

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

VISUAL CONTENT IP, LLC,)	
)	
Plaintiff,)	
)	Civil Action No. 1:17-cv-01193-JFB-SRF
v.)	
)	JURY TRIAL DEMANDED
DENTSPLY SIRONA INC.,)	
)	
Defendant.)	
_____)	

AMENDED COMPLAINT

Plaintiff Visual Content IP, LLC (“Visual Content”), brings this civil action against Defendant Dentsply Sirona Inc. (“Dentsply Sirona” or “Defendant”) for patent infringement. For its Complaint, Visual Content, by and through its undersigned counsel, alleges as follows:

THE PARTIES

1. Plaintiff Visual Content is a Texas limited liability company with a place of business located at 1400 Preston Road, Suite 487, Plano, Texas 75093.

2. Upon information and belief, Dentsply Sirona is a Delaware corporation maintaining a place of business at Susquehanna Commerce Center, 221 W. Philadelphia Street, Suite 60W, York, PA 17401.

JURISDICTION AND VENUE

3. This action arises under the Patent Act, 35 U.S.C. § 1 *et seq.*

4. Subject matter jurisdiction is proper in this Court under 28 U.S.C. §§ 1331 and 1338.

5. Venue is proper in this district pursuant to §§ 1391(b), (c) and 1400(b) because Dentsply Sirona is incorporated in Delaware.

FACTUAL BACKGROUND

THE PATENTS-IN-SUIT

6. This action seeks redress for the infringement of 3 patents. These are United States Patents No. 8,693,047 (the “’047 patent”), No. 8,786,897 (the “’897 patent”), and No. 9,591,167 (the “’167 patent”) (collectively the “Visual Content Patents”).

7. The ’047 patent – entitled “Image Capture Unit and Computer Readable Medium Used in Combination with Same” – was duly and lawfully issued by the U.S. Patent and Trademark Office on Feb. 26, 2013. A true and correct copy of the ’047 patent is attached hereto as Exhibit A.

8. The ’897 patent – entitled “Image Capture Unit and Computer Readable Medium Used in Combination with Same” – was duly and lawfully issued by the U.S. Patent and Trademark Office on July 22, 2014. A true and correct copy of the ’897 patent is attached hereto as Exhibit B.

9. The ’167 patent – entitled “Image Capture Unit and Computer Readable Medium Used in Combination with Same” – was duly and lawfully issued by the U.S. Patent and Trademark Office on March 7, 2017. A true and correct copy of the ’167 patent is attached hereto as Exhibit C.

10. The Visual Content Patents claim particular systems and methods comprising scanners or methods for scanning that assemble scanned image tiles into coherent composite images. More specifically, the Visual Content Patents disclose and claim inventions that are improvements over conventional scanners. Although conventional scanners utilize some captured image data and some captured position indicating data, the techniques and methods utilized in conventional scanners often resulted in poor quality images, including inaccurate, incomplete and/or blurred

images. The scanners and scanning techniques disclosed in the Visual Content Patents utilize captured image data and captured position indicating data in an unconventional matter, resulting in images that are of a higher quality than those generated by conventional scanners. Among other things, the inventions claimed in the Visual Content Patents disclose not only improved techniques for scanning and joining adjacent images on a scan path, but also include utilizing image and position data to take image tiles from various parts of multiple scans to stitch together a more coherent and refined final image, without having to retake the entire scan. Additionally, the inventions claimed in the Visual Content Patents disclose an unconventional scanning method that, for example, prevents the duplication of image tiles when visual content is rescanned by using position indicating data associated with the image tiles.

11. The inventors named on each of the Visual Content Patents are Albert Durr Edgar, Michael Charles Wilder, Darryl Ray Polk, Michael David Wilkes, Sheppard Parker, Martin Potucek (“Inventors”). The Inventors were all employed by the original assignee of the Visual Content Patents, Image Trends, Inc., (“Image Trends”) a company that was based in Austin, Texas, at the time they developed the inventions claimed in the Visual Content Patents. Image Trends provided software, hardware, professional services and system design services, including digital image processing applications, and its technology has been incorporated in a wide range of products.

12. The Visual Content Patents also have been licensed to a number of companies in several technological fields including smartphone applications that support panoramic images, computer mice with scanning functionality, and handheld scanners.

13. Visual Content is the assignee and owner of the right, title and interest in and to the Visual Content Patents, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

ACCUSED INSTRUMENTALITIES

14. Dentsply Sirona has made, had others make, used, imported, offered for sale, and/or sold certain panoramic dental imaging devices and associated applications, including the Galileos Comfort Plus, the Orthophos SL, and the Orthophos XG, and any other similar scanners and/or including the SIDEXIS 4 and/or SIDEXIS XG software and any other similar software, which assemble scanned image tiles into coherent composite images using position data in an unconventional manner that infringes the Visual Content Patents (“the Accused Dentsply Sirona Products”).

