What is claimed is:

[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;

a pair of static lateral scanning arms immovably coupled to the head opposite each other, each including a top scanner and a bottom 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] 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;

a pair of static arcuate lateral scanning arms immovably coupled to the head and generally projecting outwardly opposite one another, each having a scanner associated therewith for imaging at least a portion of the intraoral cavity;

a central roller rotatably coupled to the head and configured to provide rolling support for the dental imager over the intraoral cavity; and

a lateral roller guide coupled to each of the pair of static arcuate lateral scanning arms at an angle of about 30-45 degrees relative thereto, each of the central roller and each lateral roller guide having a size and shape for substantial continuous engagement with the intraoral cavity while simultaneously substantially biasing the scanners at a relatively consistent distance from the intraoral cavity.

[Claim 3] 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 and pivotable relative to the elongated handle by way of a handle bellow or a ball joint, the head having a size and shape for select insertion into the intraoral cavity;

a pair of static lateral scanning arms positioned generally opposite one another and immovably associated with the head of the elongated handle, each static lateral scanning arm including a scanner associated therewith for imaging at least a portion of the intraoral cavity;

a lateral pad coupled to each of the pair of flexible lateral scanning arms at an angle of about 30-45 degrees relative thereto; and

a medial pad coupled to the head and configured to provide sliding support for the dental imager over the intraoral cavity, the lateral pads and the medial pad having a size and shape for substantial continuous engagement with the intraoral cavity while simultaneously substantially biasing the scanners at a relatively consistent distance from the intraoral cavity.

[Claim 4] A dental imager for imaging an intraoral cavity, comprising:

an elongated handle;

a head at one end of the elongated handle;

a pair of static arcuate lateral scanning arms outwardly projecting from the elongated handle in immovable relation relative thereto, each having a top scanner and a bottom scanner associated therewith for imaging at least a portion of the intraoral cavity;

a front angled platform associated with the head and carrying a front scanner at an angle between 30 and 60 degrees and a rear angled platform associated with the head and carrying a rear scanner at an angle between 30 and 60 degrees; and

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

[Claim 5] 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 having a size and shape for select insertion into the intraoral cavity;

a pair of static arcuate lateral scanning arms immovably coupled to the head opposite each other, each of which includes a scanner associated therewith for imaging at least a portion of the intraoral cavity;

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 when the dental imager is outside the intraoral cavity and generally blocked when inside the intraoral cavity; and

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

[Claim 6] A dental imager for imaging an intraoral cavity, comprising:

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

a rotating head coupled to the distal end of the elongated handle by a ball joint permitting simultaneous longitudinal, lateral, and/or vertical 360 degree movement of the rotating head relative to the elongated handle, the rotating head including a platform having at least one static lateral scanning arm immovably coupled thereto with 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 7] 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 the head of the elongated handle in immovable relation relative thereto and 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, 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] 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 9] The dental imager of claim 8, wherein the at least one static lateral scanning arm comprises a pair of static arcuate lateral scanning arms coupled to the head opposite each other.

[Claim 10] The dental imager of claim 8, 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 11] The dental imager of claim 8, wherein the guide comprises a lateral roller guide or a lateral pad coupled to one end of the at least one lateral scanning arm at an

angle of about 30-45 degrees relative thereto and about an axis permitting rotation relative thereto.

[Claim 12] The dental imager of claim 8, including an arcuate front scanning arm and an arcuate rear scanning arm coupled to the head about by a hinge, a spring, a resilient elastic material, a multi-axial pivot, or a ball joint.

[Claim 13] The dental imager of claim 8, 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 8, including a communication circuit integral with the elongated handle and in communication with the scanner for selectively transmitting imaging data of the intraoral cavity.

[Claim 16] The dental imager of claim 8, wherein the head pivots relative to the elongated handle by way of a handle bellow or a ball joint, the 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, and the head detaches from the elongated handle.

[Claim 17] The dental imager of claim 8, including a front pad and a rear pad mounted to the head, wherein the at least one static lateral scanning arm comprises a pair of static scanning arms immovably coupled to the head, each including one of the scanner.

[Claim 18] 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 the head of the elongated handle in immovable relation relative thereto and having a scanner associated therewith for imaging at least a portion of the intraoral cavity; and

a lateral roller guide or a lateral pad coupled to one end of the at least one lateral scanning arm at an angle of about 30-45 degrees relative thereto and 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 19] 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 having a size and shape for select insertion into the intraoral cavity;

a front medial scanning arm and a rear medial scanning arm coupled to the head;

at least one static lateral scanning arm projecting outwardly from the head of the elongated handle in immovable relation relative thereto and 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 20] 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 having a size and shape for select insertion into the intraoral cavity, the head including 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;

at least one static lateral scanning arm projecting outwardly from the head of the elongated handle in immovable relation relative thereto and 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 scanners at a relatively consistent distance from the intraoral cavity.

[Claim 21] A dental imager for imaging an intraoral cavity, comprising:

a handle coupled to a head having a size and shape for select insertion into the intraoral cavity;

a pair of static lateral scanning arms immovably coupled to the head or the handle and positioned opposite each other, each of the pair of static lateral scanning arms including a top scanner and a bottom scanner associated therewith for imaging at least a portion of the intraoral cavity; and

a guide having a size and shape for engagement with the intraoral cavity while simultaneously biasing the top scanner and the bottom scanner from the intraoral cavity as the dental imager moves relative to the intraoral cavity during imaging.

[Claim 22] A dental imager for imaging an intraoral cavity, comprising:

a handle coupled to a head having a size and shape for select insertion into the intraoral cavity;

a front medial scanning arm or a rear medial scanning arm coupled to the head or the handle;

at least one static lateral scanning arm projecting outwardly from the head or the handle in immovable relation relative thereto and having a scanner associated therewith for imaging at least a portion of the intraoral cavity; and

a guide having a size and shape for engagement with the intraoral cavity while simultaneously substantially biasing the scanner from the intraoral cavity as the dental imager moves relative to the intraoral cavity during imaging.

[Claim 23] A dental imager for imaging an intraoral cavity, comprising:

a handle having a proximal end and a distal end;

a head coupled to the handle and having a size and shape for select insertion into the intraoral cavity;

a pair of static scanning arms immovably coupled to the head or the handle, wherein each static scanning arm of the pair of static scanning arms has a scanner associated therewith for imaging at least a portion of the intraoral cavity;

a front pad and a rear pad mounted to the head or the handle; and

a guide having a size and shape for engagement with the intraoral cavity while simultaneously substantially biasing the scanner from the intraoral cavity as the dental imager moves relative to the intraoral cavity during imaging.