

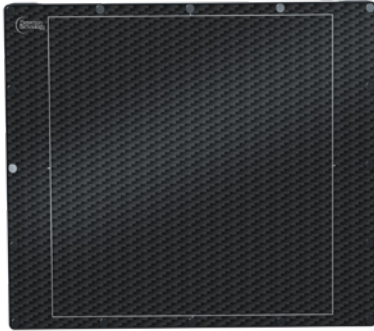
X-PANEL[®] 2222 S



CMOS X-ray flat panel detector series



- Premium quality, low-dose imaging at fast scanning speeds
- High-resolution zoom mode with native 100 μm pixel pitch
- A large active area
- True 16-bit gray level resolution
- Ultra-stable performance, even in longer scans
- A mechanical outline that suits existing C-arm designs
- Compact, lightweight mechanics
- In-built functionalities for ease of use
- Optimized models for mobile and mini C-arms
- Comes with a developer aid kit and global engineering support



The X-Panel 2222s is a CMOS (complementary metal oxide semiconductor) X-ray flat panel detector series that includes application-optimized variants for mobile and mini C-arm systems. For greater patient and healthcare professional experience and safety, the digital X-Panel 2222s equips C-arms with premium quality, low-dose imaging at fast scanning speeds.

The X-Panel 2222s features a high-resolution zoom mode with native 100 μm pixel pitch, ultra-low noise with close to 1 ADU (analog-to-digital unit) temporal dark noise (@14 bits), and a large active area of 222-by-216 mm. It

makes grayscales clear with its true 16-bit analog-to-digital conversion.

It is equipped with a fast sensor that provides up to 60 full frames per second through 5 GigE (Gigabit Ethernet) interface. The X-Panel 2222s is proven to be inherently ultra-stable, even in cases of longer scans.

For both use cases, the X-Panel 2222s enables small system form factors that take less space in operating rooms, and a larger field of view (FOV) that is unaffected by geometrical distortions. In addition to enhanced imaging quality, this is something that only flat panel detectors provide for image-guided surgery.

System integration of the X-Panel 2222s is made straightforward for faster time-to-market and notable total cost savings. The X-Panel 2222s comes with a mechanical outline that suits existing mobile and mini C-arm system designs, and strong worldwide service.

A complete developer aid kit is available for speeding up system designs. The kit includes an application-programming interface (API), demo application-specific software, necessary cabling, and developer guides.

Key features

- Active area 222-by-216 mm
- Application-optimized CsI scintillator
- Active CMOS pixel sensor (APS)
 - Dual gain (LFW/HFW) 100 μm pixel
 - 16-bit ADC
 - Frame rate up to 60 fps (@full frame, scan-to-buffer mode)
- Scan buffer size up to 100 frames
- In-built differential double sampling (DDS)
- In-built dark, gain, and defect pixel correction
- Fully programmable ROI
- Data interface
- Imaging performance
 - Dynamic range +80 dB
 - DQE(0) >70% @RQA5
 - MTF 60% @ 1 lp/mm / 30% @ 2 lp/mm

Applications

- Image-guided surgery: mobile and mini C-arms

Key characteristics

| Parameter | Specification |
|--------------------------|---|
| X-ray energy range | 40-80 kVp (mini-C arms) / 40-120 kVp (mobile-C arms) |
| Active area | 220 x 216 mm |
| Pixel pitch | 100 μ m |
| Pixel matrix | 2220 x 2165 |
| Frame rate | Up to 60 fps, full frames |
| ADC | Configurable up to 16 bit ADC |
| Gain modes | 2 (LFW/HFW) |
| ROI mode | Programmable size and location |
| Binning | 1x1, 2x2 |
| Scan to buffer mode | Up to 100 frames |
| In built functionalities | Defect pixel correction Flat field correction Offset stability / noise reduction enhancements |
| Trigger modes | Continuous / synchronous |
| Scintillator type | CsI optimized for mini and mobile C-arms |
| Data interface | 5 GigE (standard) |
| Power supply | 12 V |
| Power consumption | <20 W |
| Weight | 4.9 kg |
| Saturation dose, @RQA5 | LFW 2 μ Gy, HFW 10 μ Gy |
| Dynamic range | +80 dB |
| DQE(0) | >70% @RQA5 |
| MTF | 60% @ 1 lp/mm / 30% @ 2 lp/mm |
| Lag negligible | Image lag negligible |

X-Panel 2222s

