Supplementary Figures:



Figure 1. Photoreceptor degeneration above the implant. (a-b) Confocal images stacks of an implanted NHP just above the implant. The implant was located on the left side of the dash line. Cones were immunolabeled with a cone arrestin antibody (green), bipolar cells with an antibody G0 α (magenta), and cell bodies were stained with DAPI (blue). During the 5 weeks implantation, cone photoreceptors (green dots) have almost completely disappeared at the implant location (left part) whereas the normal high cone density in this area is visible in the neighboring healthy retina (right part). These experiments were realized on one NHP only.







Figure 3. Stimulation set-up for the behavioral study. (a) Picture and (b) schematic drawing of the stimulation optic system. This stimulation system is mounted on a slit lamp (Zeiss SL-130) and it includes a single-mode NIR laser (880 nm) and a visible light source (590 nm). The two illuminations are merged together thanks to a dichroïc mirror to illuminate a Digital Micro-mirror Device (DMD, DLi innovations, to form the patterns. An example of a chess pattern in shown on the DMD in A as an inset. Three NIR non reflective lenses were placed after the DMD to create a collimated image of the DMD pattern. HWP: Half Wave Plate; QWP: Quarter Wave Plate; PBS: Polarizing Beam Splitter; C,L: Collimators.



