5. ADJUSTMENTS

5.1 Note

Pay attention to the following before adjustment.

(1) Keep the Compact Disc Player horizontal during adjustment.
(2) Before starting adjustment, allow three minutes after the power is turned ON. Offset voltage will stabilize in this period of time.
(3) Potentiometers that are not stated in the adjustment instructions should be left to their original positions.
(4) Keep the Pickup lens clean. Carefully clean it with lens cleaner or similar tools.
(5) The Tracking Servo Gain adjustment has been factory-aligned using the special filter and the field adjustment is seldom required.

Danger: Invisible laser radiation when opened and interlock failed or defeated. Avoid direct exposure to beam.

5.2. Adjustment Instructions

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUSTMENT	REMARKS
1	PLL Free-run Frequency Adjustment	None	Frequency counter to TP(PLL) on Main P.C.B.	Main P.C.B. L303	1. Connect the frequency counter to TP(PLL). 2. Connect TP(ASY) to GND. 3. Adjust L303 to obtain 4.3±0.1MHz on the frequency counter.
2	Tracking Offset Adjustment	None	Oscilloscope to TP(TRACK) on Main P.C.B.	Main P.C.B. RV102	1. Set a oscilloscope to DC input and 20mV/div., and connect it to TP(TRACK). 2. Short the TEST MODE pins on Main P.C.B. 3. Press the Repeat button. 4. Adjust RV102 to obtain 0±10 mV on the scope.
3	Focus servo offset adjustment	Test disc Sony Type 4	Oscilloscope to TP(FOCUS) on Main P.C.B.	Main P.C.B. RV101	1. Set a oscilloscope to DC input and connect it to TP(FOCUS). 2. Press the Play button. 3. Observe and record DC average voltage at TP(FOCUS). 4. Press the Stop button. 5. Adjust RV101 to obtain same voltage in step 3 on the scope. 6. Repeat playback and stop a few times and check that the voltage does not change.
4	E-F Balance Adjustment	Test Disc Sony Type 4	Oscilloscope to TP(EF) on Main P.C.B.	Main P.C.B. RV104	1. Set a oscilloscope to DC input and connect it to TP(EF). 2. Press the Play button. 3. Short the TEST MODE pins on Main P.C.B. after pressing the Play button. 4. Press the Time button. 5. Adjust RV104 so that the signal has the symmetrical plus swing and minus swing on the scope. 6. Open the TEST MODE pins and check that playback and track search operates normally.
5	Tracking Servo Gain	Test Disc Sony Type 4	Oscilloscope to TP(TRACK) through a 1kHz BPF. Signal Generator to pin 4 of U102 on Main P.C.B.	Main P.C.B. RV103	1. Set a signal generator to 4 pins of U102. 2. Apply 1kHz, 300mV audio signal to TP(TRACK). Output impedance should be 220k ohms. 3. Turn RV103 slowly clockwise and top at the point where tracking servo signal goes out. At this point, assume that noise level is 0 dB. 4. Adjust RV103 to obtain a 1kHz signal level at -6dB.
6	THD Adjustment	Test Disc Sony Type 3	Distortion meter and Oscilloscope to OUTPUT terminal	D/A Converter P.C.B. RV551L/R RV552L/R RV501L/R	1. Play 10kHz(100%) track and adjust RV552L/R to obtain minimum distortion. 2. Play 1kHz(100%) track and adjust RV551L/R to obtain minimum distortion. 3. Perform steps 2 and 3 again. 4. Play 1kHz(-90dB) track and adjust RV501L/R to obtain equal waveforms on right and left channel.