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 8,693,047

15. Visual Content repeats and realleges the allegations of paragraphs 1 through 14 as if fully set forth herein.

16. Without license or authorization and in violation of 35 U.S.C. § 271(a), Dentsply Sirona has infringed at least claim 6 of the ‘047 patent by making, having made, using, importing, offering for sale, and/or selling scanners that assemble scanned image tiles into coherent composite images using position data in an unconventional manner that infringes the Visual Content Patents, including the Accused Dentsply Sirona Products. The following is a representative description of how the Accused Dentsply Sirona Products infringe representative Claim 6 of the ‘047 Patent. This description is made without benefit of access to the software and schematics describing the Accused Dentsply Sirona Products, which would allow for greater

specificity in identifying the particular features of the Accused Dentsply Sirona Products that embody the claimed inventions.

17. More specifically, each of the Accused Dentsply Sirona Products meets all the limitations of Claim 6 as each comprises:

a. an image capture unit, as shown in Figure 18-a:

Figure 18-a (source: <https://www1.dentsplysirona.com/en/products/imaging-systems/extraoral-imaging/2d-3d-hybrid-units/orthophos-sl-3d.html>)

2D/3D hybrid unit	Orthophos SL 3D
Tubehead	
X-ray generator	60-90 kV; 3-16 mA
Focal spot size acc. to IEC 60336	0.5 mm
Total filtration acc. to IEC 60522	> 2.5 mm Al

2D Imaging	
Sensor	Digital Cadmium-Telluride (CdTe) sensor with Direct Conversion Sensor (DCS) technology
Active sensor area	146 x 6 mm
Pixel size	100 µm
Focus-sensor distance	524 mm

3D Imaging	
Sensor	Digital Flat Panel detector
Active sensor area	160 x 160 mm
Voxel size	80 µm - 220 µm
Focus-sensor distance	524 mm
Fields of View	ø5x5.5 cm, ø8x8 cm, ø11x10 (optional)
Effective dose (Ludlow)	Low dose: 3µSv - 20 µSv; Standard definition (SD): 23µSv - 145µSv; High definition (HD): 57 µSv - 273 µSv

b. that includes a sensor system for generating a plurality of position indicating data instances, as shown in Figure 18-b:

Figure 18-b (source: <http://www.sirona3d.com/orthophos-sl-3d>)



18. Further, the image capture unit includes
 - a. a data processing arrangement (see Figures 19-a) configured for deriving from at least one of the position indicating data instances a position of the image

capture unit at a point in time when a captured image data instance was one of initiated, completed, and partially completed, as shown in 19-b:

Figure 19-a (source: <http://www.sirona3d.com/>)

