

ABSTRACT
OPTICAL RECORDING SYSTEM WITH
ASPHERICAL SOLID IMMERSION LENS

The present invention provides an improved optical reading and recording system utilizing optical system employing an aspherical solid immersion lens (SIL). The improved optical system has an aspherical SIL between an objective lens and the recording media. The aspherical SIL reduces the focused electromagnetic radiation beam spot size by providing an increased numeric aperture (NA) of the optical system. The aspherical surface of the SIL provide greater manufacturing and operating tolerances between the objective lens and the aspherical SIL. Greater manufacturing tolerances provide an easier to manufacture optical system. Increased ease of manufacture reduces the cost of optical systems.

(Figure 1A)