151. The method of claim **150**, wherein a second calibration wavelength is used to identify the intersections of the plurality of three-dimensional calibration grids with numerals.

157. The three-dimensional display of claim **16**, wherein equalization of the intensities of the desired wavelengths in a voxel is controlled by adjusting peak power levels and pulse widths of said at least three optical sources.

158. A method for combining images from multiple optical recorders in an aircraft, comprising the steps of:

incorporating a set of calibration holograms into an optical window separating the inside from the outside of the aircraft;

placing multiple optical recorders inside the aircraft which are capable of capturing desired images through the optical window of objects outside the aircraft;

determining spatial orientations and positions of the multiple optical recorders;

illuminating the set of calibration holograms in the optical window via a holographic calibration plate with a calibration wavelength to produce a calibration pattern by which the spatial orientation and position of the multiple optical recorders is determined relative to the calibration pattern; and

utilizing the spatial orientations and positions to combine images from each optical recorder.

159. The method of claim **158**, wherein the calibration wavelengths is a wavelength used in collision avoidance systems.

160. The apparatus of any of claims **64**, **131**, **143**, or **158**, wherein said holographic calibration plate is a variable plate hologram wherein external inputs phase modulate the holographic calibration plate.

152. The method of claim **150**, wherein a second calibration wavelength is used to identify the intersections of the plurality of three-dimensional calibration grids with bar codes.

153. The method of claim **150**, wherein a second calibration wavelength is used to identify the intersections of the plurality of three-dimensional calibration grids with numerals and bar codes.

154. A method for combining images from a plurality of optical recorders optimized for capturing different wavebands reflected from the desired object, wherein each optical recorder is capable of recording holographic calibration pattern wavelengths, comprising the steps of:

illuminating a calibration hologram with one of a plurality of calibration wavelengths so as to project one of a plurality of three-dimensional holographic calibration patterns into the field of view of each optical recorder; and

utilizing spatial orientations and positions of each optical recorder as determined by an orientation of each optical recorder relative to the calibration hologram for combining images for each optical recorder.

155. The method of claim **154**, wherein the plurality of optical recorders identify individuals using biometric information including fingerprint, hand geometry and vein structure.

156. The three-dimensional display of any of claims **120**, **121**, **122**, or **123**, wherein the shape, cross-sectional area and the thickness for said lens, said non-linear mixing material, said wavelength filter and said diffuser compensate for conversion efficiency variations, power output variations, losses, and attenuation in the display system.

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