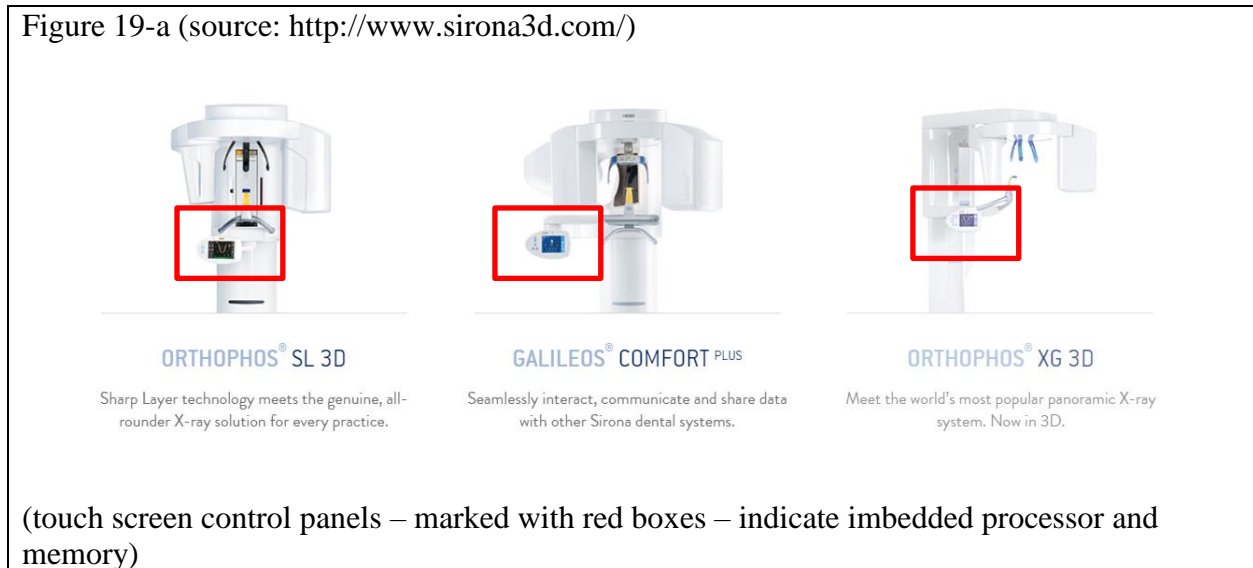
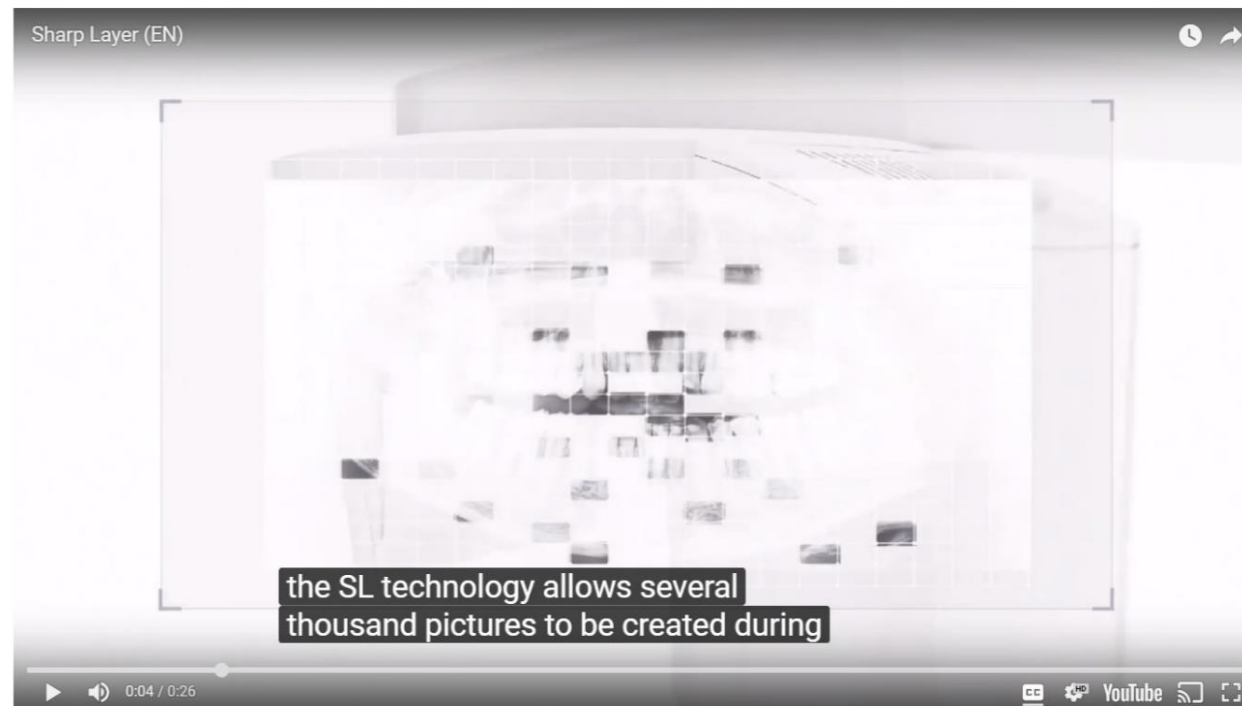


Figure 19-b (source: <https://www1.dentsplysirona.com/en-us/solutions/topics/be-safe-see-more/2D-X-rays/sharp-layer.html>)





- b. wherein deriving the position of the image capture unit includes interpolating the position of the image capture unit from at least one of the said position indicating

data instances generated prior to a point in time when the captured image data instance was one of initiated, completed, and partially completed and at least one of said position indicating data instances generated after the point in time when the captured image data instance was one of initiated, completed, and partially completed, as shown in Figure 19-c

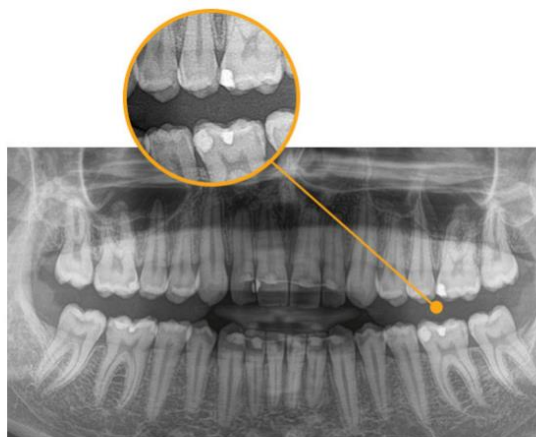
Figure 19-c (source: <http://www.sirona3d.com/orthophos-sl-3d>; <https://www.youtube.com/watch?v=MkFjNoBa1cc> at 0:51

SHARP LAYER(SL) TECHNOLOGY

Sharp Layer Technology allows you to generate several thousand images during a single rotation. The fragments with the best focus are automatically combined to form one X-ray image with incomparable sharpness. High resolution images of the entire jaw - every time.

You will be able to approach special cases, such as impacted teeth, with ease. Interactive SL allows you to define an image area of your choice even after imaging, so you can focus on lingual/buccal objects - without corrective re-imaging.

Interactive SL allows for subsequent lingual / buccal object focusing without the need for a second X-ray.



- c. On information and belief, Sirona's Sharp Layer feature interpolates the position of image tiles based on the position indicating data associated with the image tile. The relative position of the image capture unit is determined by comparing position data before, during, and/or after an image capture event. A Sirona 3D X-Ray System captures an image by capturing multiple layers of images based on position data generated by the rotating unit, fragmenting the images, and then selecting and compiling the best fragments to create one panoramic image.

