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Hi-Fi Products
Service Bulletin

CSA-13

Sony Service Company - Technical Services
A Division of Sony Electronics Inc.
Sony Drive, Park Ridge, New Jersey 07656

Model: GEN-CD

No. 375

Subject: Identifying Defective Optical Pickups

Date: February 28, 1994

Symptom:

(**)

Properly-functioning optical pickups are often needlessly changed during servicing of CD players.

Solution:

Generally, the optical pickup should be judged to be good if all 5 of the following conditions are met: *

- 1- The "S" curve symmetry is within limits (see below).
- 2- The RF level (p-p) is within limits (refer to the appropriate service manual to determine upper and lower limits). In many instances the RF level can be brought within limits by properly cleaning the objective lens (see below).
- 3- The RF eye pattern is clear.
- 4- The tracking balance can be adjusted within the specification shown in the service manual.
- 5- During focus search, the objective lens moves upward and downward smoothly without binding.

***Note: A sagging objective lens is not indicative of a defective pickup, and should not be considered when judging the optical pickup.**

S Curve Symmetry

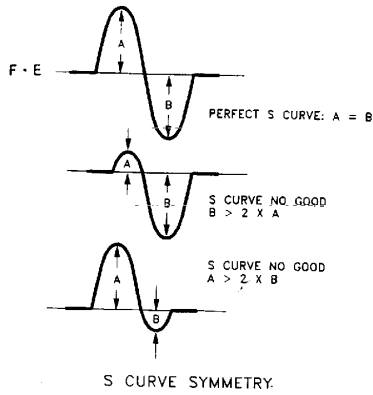
"S Curve" is the term applied to the Focus Error waveform during the Focus Search operation. The FE voltage is typically centered around Vc (1/2 Vcc), and increases towards Vcc and decreases towards 0Vdc as the objective lens is driven to the full up and full down positions. The specification for S curve symmetry is usually 2:1 or 1:2, but some models are specified at 7:10 or 10:7. The 7:10/10:7 specification should only be used when specifically stated in the service manual.

Defeating the FOK (Focus OK) signal will cause the focus search operation to be repeated several times, allowing the complete focus search waveform to be observed on the oscilloscope (a disc must be loaded in the mechanism). The triggering level may have to be adjusted for best viewing.

Reference:
Autoflagged - NO



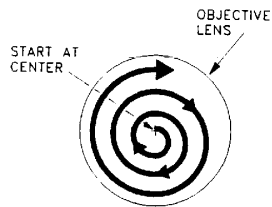
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Objective Lens Cleaning

The level of the RF eye pattern will be adversely affected by a dirty objective lens. Significant increases of the RF level can often be obtained by properly cleaning the lens. "Properly" means using the specified procedure and material.

The objective lens should be cleaned with lens cleaning fluid (part number J-2501-000-A) only. The use of any other cleaning material may result in damage to the lens, such as cracking of the protective coating, or dimming or clouding of the lens. Remove any excess fluid from the swab by shaking the swab before cleaning the lens. The fluid is applied to the lens with cotton swabs (part number J-2501-023-A) in a spiral motion from the center of the lens to the outer edge of the lens.



OBJECTIVE LENS SHOULD BE CLEANED FROM THE CENTER TO THE OUTER EDGE, USING A SPIRAL MOTION