

## 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	<ol style="list-style-type: none"> <li>1. Connect the frequency counter to TP(PLL).</li> <li>2. Connect TP(ASY) to GND.</li> <li>3. Adjust L303 to obtain <math>4.3 \pm 0.1</math> MHz on the frequency counter.</li> </ol>
2	Tracking Offset Adjustment	None	Oscilloscope to TP(TRACK) on Main P.C.B.	Main P.C.B. RV102	<ol style="list-style-type: none"> <li>1. Set a oscilloscope to DC input and 20mV/div., and connect it to TP(TRACK).</li> <li>2. Short the TEST MODE pins on Main P.C.B.</li> <li>3. Press the Repeat button.</li> <li>4. Adjust RV102 to obtain 0±10 mV on the scope.</li> </ol>
3	Focus servo offset adjustment	Test disc Sony Type 4	Oscilloscope to TP(FOCUS) on Main P.C.B.	Main P.C.B. RV101	<ol style="list-style-type: none"> <li>1. Set a oscilloscope to DC input and connect it to TP(FOCUS).</li> <li>2. Press the Play button.</li> <li>3. Observe and record DC average voltage at TP(FOCUS).</li> <li>4. Press the Stop button.</li> <li>5. Adjust RV101 to obtain same voltage in step 3 on the scope.</li> <li>6. Repeat playback and stop a few times and check that the voltage does not change.</li> </ol>
4	E-F Balance Adjustment	Test Disc Sony Type 4	Oscilloscope to TP(EF) on Main P.C.B.	Main P.C.B. RV104	<ol style="list-style-type: none"> <li>1. Set a oscilloscope to DC input and connect it to TP(EF).</li> <li>2. Press the Play button.</li> <li>3. Short the TEST MODE pins on Main P.C.B. after pressing the Play button.</li> <li>4. Press the Time button.</li> <li>5. Adjust RV104 so that the signal has the symmetrical plus swing and minus swing on the scope.</li> <li>6. Open the TEST MODE pins and check that playback and track search operates normally.</li> </ol>
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	<ol style="list-style-type: none"> <li>1. Set a signal generator to 4 pins of U102.</li> <li>2. Apply 1kHz, 300mV audio signal to TP(TRACK). Output impedance should be 220k ohms.</li> <li>3. Turn RV103 slowly clockwise and stop at the point where tracking servo signal goes out. At this point, assume that noise level is 0 dB.</li> <li>4. Adjust RV103 to obtain a 1kHz signal level at -6dB.</li> </ol>
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	<ol style="list-style-type: none"> <li>1. Play 10kHz(100%) track and adjust RV552L/R to obtain minimum distortion.</li> <li>2. Play 1kHz(100%) track and adjust RV551L/R to obtain minimum distortion.</li> <li>3. Perform steps 2 and 3 again.</li> <li>4. Play 1kHz(-90dB) track and adjust RV501L/R to obtain equal waveforms on right and left channel.</li> </ol>