19. Visual Content is entitled to recover from Defendant the damages sustained by Visual Content as a result of Defendant's infringement of the '047 patent in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 8,786,897

20. Visual Content repeats and realleges the allegations of paragraphs 1 through 19 as if fully set forth herein.

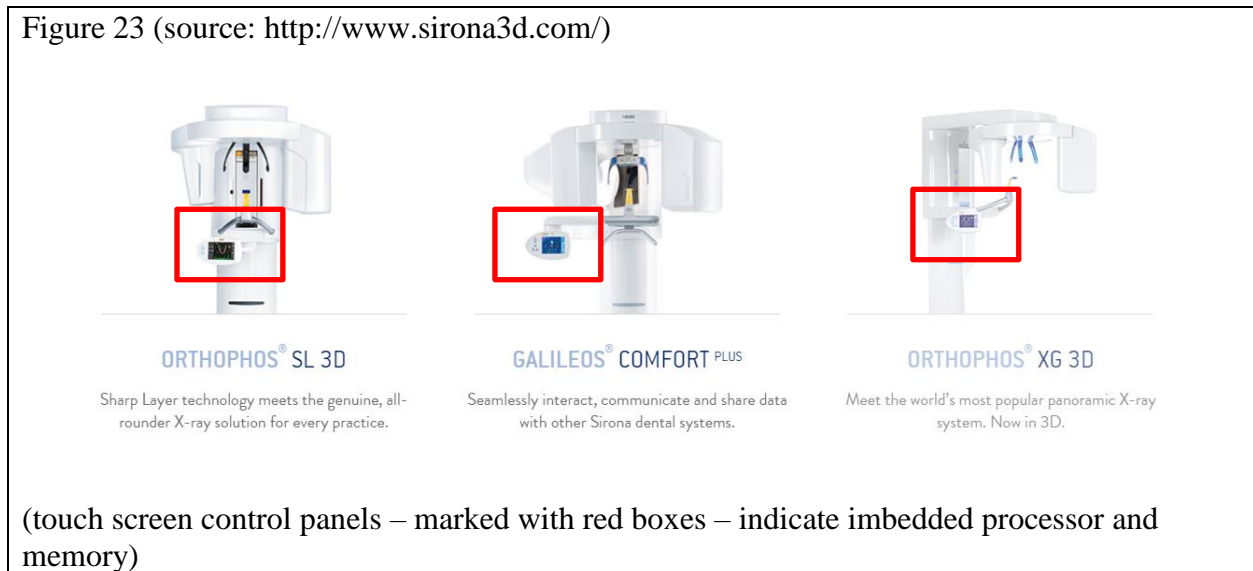
21. Without license or authorization and in violation of 35 U.S.C. § 271(a), Dentsply Sirona has infringed at least claim 1 of the '897 patent by making, having made, using, importing, offering for sale, and/or selling scanners that assemble scanned image tiles into coherent composite images using position data in an unconventional manner that infringes the Visual Content Patents, including the Accused Dentsply Sirona Products. The following is a representative description of how the Accused Dentsply Sirona Products infringe representative Claim 1 of the '897 Patent. This description is made without benefit of access to the software and schematics describing the Accused Dentsply Sirona Products, which would allow for greater

specificity in identifying the particular features of the Accused Dentsply Sirona Products that embody the claimed inventions.

