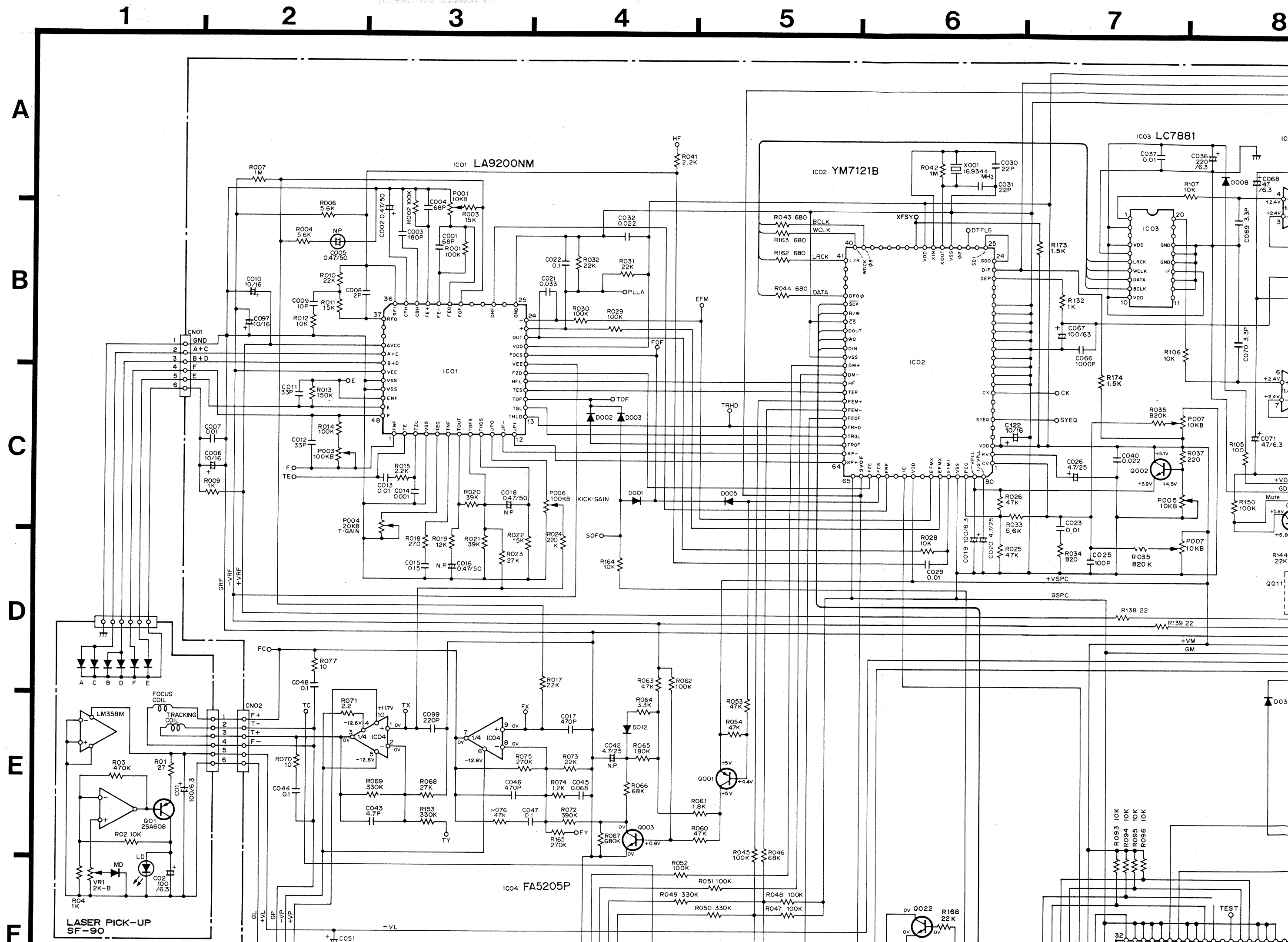
MAIN P.C.BOARD (TOP VIEW)

