



LMI TECHNOLOGIES

ENGINEERING POSSIBILITIES

HDI 109 Advanced 3D Scanning Systems

SEAMLESS & COST-EFFECTIVE DENTAL SCANNING SYSTEM DESIGN

The HDI 109 3D scanner is designed specifically to give dental laboratories control over designing their own systems and devices, including integrated and embedded 3D scanning capabilities for scanning small parts. With the HDI 109 dental labs can process their patients' dental molds much more efficiently and accurately; acquiring precise measurements of dental impressions for use in the production of orthodontics (braces, retainers, and mouthguards), dental prosthetics (bridges and crowns) and more.





The HDI 109 is the smallest, most advanced 3D scanning solution on the market. Using stereo camera construction and blue LED projection technology, it delivers high-resolution 3D scanning capabilities for even the most demanding dental applications.

REDUCING TIME-TO-MARKET

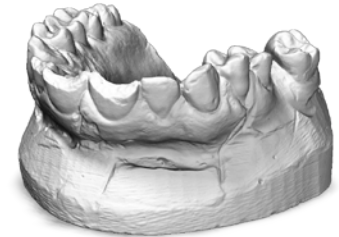
The HDI 109 is fully customizable and delivers a seamless 3D scanning experience — from acquisition to post-processing — generating complete digital 3D models in just minutes. By using the HDI 109, companies save valuable R&D resources and budget, which allows them to focus on their core strengths rather than having to develop 3D scanning technologies internally. This speeds up time-to-market and ensures their products reach the consumer faster and at lower production costs.

FLEXIBLE & EASY-TO-INTEGRATE DESIGN

Many dental labs have to create dental scanners by designing and building an enclosure that houses the dental impression and the scanning engine. The HDI 109 eliminates this hassle with a compact design that can easily fit into confined spaces and embed into existing machines. It also comes pre-calibrated and integration-ready to produce repeatable scanning results right out-of-the-box. Easy to setup, it can scan small parts down to 34 microns at resolutions of 985,000 points and 1.97 million polygons, all at an incredibly fast speed of 0.3 seconds per scan. With single scanner systems, technicians can incorporate a rotary table into the design of the enclosure to allow the entire target to be scanned; or, to reduce scan time, they can network multiple scanners to eliminate the need for motion control.

ROBUST DATA COLLECTION

The HDI 109 is powered by FlexScan3D software. Labs use the convenient SDK (Software Development Kit) to collect data through custom-written software that interfaces with FlexScan3D. The SDK's functions and software engine's commands control every step of the scanning and modeling process, including initialization of the scanner, capture, alignment, combination and finalization. The resulting 3D model is then retrieved, typically in STL format, but the HDI 109 can also output to a variety of formats (PLY, OBJ, STL, ASC, FBX) to accommodate different dental systems.



EXCEPTIONAL SCAN RESULTS

Once the 3D model of the dental impression has been retrieved, the data must be interpreted to identify features that will be measured. This can be done with user-created software or with commercially available dental CAD software. Measurements of the model are then used to design the required dental devices and to determine its proper placement in the patient's mouth.



HDI 109 OEM OPTION

The HDI 109 OEM offers all the power of the standard HDI 109 but with an ultra-compact commercial 2-pin Terminal Strip Connector design and gasketed aluminum enclosure created specifically for the demanding real-world applications of our OEM partners.

To learn more about designing Cost-Effective Dental Scanning Systems using the HDI 109 3D Scanner, please email us at contact@lmi3d.com

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