Claims:

[Claim 1] A dental imager for imaging an intraoral cavity, comprising:

an elongated handle having a proximal end and a distal end;

a head at the distal end of the elongated handle and having a size and shape for select insertion into the intraoral cavity;

at least one static lateral scanning arm projecting outwardly from and immovably coupled to the head, the at least one static lateral scanning arm having a scanner associated therewith for imaging at least a portion of the intraoral cavity; and

a guide having a size and shape for substantial continuous engagement with the intraoral cavity while simultaneously substantially biasing the scanner at a relatively consistent distance from the intraoral cavity.

[Claim 2] The dental imager of claim 1, wherein the at least one lateral scanning arm comprises a pair of static arcuate lateral scanning arms coupled to the head opposite each other.

[Claim 3] The dental imager of claim 2, wherein each of the pair of static arcuate lateral scanning arms includes a top scanner and a bottom scanner.

[Claim 4] The dental imager of claim 3, wherein the top scanners or the bottom scanners mount to the pair of static arcuate lateral scanning arms at an angle between 30 and 60 degrees and the other of the top scanners or the bottom scanners mount to the pair of static arcuate lateral scanning arms at an angle between 120 and 180 degrees.

[Claim 5] The dental imager of claim 2, including an activation sensor comprising an emitter in one of the pair of static arcuate lateral scanning arms and a detector in the other of the pair of static arcuate lateral scanning arms, the emitter and the detector being generally aligned such that a beam generated by the emitter is receivable by the detector during non-use and generally blocked by the intraoral cavity during use of the dental imager.

[Claim 6] The dental imager of claim 1, wherein the head comprises a rotating head coupled to the distal end of the elongated handle by a ball joint, thereby permitting simultaneous longitudinal, lateral, and/or vertical 360 degree movement relative thereto.

[Claim 7] The dental imager of claim 1, wherein the guide comprises a roller rotatably coupled to the head and configured to provide rolling support for the dental imager over the intraoral cavity or a pad having a surface permitting sliding movement over the intraoral cavity.

[Claim 8] The dental imager of claim 7, including at least one central scanner mounted to the head and having a height relatively less than the roller or the pad.

[Claim 9] The dental imager of claim 1, wherein the guide comprises a lateral roller guide or a lateral pad coupled to one end of the at least one static arcuate lateral scanning arm at an angle of about 30-45 degrees relative thereto.

[Claim 10] The dental imager of claim 9, wherein the lateral roller guide couples about an axis formed to an interior of the at least one static arcuate lateral scanning arm.

[Claim 11] The dental imager of claim 1, including a front medial scanning arm and a rear medial scanning arm coupled to the head.

[Claim 12] The dental imager of claim 11, wherein the scanning arms couple to the head by a hinge, a spring, a resilient elastic material, a multi-axial pivot, or a ball joint.

[Claim 13] The dental imager of claim 1, wherein the head includes a front angled platform carrying a front scanner at an angle between 30 and 60 degrees and a rear angled platform carrying a rear scanner at an angle between 30 and 60 degrees.

[Claim 14] The dental imager of claim 13, wherein the guide comprises a front pad coupled to the front angled platform above the front scanner and a rear pad coupled to the rear angled platform above the rear scanner.

[Claim 15] The dental imager of claim 1, including a communication circuit integral with the elongated handle and in communication with the at least one scanner for selectively transmitting imaging data of the intraoral cavity.

[Claim 16] The dental imager of claim 15, wherein the communication circuit comprises a wireless transmitter, a USB connector, or a fiber optic connector.

[Claim 17] The dental imager of claim 1, wherein the head pivots relative to the elongated handle by way of a handle bellow or a ball joint.

[Claim 18] The dental imager of claim 1, wherein the at least one scanner is selected from the group consisting of a time of flight (ToF) scanner, a stereoscopic vision scanner, a light field moment imaging scanner, a fixed structured light scanner, a programmable structured light (DLP) scanner, a 3D or 4D ultrasound scanner, a digital camera scanner, a light emitting diode (LED) scanner, and a laser scanner.

[Claim 19] The dental imager of claim 1, wherein the head is exchangeable with the elongated handle.

[Claim 20] The dental imager of claim 1, including a front pad and a rear pad mounted to the head, wherein the at least one static arcuate lateral scanning arm comprises a pair of static arcuate lateral scanning arms immovably coupled to the head, each including one of the scanners.