calibration pattern (object) **282** is projected on a plane that is tangent to the nearest point of the desired object **278** as measured from an optical recorder **272***a*-**272***c*. At step **288**, a subset of virtual calibration pattern intersection points defined by those points closest to where the virtual calibration pattern **282** intersects the desired object **278** is labeled in some numerical order. At step **290**, starting with the first numbered point and continuing to the last numbered point, the laser point P is positioned at each numbered point successively and position data using measurements to the virtual calibration pattern **282** is collected. Step **290** simplifies the positioning process since the laser pointer wavelength is a calibration pattern wavelength and the pointer position P and the virtual calibration pattern **282** are simultaneously observable by the optical recorder **272***a*-**272***c* for the laser pointer and thus relative positioning corrections rather than absolute position correction of the laser pointing system are required. At step **292**, an attempt is made to generate another virtual calibration pattern that intersects the desired object **278** at a greater distance from the reference optical recorder. At step **294**, if one can be generated, then steps **184**-**188** are repeated, otherwise stop.

[0140] Referring now to FIG. **43**, a fifth exemplary embodiment of the three-dimensional calibration equipment **296** is depicted. The three-dimensional calibration equipment **296** includes optical recorders **298***a*-**298***c*, a light source **300**, and non continuous, identical holographic calibration plates **302***a*-**302***c*. If the holographic calibration plates **302***a*-**302***c* were held mechanically parallel, then this configuration would effectively be the configuration of the three-dimensional calibration equipment **16**. Misalignment of the holographic calibration plates **302***a*-**302***c* shifts the calibration pattern up or down, left or right and/or forward or back. Thus the misalignment may be calculated from a set of reference points in the field of view. These points my be known calibration points, such as fixed points in the field of view, points projected by a laser whose wavelength is a calibration wavelength, or some distinctive feature of the desired object **304** such as an edge or point of a distinct color.

[0141] Referring now to FIG. **44**, the calibration method for use with the three-dimensional calibration equipment **296** can be summarized as follows: At step **306**, the separate holographic correction plates **302***a*-**302***c* are fixed as rigidly and as closely as possible to the configuration of single fixed plate For flat calibration plates, this implies initially fixing the non-contiguous plates as parallel to each other as possible. For cylindrical/spherical segmented non-contiguous plates, this implies initially fixing the plates rigidly as close to the location at which a contiguous cylindrical/spherical plate would occupy, and so forth for other shapes of holographic plates (e.g., elliptical). At step **307**, a virtual calibration pattern is projected in the field of view of a desired object **304**. At step **308**, the position of each of the reference points in the vicinity of the desired object **304**, if not on the desired object **304** itself, relative to each optical recorder, is determined. Illuminated points on the desired object **304** are a subset of the reference points. Additional fixed calibration points are generated by affixing reflecting and/or absorbing colors to the desired object **304** with wavelengths in the calibration range, thus predetermining a fixed set of points for calibration. At step **310**, for each reference point, the corresponding position on the virtual calibration pattern is determined. At step **312**, from the data of step **310**, the misalignment of the virtual calibration pattern is determined. At step **314**, the correction factors, for example, shift, rotation and scaling in an orthogonal coordinate system, as a function of position in the desired object **304** in three-dimensional space, for each optical recorder, is determined. At step **316**, the corrections are applied for each optical recorder to both the virtual calibration pattern and the desired object.

[0142] Referring now to FIG. **45**, a sixth exemplary embodiment of the three-dimensional calibration equipment **318** is depicted. The three-dimensional calibration equipment **318** includes optical recorders **320***a*-**320***c*, a light source **322**, non continuous, identical holographic calibration plates **324***a*-**324***c*, and reference points **326***a*-**326***b* in the field of view of the desired object **328**. The three-dimensional calibration equipment **318** is realizable for applications that do not utilize the patterns of the virtual calibration plate **324***a*-**324***c*. Specific reference points **326***a*-**326***c* in the field of view of the desired object **328** are illuminated by a remote source (not shown) or self illuminated with calibration wavelengths. The reference points **326***a*-**326***c* are separated into calibration wavelengths by the electronics (not shown) and are used to provide calibration across the optical recorders **320***a*-**320***c* and provide the calibration for compensation of the desired object **328**, i.e., in some circumstances, fixed calibration points near or on the desired object may replace the holographic calibration plates.

[0143] Referring now to FIG. **46**, a seventh exemplary embodiment of the three-dimensional calibration equipment **330** is depicted. The three-dimensional calibration equipment **330** includes optical recorders **332***a*-**332***c*, a remote light source **334**, and reference points **336***a*-**336***b* in the field of view of the desired object **338**. The three-dimensional calibration equipment **330** is applicable to applications that do not utilize the patterns of a fixed calibration plate, or in applications where specific reference points **336***a*-**336***c* can be illuminated by a remote light source **334** or self illuminated with calibration wavelengths. A holographic calibration plate is not required. What is required is only those elements of the three-dimensional calibration equipment **330** that separate the desired object wavelengths from calibration wavelengths. The calibration corrections are calculated from known points **336***a*-**336***c* illuminated by the calibration wavelengths for each of the optical recorders **332***a*-**332***c* and calibration corrections are applied to each object in each of the optical recorders **332***a*-**332***c*. This simplified calibration and compensation method is more likely to be employed in wide angle images that uniformly capture many fixed calibration sources and where the fixed points **336***a*-**336***c* are affixed to the desired object **338** or placed near stationary desired objects.

[0144] Referring now to FIG. **47**, an eighth exemplary embodiment of the three-dimensional calibration equipment **340** is depicted. The three-dimensional calibration equipment **340** includes a band stop filter **342**, optical recorders **344***a*-**344***c*, a light source **346**, and a holographic calibration plate **348**. Essentially, the band stop filter **342** is added to the calibration equipment **16**, which prevents the illumination wavelength(s) of intruding hologram source(s) **350** from traveling to the region in the vicinity of the desired object **352** via the region in the vicinity of the holographic calibration plate **348** and the optical recorders **344***a*-**344***c*. Such emanations from the intruding hologram source(s) **350** are