Helios10 MD

Large Area Digital X-Ray Panel

High performance, cost-efficient CMOS X-ray panel for medical imaging applications

The Helios X-ray panel is based on Teledyne DALSA's proprietary Very Large Area (VLA) CMOS technology. The Helios10 MD features a large active imaging area of 20x25 cm while maintaining superb image resolution with a pixel size of only 96 μm. The active-pixel CMOS photodiode array at the core of the panel consists of over five million individual pixels that convert light emitted by the integrated scintillator screen into electrical signal. The panel's low-noise, 14-bit digital output produces crisp, sharp images ideal for medical radiography applications.

Helios10 MD is the first CMOS X-ray panel in the market of this size and form factor, a medical-grade cassette package with an integrated handle with an optional Ethernet fiber optic interface for improved electrical isolation and patient safety.

Key Features

- Active image area of 8x10"
- Superior resolution of 5.2 lp/mm; over 5 million pixels on 96 μm centers
- State-of-the-art GigE interface
- Active pixel CMOS
- 14-bit digitization
- Rugged molded plastic housing
- Ready-to-run software and drivers

Typical Applications

- General Radiography, Mobile DR
- Pediatric Radiology
- Bone Densitometry

Specifications

	Typical
Resolution	2000x2560
Active Area	192x246
Pixel Pitch	96
Dark Current (23°C) [1]	60
Read Noise (rms, at 1 fps)	2
Dynamic Range	78
Conversion Gain [2]	350
Frame Rate	
Supply Voltage	6.5
Supply Current	
Power Dissipation	<10
Operating Temperature	
Humidity (non-condensing)	
Dimensions (LxWxH)	355x285x24
Weight	3.0

[1] Dark current doubles approx. every 8°C
[2] High-gain option (2x) available

Certifications

The panel complies with FCC and CE regulations on radiated emissions and immunity to radiation.

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Resolution and Sensitivity

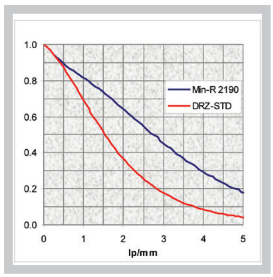
The intrinsic resolution of the detector within the Helios10 MD panel is determined by the pixel size of the sensor. The DQE curve to the right was measured for a 28 kVp W spectrum at a dose level of 100μGy, using a Kodak Min-R 2190 scintillator.

Portability

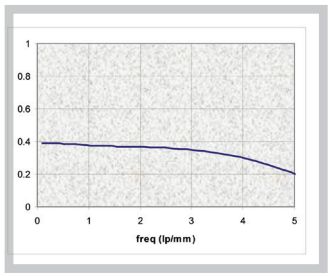
The Helios10 MD is it ideal for portable imaging applications. The custom-molded housing weighs less than 3 kg and features an integrated handle. With a power consumption of < 10 Watts, the panel runs off a standard AC power adapter or battery and connects to a laptop or PC via standard gigabit Ethernet or an optional fiber-optic interface.

Supporting Software

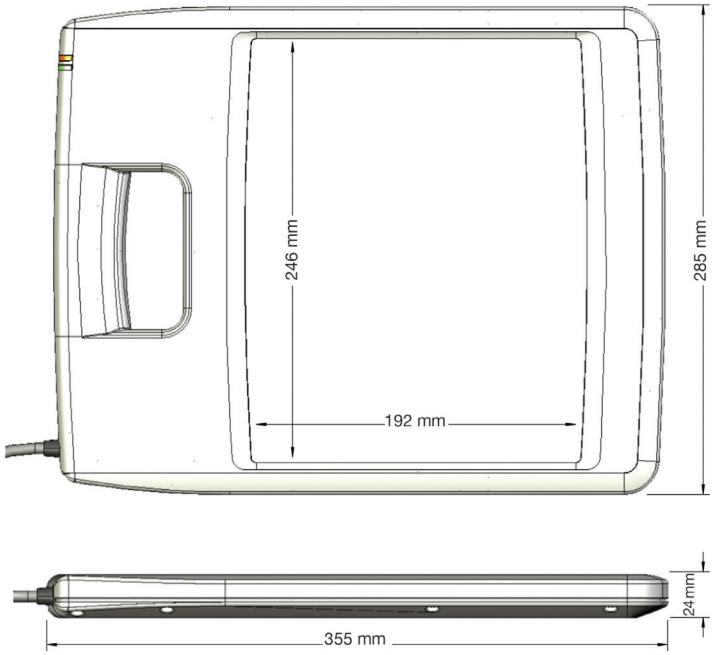
Teledyne Rad-icon Imaging provides ShadoCam Imaging Software free of charge to get the Helios10 MD panel up and running with basic functionality. ShadoCam functionality includes image acquisition and display, offset and flat-field correction, image statistics, printing and file I/O. SDKs are available for developing custom applications.



MTF



DQE



www.teledynedalsa.com

Americas
Sunnyvale, USA
+1 408 736-6000
sales.rad-icon@teledynedalsa.com

Europe
Eindhoven , The Netherlands
+31 40 2599000
sales.sensors@teledynedalsa.com

Asia Pacific
Tokyo, Japan
+81 3-5960-6353
sales.sensors@teledynedalsa.com

Shanghai, China
+86 21-3368-0027
sales.sensors@teledynedalsa.com

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