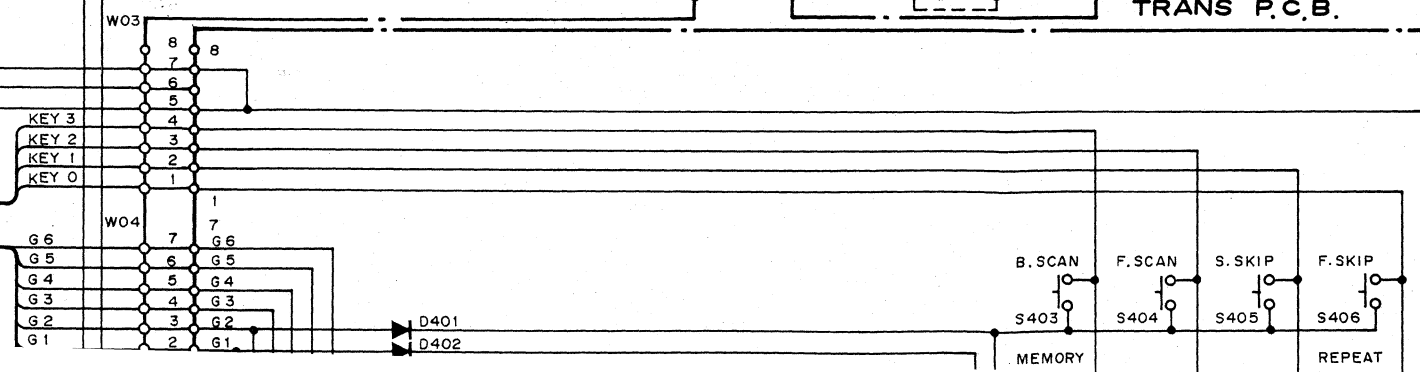
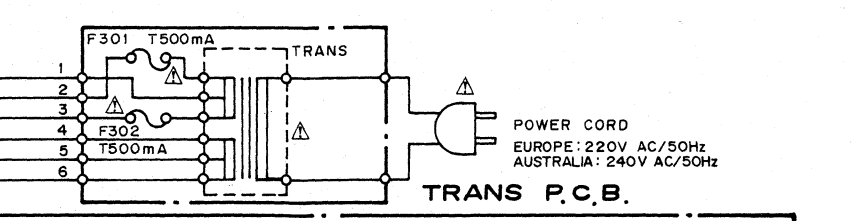
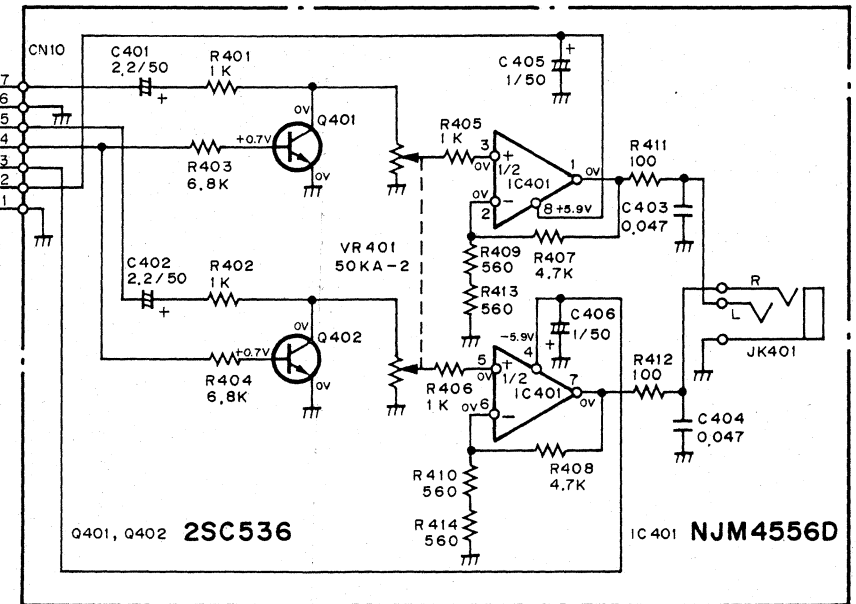
