determining a corresponding position on the common holographic calibration pattern corresponding to each reference point;

determining the misalignment of the common holographic calibration pattern;

determining the correction factors as a function of position of the desired object relative to each of the at least two optical recorders; and

applying the correction factors to each of the at least two optical recorders.

63. The method of claim **62**, wherein said correction factors include shift, rotation and scaling in an orthogonal coordinate system as a function of position of the desired object in three-dimensional space.

64. An apparatus for calibrating a three-dimensional imaging system relative to a desired object illuminated by desired wavelengths, comprising:

acquiring means for acquiring an optical image of the desired object from at least two positions;

a holographic calibration plate placed between said acquiring means and the desired object; and

a light source of at least one of a set of calibration wavelengths for illuminating said holographic calibration plate so as to project at least one virtual calibration pattern in the field of view of said acquiring means and proximal to the desired object.

65. The apparatus of claim **64**, wherein said acquiring means is a single optical recorder that moves between a reference position and a displaced position.

66. The apparatus of claim **65**, wherein said single optical recorder is a three-dimensional camera.

67. The apparatus of claim **65**, wherein said single optical recorder is a two-dimensional camera.

68. The apparatus of claim **64**, wherein said acquiring means is at least two optical recorders, one of which is located at a reference position and another of which is located at a displaced position.

69. The apparatus of claim **68**, wherein said at least two optical recorders are three-dimensional cameras.

70. The apparatus of claim **68**, wherein said at least two optical recorders are two-dimensional cameras.

71. The apparatus of claim **64**, wherein said light source is placed on the side of said holographic calibration plate that contains the desired object.

72. The apparatus of claim **64**, wherein said light source is placed on the side of said holographic calibration plate that contains said acquiring means.

73. The apparatus of claim **64**, wherein said virtual holographic calibration pattern includes a multidimensional wireframe.

74. The apparatus of claim **64**, wherein said virtual holographic calibration pattern has a three dimensional shape.

75. The apparatus of claim **73**, wherein said multidimensional wireframe has an arbitrary shape and includes intersecting locations.

76. The apparatus of claim **75**, wherein said intersecting locations are labeled.

77. The apparatus of claim **76**, wherein said intersecting locations are labeled with numerals.

78. The apparatus of claim **64**, wherein said holographic calibration plate has multiple, superimposed holograms recorded at different calibration wavelengths.

79. The apparatus of claim **64**, wherein said holographic calibration plate has multiple holograms recorded at different calibration wavelengths and at different positions on said holographic calibration plate.

80. The apparatus of claim **75**, wherein illumination of said holographic calibration plate with different calibration wavelengths produces virtual calibration objects comprising multidimensional wireframes of arbitrary shape of varying levels of detail and displacement.

81. The apparatus of claim **64**, further comprising a mirror that is reflective to said calibration wavelengths but is transparent to said desired wavelengths, said mirror being placed in the field of view of said acquiring means.

82. The apparatus of claim **64**, wherein the desired object reflects the desired wavelengths, which are optically separable from said calibration wavelengths.

83. The method of claim **62**, wherein said step of applying correction factors is performed mechanically.

84. The apparatus of claim **64**, further including wavelength selection means for separating the desired wavelengths from said calibration wavelengths; calibration electronics for processing said calibration wavelengths and the desired wavelengths; a first memory for storing data related to said calibration wavelengths; and a second memory for storing data related to the desired wavelengths.

85. The apparatus of claim **84**, wherein said wavelength selection means includes wavelength selection filters to split color and spatial wavelengths to separate CCD arrays.

86. The apparatus of claim **84**, wherein said calibration electronics includes a band pass filter and a band stop filter.

87. The apparatus of claim **64**, further comprising a shutter interposed between said acquiring means and the desired object, said shutter being operable to produce an image of the desired object from said calibration wavelengths for at least one frame and an image of the desired object from the desired wavelengths for at least one other frame.

88. The apparatus of claim **64**, further comprising a material that is reflective of at least one of said calibration wavelengths and that may be applied to the desired object at predetermined points.

89. The apparatus of claim **64**, further comprising a laser pointer which illuminates a point on the desired object with one of said calibration wavelengths.

90. The apparatus of claim **64**, further comprising a laser ranging calibration device which illuminates a point on the desired object with one of said calibration wavelengths.

91. The apparatus of claim **64**, wherein said holographic calibration plate includes a plurality of holographic calibration plates, each of said plurality of holographic calibration plates containing the same recorded hologram.

92. The apparatus of claim **64**, wherein said field of view of said acquiring means includes at least three reference points that are illuminated at said calibration wavelengths.

93. The apparatus of claim **92**, further comprising a beam of light that illuminates said at least three reference points with said calibration wavelengths.

94. The apparatus of claim **64**, further comprising a band stop filter located between the desired object and said holographic calibration plate for preventing an illuminating wavelength from a hologram source from traveling to the vicinity of the desired object.