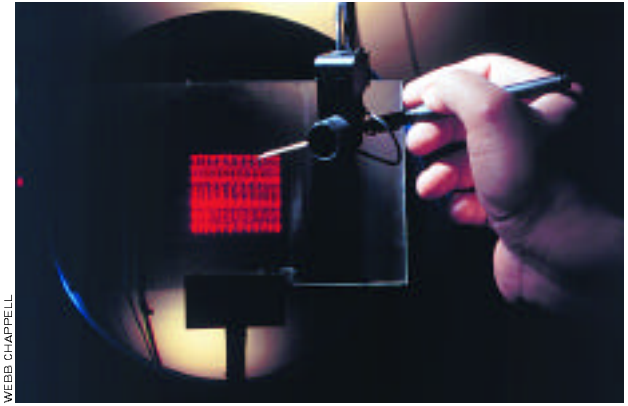
Holographic Technology: Real-Time Display, Tactile Interface

The Holovideo Project at MIT's Spatial Imaging Group at the Media Laboratory is developing a real-time imaging system that can render and display computer-generated holograms at near-video rates. The Mark-II display diagram (at right) provides 150-by-75-by-150mm images with a 360-degree view zone at rates of approximately 2.5 frame/sec. Two 18-channel acousto-optic modulators (AOM) (1) are used, with each channel of a single AOM modulating beam of red light in parallel. Those beams are then directed to a (2) vertical scanner that produces an image with video resolution in the vertical direction and holographic resolution in the horizontal direction. The image passes through a (3) beam splitter, and each of the two portions is directed to (4) three of six tiled horizontal scanners, and then on to the (5) output lens and to the (6) vertical diffusing screen for viewing.



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MIT RESEARCHERS have developed a tactile feedback interface (shown above) for the holographic images they produce