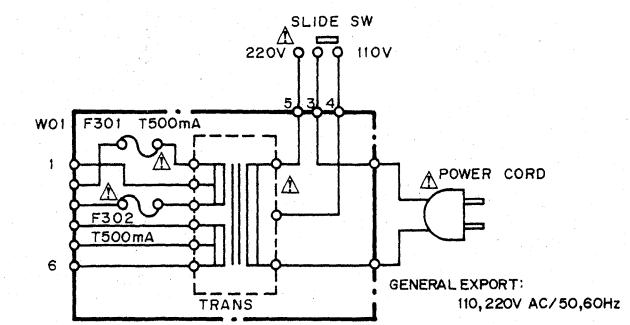
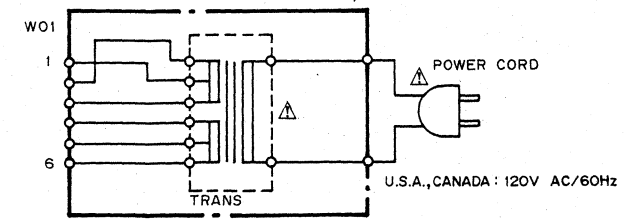
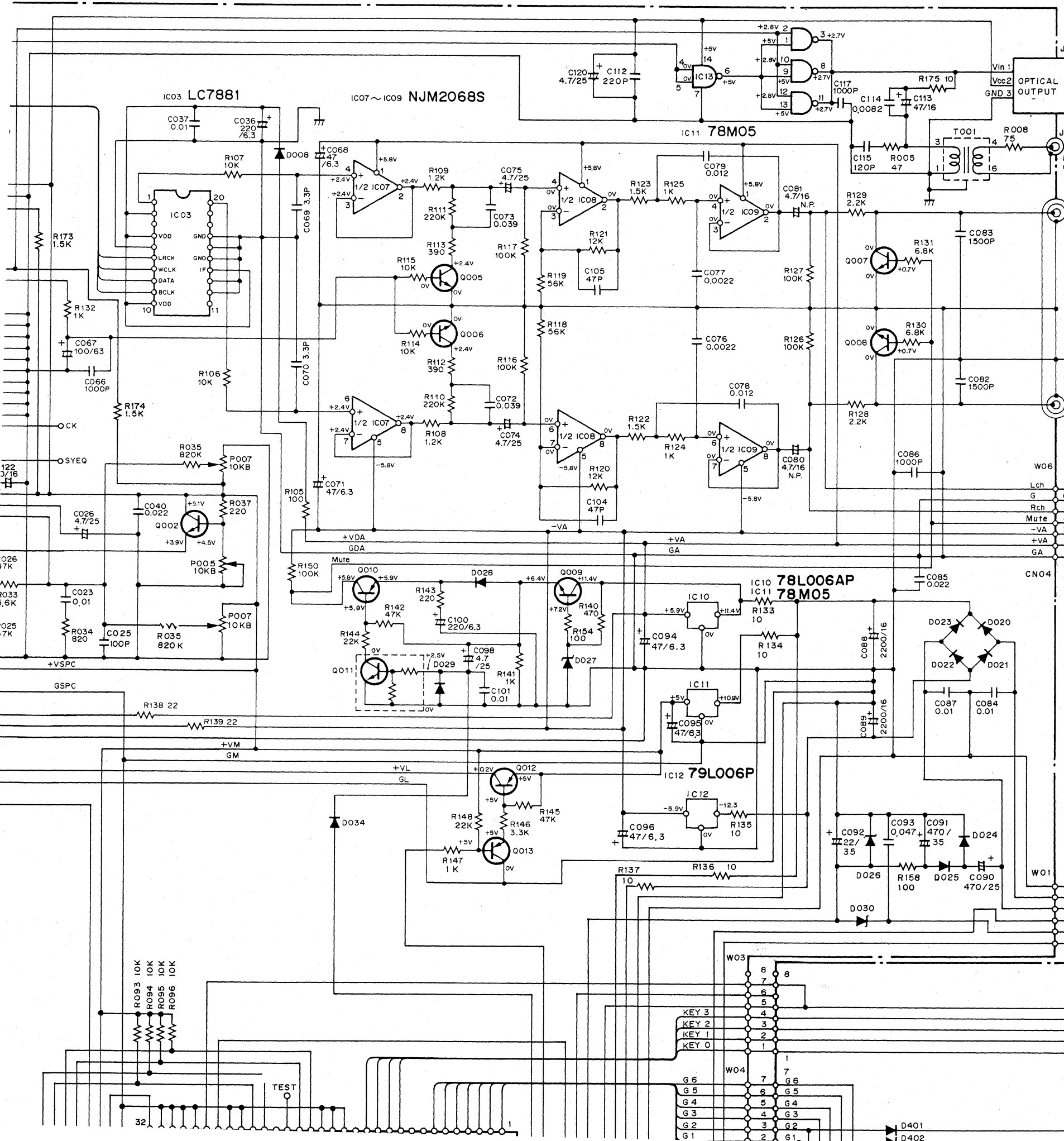


