FISHER

COMPACT DISC PLAYER

AD-9030 (EUROPE)

137 350 40

SPECIFICATIONS

System ................................ Compact disc digital audio
Remote Control (RAD-752) ............... 25-function, wireless
Audio Characteristics ....................... remote control

Frequency Response ....................... 20 Hz - 20 kHz ±0.5 dB
Harmonic Distortion .......................... Less than 0.005% (1 kHz)
Dynamic Range ................................ More than 92 dB
Wow and Flutter .............................. Below measurable limits
S/N Ratio ...................................... More than 100 dB
Channel Separation ......................... More than 95 dB (1 kHz)
Output Voltage (maximum) ............... 2 Vrms

FUNCTIONS

Track/Program Selection .................... With FPWD and TRACK buttons
Index Selection .............................. With SCAN/INDEX ▶ and ◄ buttons
Scanning (forward/backward) .............. 2-second search with sound
Pause mode .................................. 2-speed search without sound
Each/Remaining/Total Time Display ....... With DISPLAY button
during the PLAY mode

Program Functions ........................... 16 selections

Edit Disc Play.................................. Tape Length Selection .......................... C-46, C-60, C-60
Tape Length Selection ........................ Side AB editing time display
Display .......................................... 10 seconds/track
Intrascan Play .................................. Random Play .................................... With the RANDOM PLAY button during
Repeat Play ...................................... Program Reset ................................. the PLAY mode.
Pause ............................................ With STOP button during
Disc Loading ................................... Each track

Digital Signal Processing.................. 3-beam laser
Optical Pickup .................................. 44.1 kHz
Sampling Frequency .......................... 18-bit, 8 times oversampling digital filter
Filters .......................................... 2-pole active filter
D/A Conversion ............................... Two 16-bit, linear, D/A converters

Power Requirements (50 Hz) .............. AC 110/220V
Dimensions (WxHxD) ......................... 17.33" x 3.74" x 10.87"
Weight (approximate) ....................... 8.1 lbs.

- Specifications and design are subject to change without notice. -

REFERENCE No. WM-570339
SAFETY CERTIFICATION

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:As:As
Wavelength: 755 - 815 nm (2PE)
Laser Output: Continuous Wave max.0.5 mW

DISASSEMBLY PROCEDURES

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.

Table Load

Push

REMOVING THE MECHANISM
1. Take out the seven screws (1 - 7 in the diagram below) with which the Cabinet Front is mounted in place and remove the Cabinet Front.

2. Take out the four screws (8 - 11 in the diagram below) with which the mechanism is mounted in place and remove the mechanism.

- The mechanism should be removed with the lead wires still attached, and then placed on a wooden or plastic sheet as shown below to adjust the mechanism.

Insulator Board
(wood, plastic, etc.)
CD PLAYER ADJUSTMENT PROCEDURES

BEFORE CHECKING OR ADJUSTING CD PLAYER
1. Procedures for all adjustments for the CD player from start to finish are described below.
2. If no problems are found after each item is checked when the pick-up is replaced, there is no need to adjust all items again.

SETTING OF INITIAL POSITION OF VOLUME
1. Set the variable resistors to the initial positions listed below:
   P101 (FOCUS GAIN) ................. Mechanical Center
   P102 (TRACKING GAIN) ............... Mechanical Center
   P103 (E/F BALANCE) ................. Mechanical Center
   P104 (KICK GAIN) ................. Mechanical Center
   P105 (TRACKING OFFSET) ............... Mechanical Center

FREE RUN FREQUENCY ADJUSTMENT
1. Connect the frequency counter to VCO test terminal (CN11-3) PCI test pin and to GND, (use a 10:1 probe.)
2. Short the test terminal (CN12-4) HF test pin to GND, (Use 0.1uf capacitor.)
3. Push the POWER button to switch the power on and push the STOP button.
4. Adjust the PULL coil T101 using a plastic screwdriver until the frequency counter indicator reads 4.3218MHz ±0.05Hz.

E/F BALANCE ADJUSTMENT
1. Place the test disc (Modern Wave II) on the Disc Tray, and play the fourth item on the disc. Short the test terminal (CN11-1) TEST pin to GND, and test terminal (CN12-7) TROPP pin to GND to turn tracking servo OFF.
2. Connect a DC Voltmeter and an oscilloscope via the low-pass filter shown in the illustration below to the test terminal (CN12-6) TE (tracking error) pin.
3. Adjust P103 so that the DC Voltmeter reading is 0V±0.5mV (oscilloscope waveform is symmetric to + and - about the zero level).