22. Claim 1 of the '897 patent discloses:

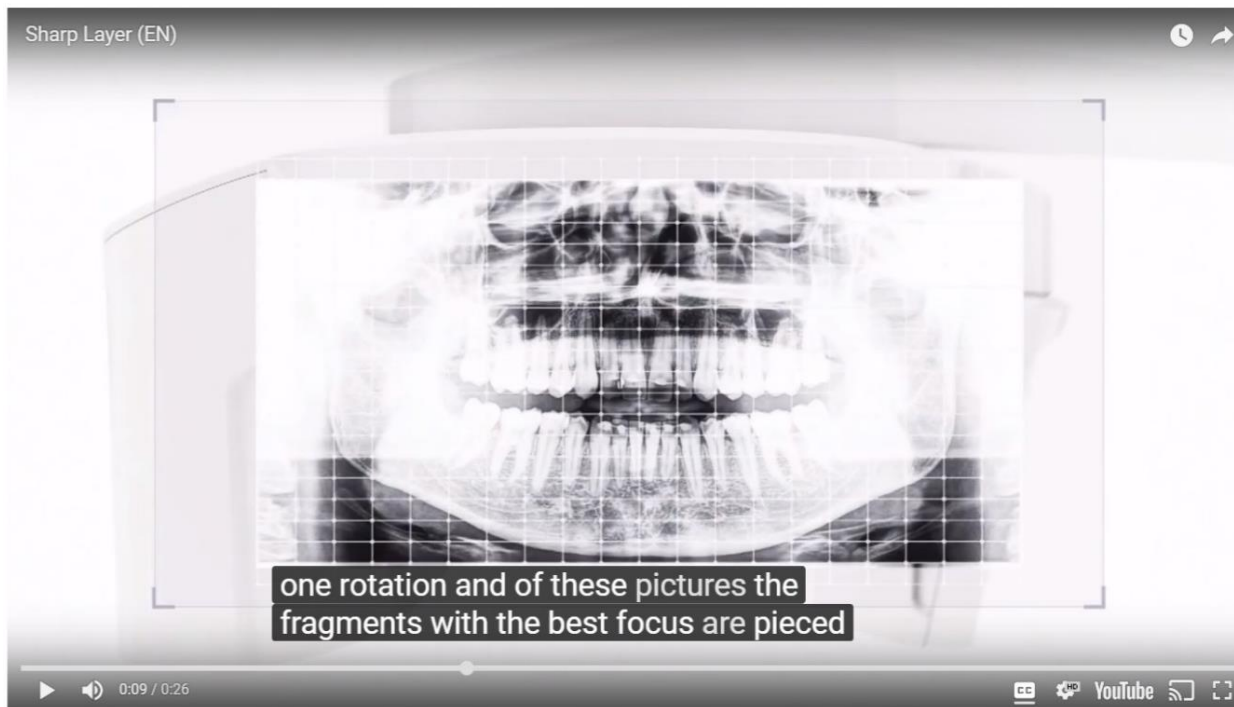
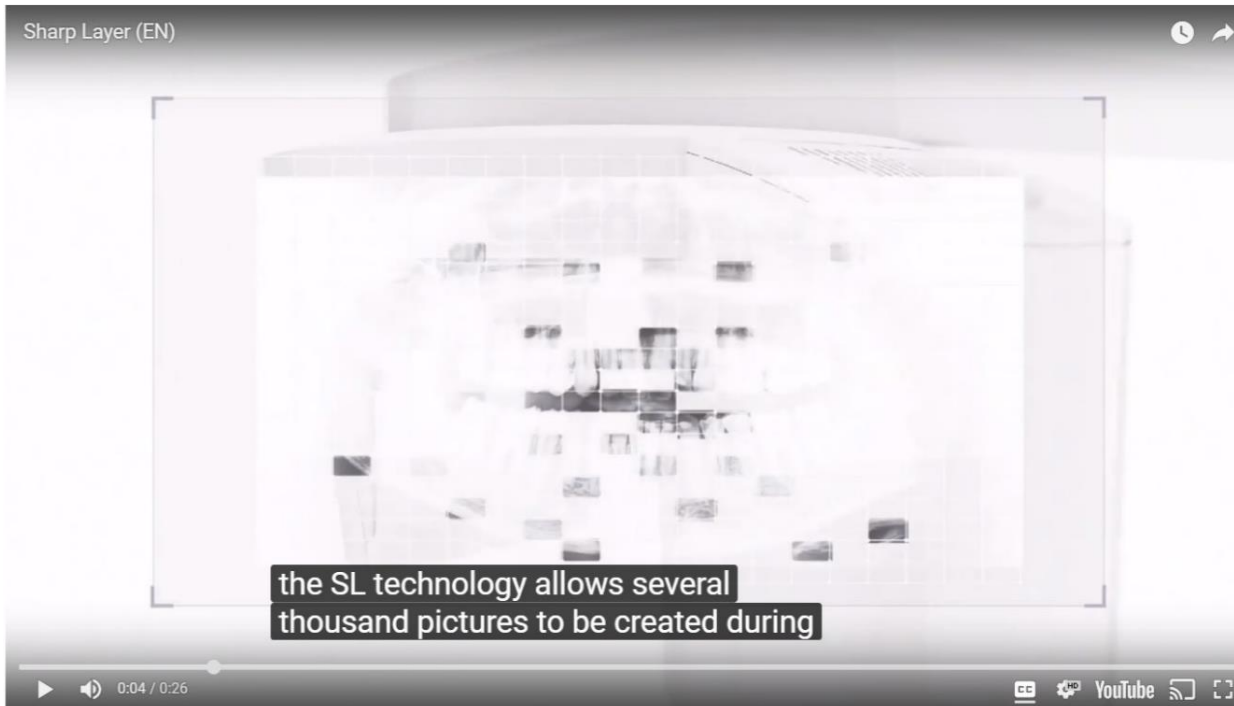
- a. A non-transitory computer-readable medium having computer-executable instructions accessible therefrom, said computer-executable instructions configured for controlling at least one processor to perform a method of processing information generated by an image capture unit, said computer-executable instructions comprising operations for:
- b. processing sensor data received from the image capture unit, wherein said sensor data includes a plurality of image tiles and position indicating data defining a relative position of a respective one of said image tiles, wherein at least a portion of said image tiles includes data representing a discrete portion of visual content;
- c. displaying a feedback image derived using said data representing the discrete portion of said visual content of at least a portion of said image tiles, wherein displaying the feedback image includes displaying the discrete portion of said visual content of at least a portion of said image tiles in response to at least a portion of said image tiles being generated and wherein displaying the discrete portion of said visual content includes correlating the relative position of a particular one of said image tiles with at least one other image tile that has been previously generated and displayed.