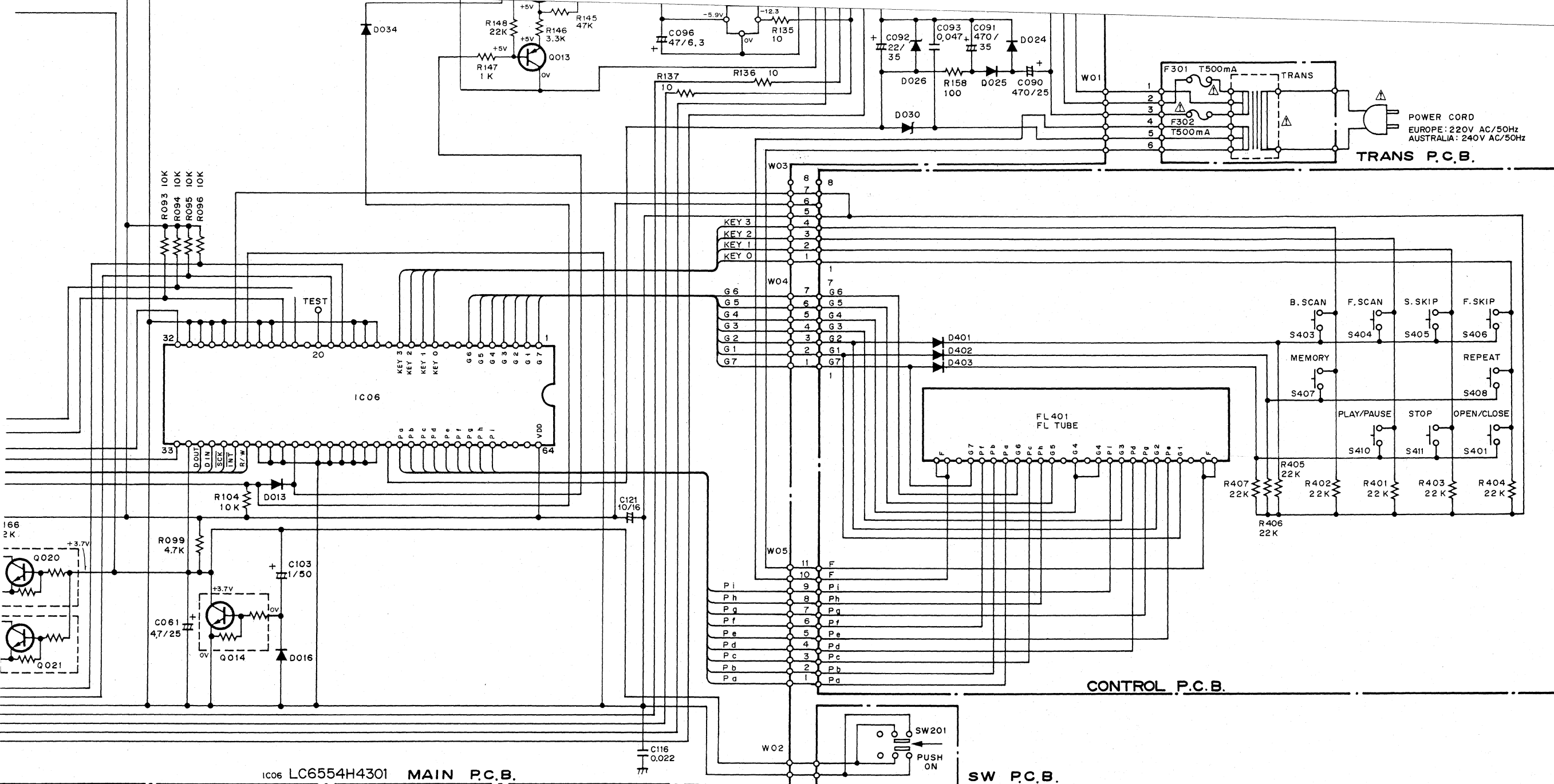
POINT TO POINT WIRING DIAGRAM



SCHEMATIC DIAGRAM 780CD Compact Disc Player







VOLTAGES

10	11	12	13	14	15	16	17	18	19	20
4.9V	0.5V	0V	0V	4.9V	0V	0V	0V	0V	0V	2.5V

VOLTAGES

10	11	12	13	14	15	16	17	18	19	20
0V	0V	0V	0V	0.2V	0V	0V	0V	5.0V	5.0V	5.0V
30	31	32	33	34	35	36	37	38	39	40
0V	0V	2.2V	2.4V	3.7V	0V	5.0V	5.0V	0V	0V	0V
50	51	52	53	54	55	56	57	58	59	60
0V	-21V	-6.8V	-6.8V	-6.8V	-6.8V	-7.3V	-7.3V	-20V	-20V	-20V