ADJUSTMENT OF TURNTABLE HEIGHT
1. This adjustment must be performed when the Spindle Motor is replaced.
2. The turntable should be mounted so that its upper surface is 14.05mm=0.1mm above the surface of the chassis.
3. Place the test disc (Modern Wave II) on the turntable.
4. Connect a DC Voltmeter and an oscilloscope via the low-pass filter shown below to test terminal (CN13-5) F (focus coil) pin.
5. Connect the DC Voltmeter and oscilloscope via the low-pass filter shown in the illustration below to the test terminal (CN12-6) TE (tracking error) pin.
6. If the DC Voltmeter reading is not in the range 0V±0.2V for inner tracks and 0V±0.35V for outer tracks, then the turntable height must be readjusted. Raise the turntable higher if the DC Voltmeter indicator is on the plus (+) side, and lower it if it is on the minus (−) side. (With this circuit IV represents movement of approximately 0.55mm = 0.65mm.)

FOCUS GAIN ADJUSTMENT
1. Apply P101 to the position of Mechanical center position, and place the test disc (Modern Wave II) on the Disc Tray.
2. Connect the measurement circuit described in the last section to the test terminal (CN13-5) F (focus coil) pin and (CN13-6) F (minus) pin. (Use 100kΩ Resistor.)
3. Push the POWER button to switch the power on and PLAY the first item on the test disc. Now apply a signal of 850Hz and 0.8Vpp from the signal generator to the measurement circuit.
4. Set the oscilloscope to X-Y operation, and while observing the lasiopus waveform adjust P103 to the point where the phase difference is 90° as shown in Fig. 1 below.

TRACKING GAIN ADJUSTMENT
1. Apply P102 to the position of Mechanical center position, and place the test disc (Modern Wave II) on the Disc Tray.
2. Connect the measurement circuit described in the last section to the test terminal (CN13-6) T (tracking coil) pin and (CN13-3) T (minus) pin. (Use 80kΩ Resistor.)
3. Push the POWER button to switch the power on and PLAY the first item on the test disc. Now apply a signal of 850Hz and 0.8Vpp from the signal generator to the measurement circuit.
4. Set the oscilloscope to X-Y operation, and while observing the lasiopus waveform adjust P102 to the point where the phase difference is 90° as shown in Fig. 1 above.

NOTE:
If these two adjustments are performed, the TRACKING OFFSET must also be adjusted.

KICK GAIN ADJUSTMENT
1. Place the test disc (Modern Wave II) on the Disc Tray.
2. Set the oscilloscope to NORMAL TRIG, set the EXT. TRIG. pin to external trigger, and input the trigger from test terminal (CN11-4) TTHR pin to the oscilloscope.
3. Next connect test terminal (CN12-4) HF pin to Channel 1 of the oscilloscope, and connect test terminal (CN12-6) TE pin to Channel 2.
4. Push the POWER button to switch the power on and PLAY the first item on the test disc, and the push the PAUSE button. Now observe the waveforms for HF and TE with triggers applied from test terminal (CN11-4) TTHR pin. At this point, adjust P105 so that a kick pulse waveform of about 1 to 1.5 tracks as shown in Fig. 2 below is obtained.

TRACKING OFFSET ADJUSTMENT
1. Push the POWER button to switch the power on and push the STOP button.
2. Connect a DC Voltmeter to the test terminal (CN13-6) T (tracking coil) pin and short the test terminal (CN12-4) TTOP pin to GND.
3. In this condition check that the DC Voltmeter indicator is in the range 150mV±20mV, and adjust P105 if it is not.

NOTE:
Perform this adjustment once again after adjusting the E/F BALANCE and TRACKING GAIN signals.

Fig.1

Fig.2
CABINET & CHASSIS EXPLODED VIEW

CABINET & CHASSIS PARTS LIST

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NOTES:
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in the manual should be followed during servicing. Components identified with the ICC symbol ( ), in the parts list and the schematic diagram designate components in which safety may be of special significance. When replacing a component identified with ( ), 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 adequately insulated from the supply circuit before returning the product to the customer.

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- 6 -

- 7 -
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IC & TRANSISTOR LEAD IDENTIFICATION

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**TERMINAL NAME**

B → BASE  
C → COLLECTOR  
E → Emitter

LA6458SS FRONT/SIDE VIEWS

![Image](LA6458SS.png)

LC3517BS-15 TOP VIEW

![Image](LC3517BS.png)

LC74HC00 TOP VIEW

![Image](LC74HC00.png)

M50954-125SP TOP VIEW

![Image](M50954.png)

PCM56P TOP VIEW

![Image](PCM56P.png)

LA9200NM TOP/SIDE VIEWS

![Image](LA9200NM.png)

PD0050 TOP VIEW

![Image](PD0050.png)

LC7860J TOP/SIDE VIEWS

![Image](LC7860J.png)

M5294P TOP VIEW

![Image](M5294P.png)