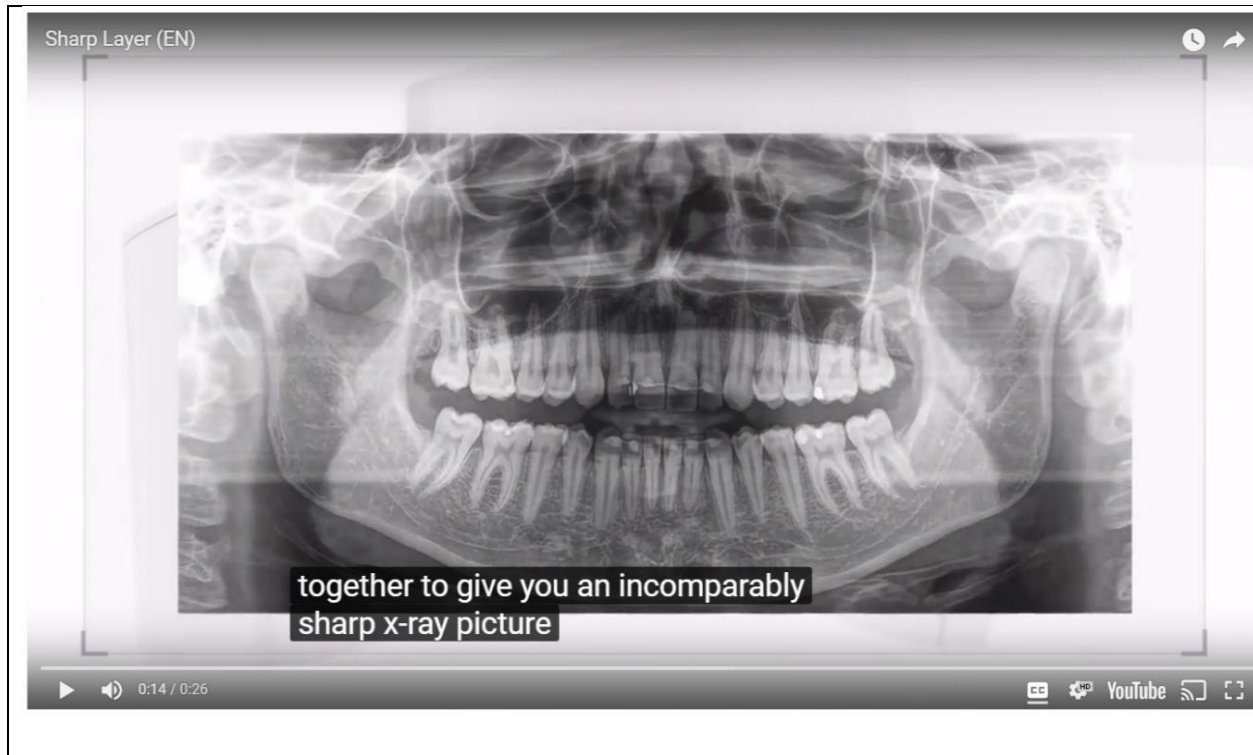
23. More specifically, the each of Accused Dentsply Sirona Products meets all the limitations of Claim 1 as each feature a non-transitory computer-readable medium having computer-executable instructions accessible therefrom, said computer executable instructions configured for controlling at least one processor to perform a method of processing information generated by an image capture unit, as show in Figure 23 below:



24. Further the computer-executable instructions comprise operations for processing sensor data received from the image capture unit, wherein said sensor data includes a plurality of image tiles and position indicating data defining a relative position of a respective one of said image tiles, wherein at least a portion of said image tiles includes data representing a discrete portion of visual content, as shown in Figure 25

Figure 25 (source: <https://www1.dentsplysirona.com/en-us/solutions/topics/be-safe-see-more/2D-X-rays/sharp-layer.html>)





25. The computer-executable instructions also comprise operations for displaying a feedback image derived using said data representing the discrete portion of said visual content of at least a portion of said image tiles, as shown in Addendum to User Manual “Sidexis 4 User Manual”: Orthophos SL Panorama Editor, attached hereto as Exhibit D, at p. 9-16).

26. The displaying of the feedback image includes displaying the discrete portion of said visual content of at least a portion of said image tiles in response to at least a portion of said image tiles being generated and wherein displaying the discrete portion of said visual content includes correlating the relative position of a particular one of said image tiles with at least one other image tile that has been previously generated and displayed, as shown in Addendum to User Manual “Sidexis 4 User Manual”: Orthophos SL Panorama Editor, attached hereto as Exhibit D, at p. 9-16).