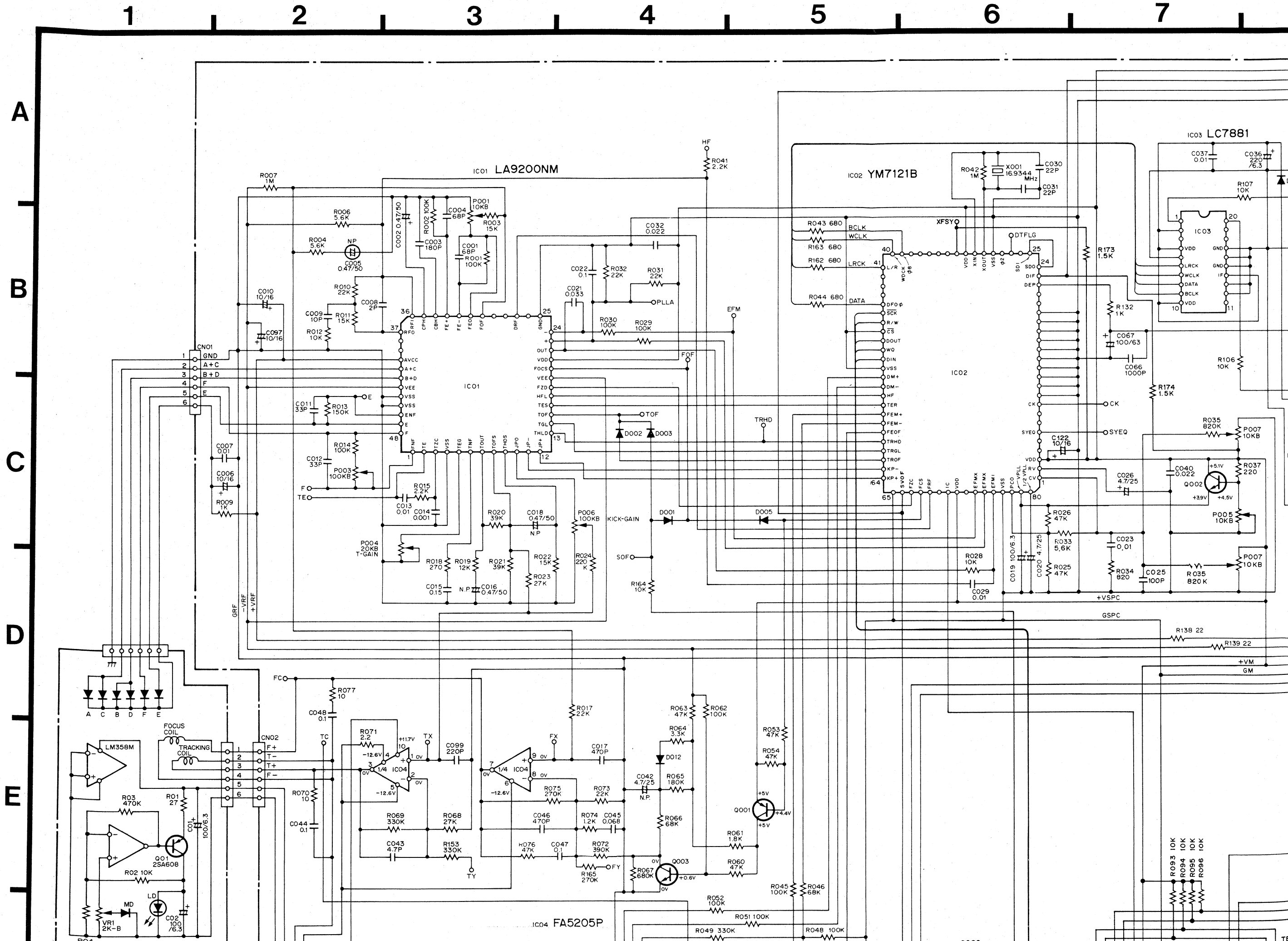
PRODUCT SAFETY NOTICE

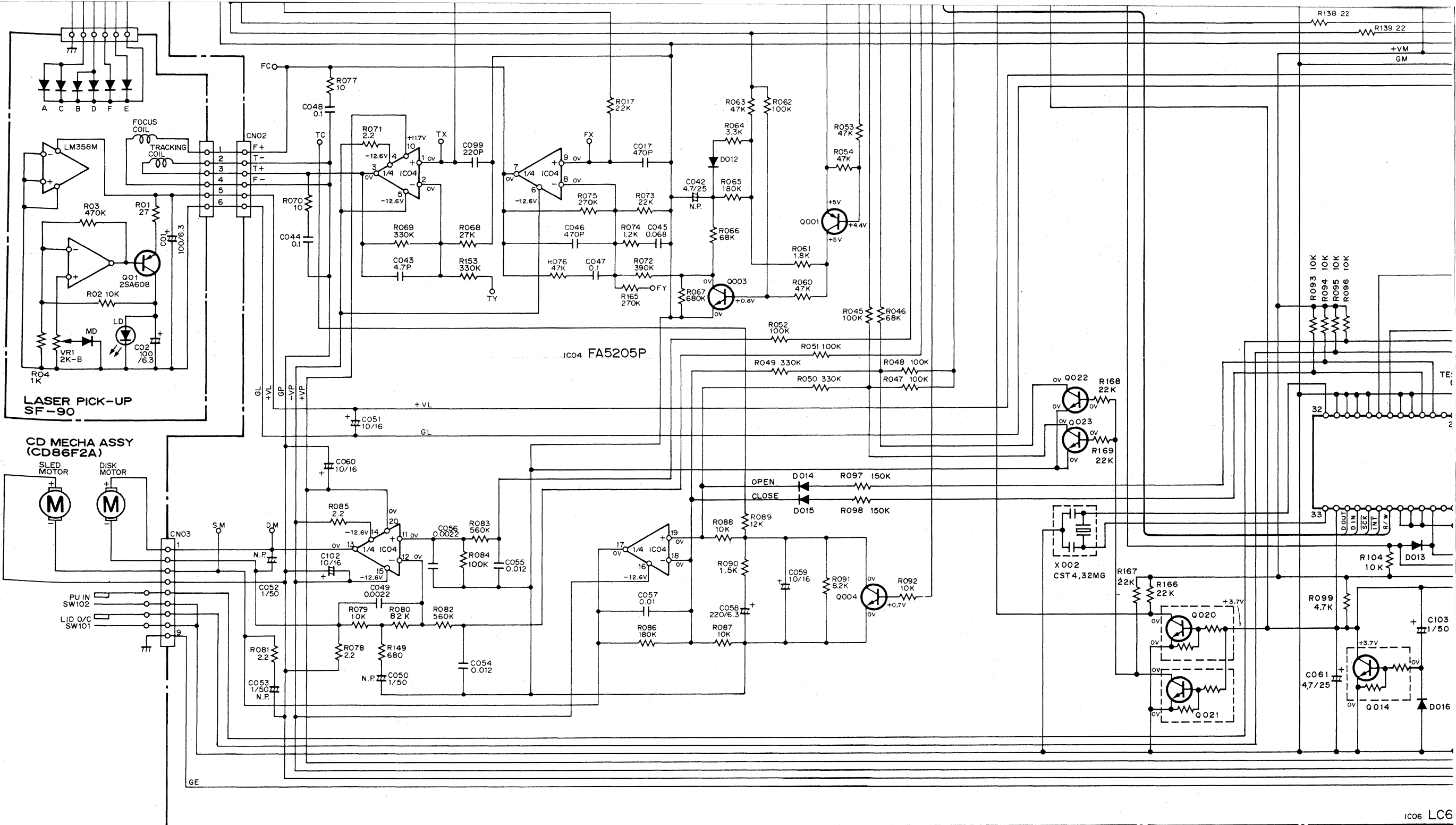
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- NOTES:**
1. All resistors values are indicated in "ohm" (K=10³, M=10⁶).
 2. All capacitors values are indicated in "μF" (P=10⁻¹²).
 3. All voltages indicated on the schematics are measured under the following conditions.
 - a. Use a V.T.V.M.
 - b. All voltages ±10% with respect to chassis ground.
 - c. No signals at input terminals.
 - d. AC input at 220 volts 50Hz.
 4. This is a basic schematic diagram.

CHUO DENKI CO., LTD. reserves the right to make any changes or modifications without notice for improvements.

