ABSTRACT OF THE INVENTION

An oral imaging system and method for acquiring dental impression scans is provided by having one or more imaging strips with illumination elements and imaging sensors that are positioned along the contour of the various surfaces of a dental tray and acquire images of the lips, teeth, and gum regions of a mouth. Fluid channels interconnecting a vacuum source or pressurized air source to openings near the imaging sensors on the dental tray are provided to reduce condensation on the imaging sensors. An extraoral extension may also be provided to acquire images of the exterior region of the lips. Furthermore, two dental trays of the present invention may be stacked together so that the entire mouth may be scanned at one time. A ramp is provided on the lower dental tray in the stacked configuration for acquiring relative jaw positions.