27. Visual Content is entitled to recover from Defendant the damages sustained by Visual Content as a result of Defendant's infringement of the '897 patent in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 9,591,167

28. Visual Content repeats and realleges the allegations of paragraphs 1 through 27 as if fully set forth herein.

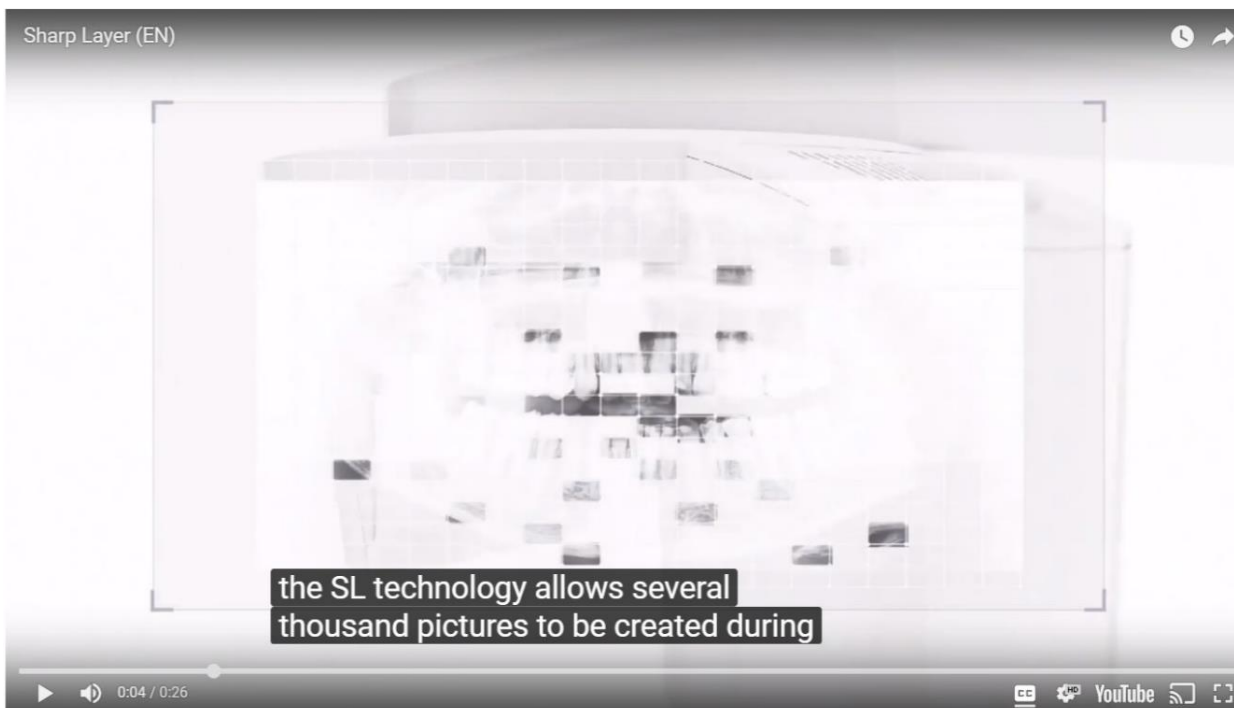
29. Without license or authorization and in violation of 35 U.S.C. § 271(a), Dentsply Sirona has infringed at least claims 1 and 11 of the '167 patent by making, having made, using, importing, offering for sale, and/or selling scanners that assemble scanned image tiles into coherent composite images using position data in an unconventional manner that infringes the Visual Content Patents, including the Accused Dentsply Sirona Products. The following is a representative description of how the Accused Dentsply Sirona Products infringe representative Claims 1 and 11 of the '167 Patent. This description is made without benefit of access to the software and schematics describing the Accused Dentsply Sirona Products, which would allow for greater specificity in identifying the particular features of the Accused Dentsply Sirona Products that embody the claimed inventions.

30. More specifically, each of the Accused Dentsply Sirona Products meets all the limitations of Claim 1 as each comprises a computer readable medium that:

- a. includes at computer-executable instructions for performing a method of processing sensor data generated by an image capture unit, as shown in Figure 31-ae below;

- b. the computer-executable instructions comprising processor-executable operations for processing sensor data received from an image capture unit to produce processed sensor data, as shown in Figure 31-ae;
- c. wherein the sensor data received from the image capture unit includes a plurality of image tiles and position indicating data, as shown in Figure 31-ae;
- d. at least one of the image tiles includes a discrete portion of visual content, as shown in Figure 31-ae;
- e. the processed sensor data comprises at least portions of one or more of said image tiles, as shown in Figure 31-ae;

Figure 31-ae (source: <https://www1.dentsplysirona.com/en-us/solutions/topics/be-safe-see-more/2D-X-rays/sharp-layer.html>)





- f. displaying a feedback image using at least a portion of the processed sensor data by correlating a relative position of one of said image tiles included in the processed sensor

data with at least one other image tile included in the processed sensor data, as shown in Addendum to User Manual “Sidexis 4 User Manual”: Orthophos SL Panorama Editor, attached hereto as Exhibit D, at p. 9-16).

- g. modifying the processed sensor data according to input from a user and updating the feedback image according to the modification, as shown in Exhibit D, p. 9-16).