SCHEMATIC DIAGRAM 880CD Compact Disc Player





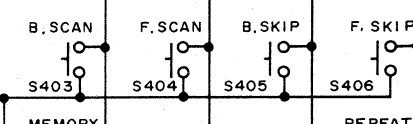
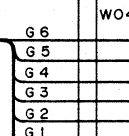
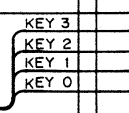
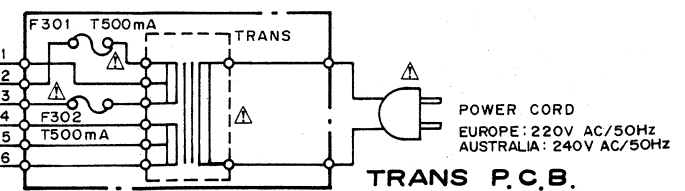
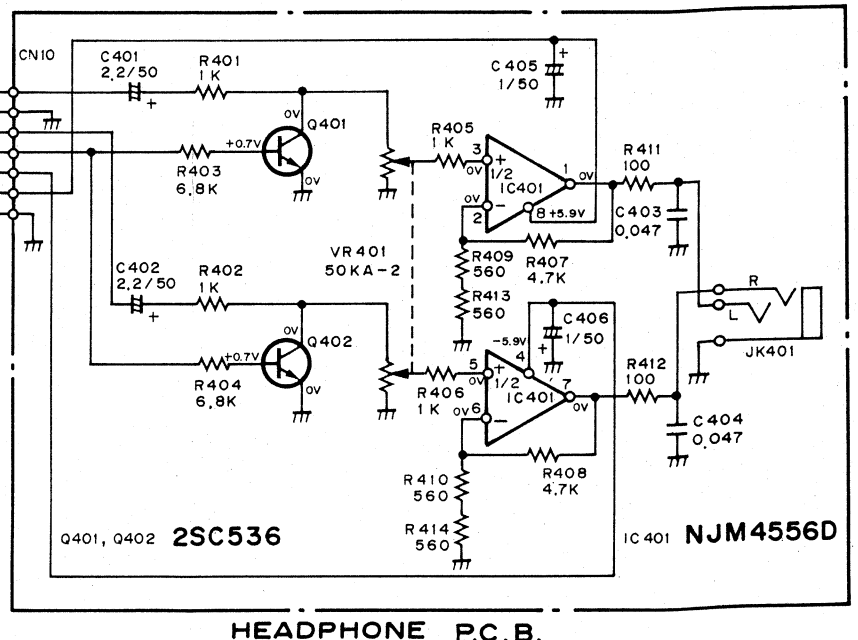
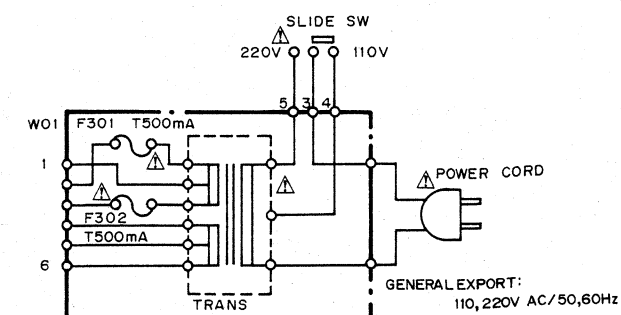
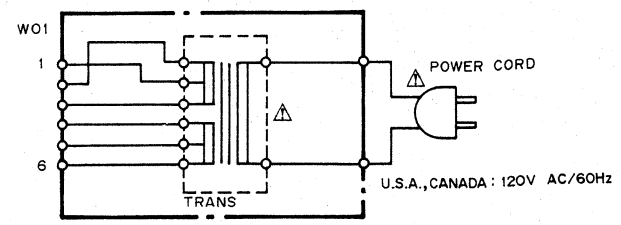
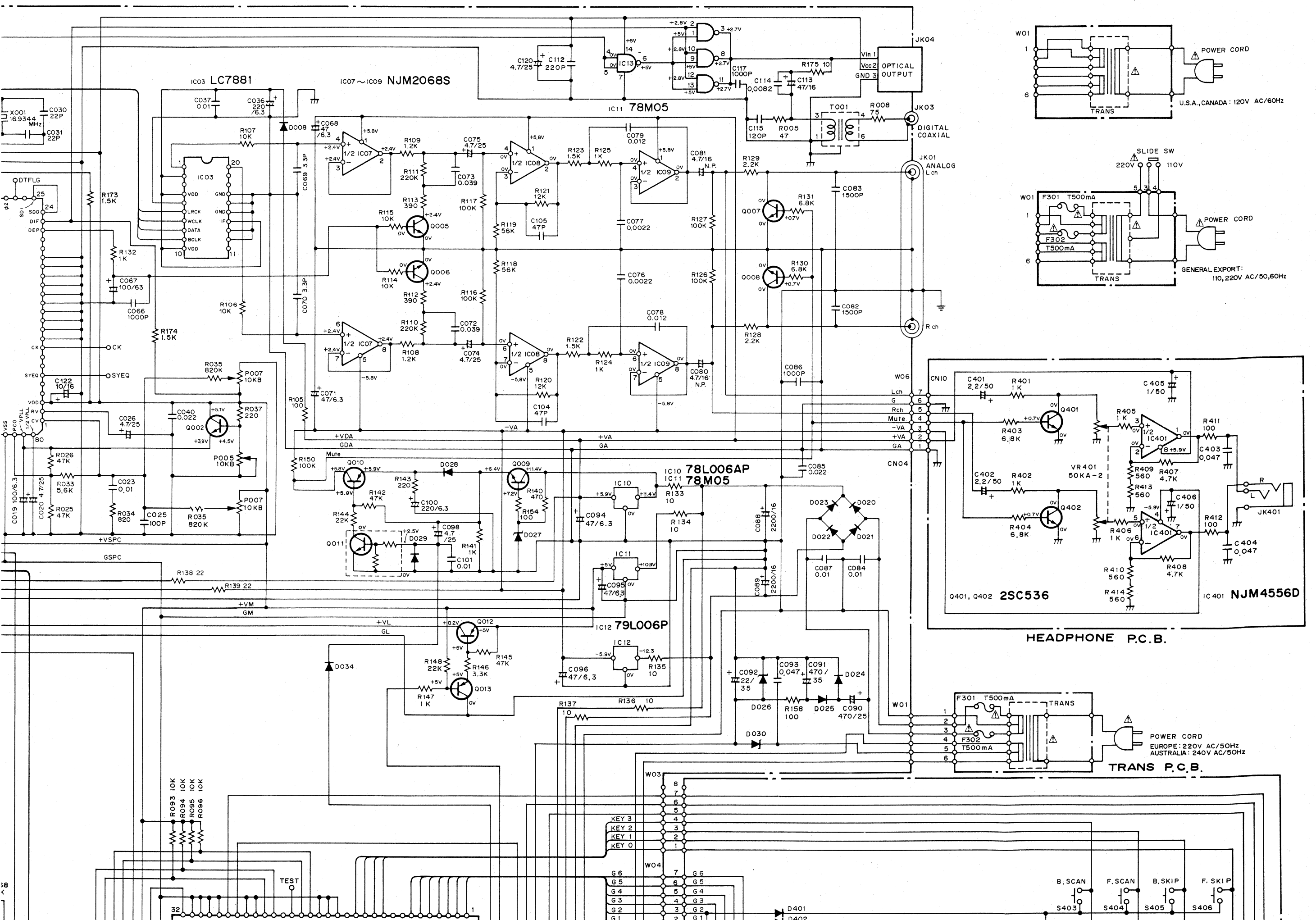
IC06 LC6

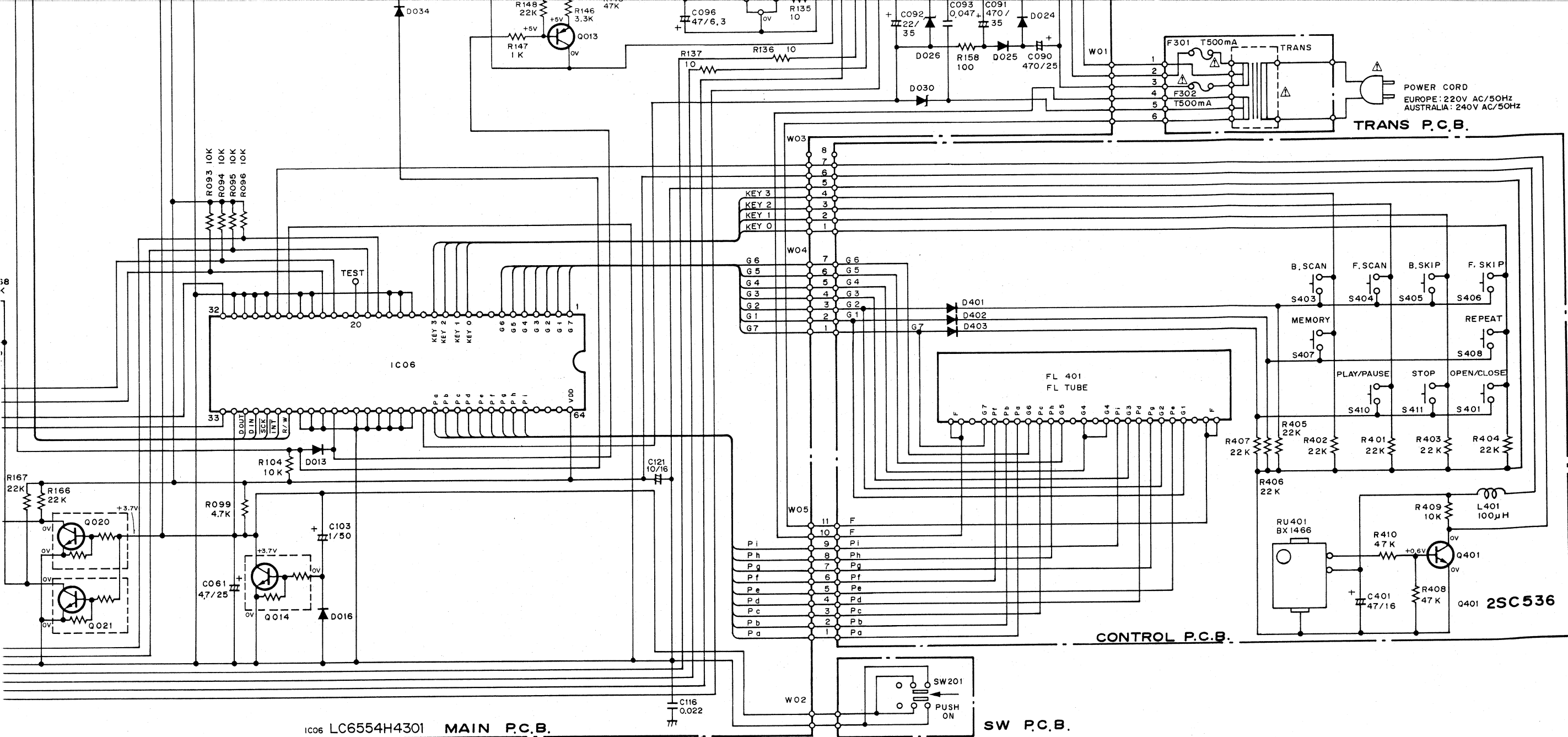
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SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC01	LA9200NM	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	5.0V	1.2V	0V	4.3V	4.3V	-5.5V	1.2V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		5.0V	2.1V	2.5V	2.5V	0V	2.5V	0V	2.5V	0V	0V	0.6V	0.6V	-0.1V	-0.1V	-0.1V	0V	3.9V	-0.1V	5.9V	
		41	42	43	44	45	46	47	48												

		IC PIN NUMBER DC VOLTAGES																		
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
IC03	LC7881	2.5V	4.9V	4.9V	4.9V	0V	2.7V	2.9V	0V	2.5V	4.9V	0.5V	0V	0V	4.9V	0V	0V	0V	0V	0V

		IC PIN NUMBER DC VOLTAGES																				
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
IC02	YM7121	2.0V	2.4V	5.0V	5.0V	5.0V	0V	-0.3V	1.5V	2.7V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	2.6V	
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
		0V	0V	2.8V	0V	0V	2.5V	3.4V	2.7V	0V	1.9V	2.3V	5.0V	5.0V	0V	0V	0V	5.0V	5.0V	5.0V	0V	0V
		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	
		2.7V	1.7V	1.7V	0V	0V	0V	0V	0V	0V	5.0V	0V	0V	0V	0V	4.3V	0V	0V	0V	5.0V	0V	

		IC PIN NUMBER DC VOLTAGES																			
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
IC06	LC6554H -4301	-17.0V	-17.5V	-17.5V	-17.5V	-17.5V	-17.5V	-17.5V	-20V	-20V	0V	0V	0V	0V	0.2V	0V	0V	0V	5.0V	5.0V	
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	
		5.0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	2.2V	2.4V	3.7V	0V	5.0V	5.0V	0V	0V
		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	
		0V	0V	5.0V	0.4V	0V	0V	0V	0V	0V	0V	-21V	-6.8V	-6.8V	-6.8V	-6.8V	-7.3V	-7.3V	-20V	-20V	