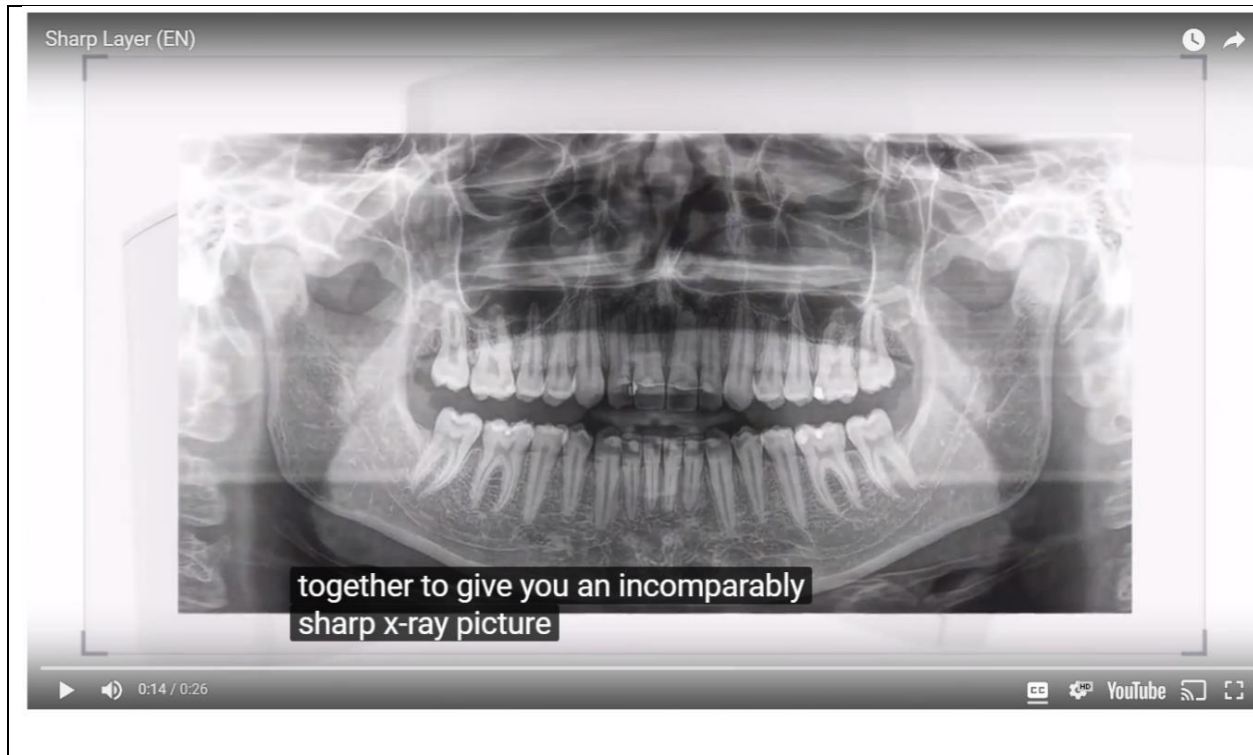
31. Each of the Accused Dentsply Sirona Products also meets all the limitations of Claim

11 as each comprises a system that:

- a. includes an image capture unit which is communicably coupled to a controller that includes a software-configurable processor and a memory storing processor-executable to control the processor in order to process sensor data generated by the image capture unit, as shown in figure 32-af;
- b. sensor data received from the image capture unit is processed to produce processed sensor data;
- c. the sensor data received from the image capture unit includes a plurality of image tiles and position indicating data;
- d. at least one of the image tiles includes a discrete portion of visual content;
- e. the processed sensor data comprises at least portions of one or more of said image titles;
- f. the system provides for display a feedback image using at least a portion of the processed sensor data by correlating a relative position of a particular one of said image tiles included in the processed sensor data with at least one other image tile included in the processed sensor data; and

Figure 32-af (source: https://www1.dentsplysirona.com/en-us/solutions/topics/be-safe-see-more/2D-X-rays/sharp-layer.html)





g. making modifications to the processed sensor data according to input from a user and updating the feedback image according to the modifications, see Exhibit D at p. 9-16.

32. Visual Content is entitled to recover from Defendant the damages sustained by Visual Content as a result of Defendant's infringement of the '167 patent in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

JURY DEMAND

Visual Content hereby demands a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Visual Content requests that this Court enter judgment against Defendant as follows:

- A. An adjudication that Defendant has infringed each of the Visual Content Patents;
- B. An award of damages to be paid by Defendant adequate to compensate Visual Content for Defendant's past infringement of the Visual Content Patents through the earlier of the date of judgment or the expiration of the last to expire of the Visual Content Patents, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;
- C. An injunction precluding Defendant's further infringement of the Visual Content Patents;
- D. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Visual Content's reasonable attorneys' fees; and

c

E. An award to Visual Content of such further relief at law or in equity as the Court decides is just and proper.

Dated: November 14, 2017

STAMOULIS & WEINBLATT LLC

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