MBER DC VOLTAGES

9	10	11	12	13	14	15	16	17	18	19	20
2.5V	4.9V	0.5V	0V	0V	4.9V	0V	0V	0V	0V	0V	2.5V

MBER DC VOLTAGES

9	10	11	12	13	14	15	16	17	18	19	20
-20V	0V	0V	0V	0V	0.2V	0V	0V	0V	5.0V	5.0V	5.0V
29	30	31	32	33	34	35	36	37	38	39	40
0V	0V	0V	2.2V	2.4V	3.7V	0V	5.0V	5.0V	0V	0V	0V
49	50	51	52	53	54	55	56	57	58	59	60
0V	0V	-21V	-6.8V	-6.8V	-6.8V	-6.8V	-7.3V	-7.3V	-20V	-20V	-20V

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

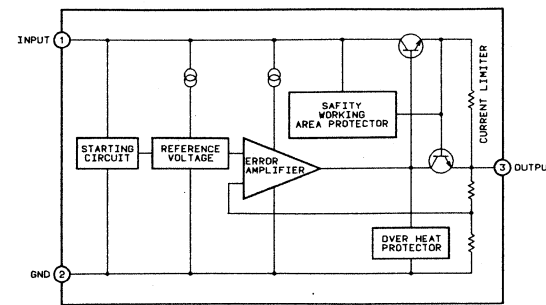
NOTES:

- All resistors values are indicated in "ohm" (K=10³, M=10⁶).
- All capacitors values are indicated in "μF" (P=10⁻¹²).
- All voltages indicated on the schematics are measured under the following conditions.
 - Use a V.T.V.M.
 - All voltages ±10% with respect to chassis ground.
 - No signals at input terminals.
 - AC input at 220 volts 50Hz.
- This is a basic schematic diagram.

CHUO DENKI CO., LTD. reserves the right to make any changes or modifications without notice for improvements.

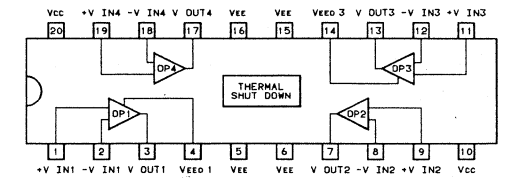
IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

L78M05 TOP/SIDE VIEWS

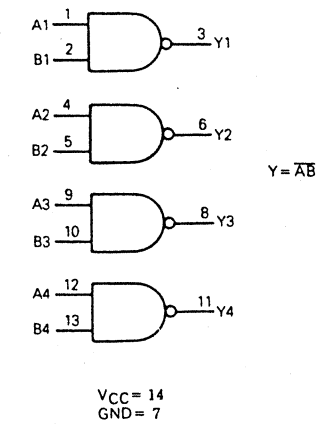


	INPUT	GND	OUTPUT
L78M05	1	2	3
NJM78M05FA	3	2	1

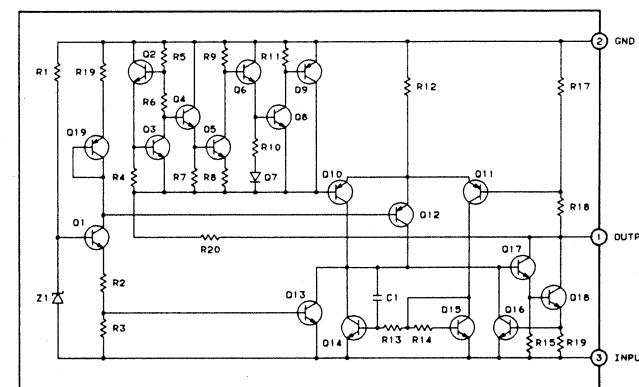
FA5205P BLOCK DIAGRAM



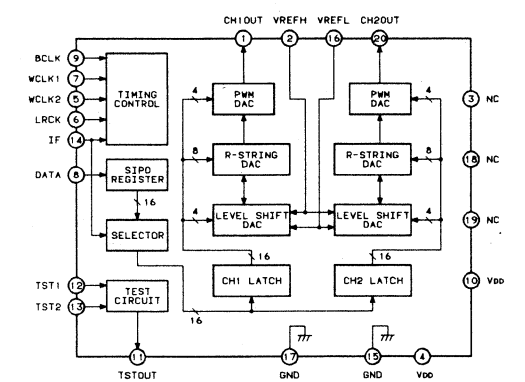
MC74HC00 BLOCK DIAGRAM



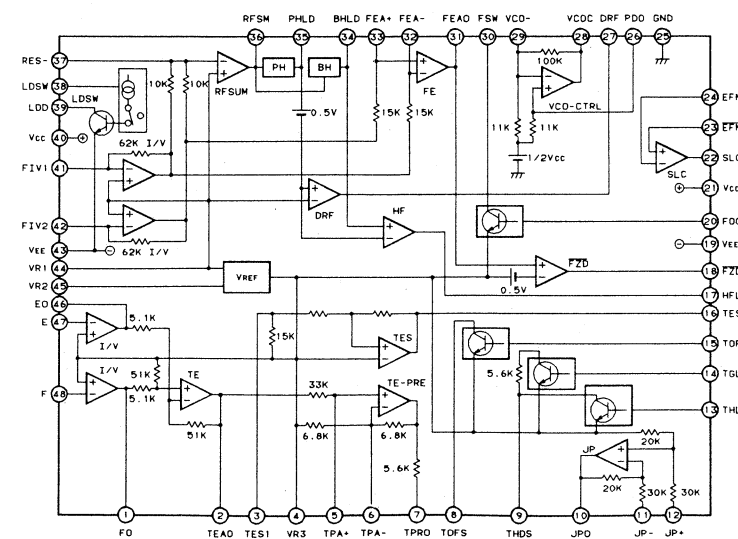
TA79L006P BLOCK DIAGRAM



LC7881 BLOCK DIAGRAM



LA9200NM BLOCK DIAGRAM



**NJM2068S BLOCK DIAGRAM
UPC4570HA BLOCK DIAGRAM
LA6458SS BLOCK DIAGRAM**

