

# ADSC Quantum 315 r



## System Overview:

- Quantum 315 r Detector
- Nine Parallel Framebuffer Computers (Each with 4 gigabits of memory)
- Twelve-four Gigabit Switch
- Color Flat Panel LCD Monitor
- Nine Custom 4-channel CCD Controllers
- DC Power Supplies
- Dry (non-oil) Vacuum Pump
- Water Chiller
- Two Equipment Racks (Power Supplies & Framebuffer Computers)
- Firewall Box (Safety Interlock)
- Two-terabyte RAID Array
- Cables and Data Collection Software

**Typical delivery is 14-16 weeks ARO.**  
**Contact the ADSC sales office for a pricing discount on a mutable detector system purchase. Installation and applicable training are included at no extra charge.**

## Options:

Available options include a custom goniostat.

## Warranty:

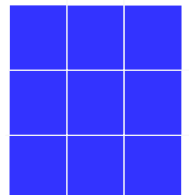
ADSC warrants both parts and labor for any defects due to faulty material or workmanship for a period of two years from date of installation.

## Service Contracts:

Annual service contracts are available from the end of the warranty period for up to three years at a nominal price. Contact the sales office for details.

## Sales Contact Information:

**Voice: (858) 486-0618**  
**Fax: (858) 486-0722**  
**E-mail: [sales@adsc-xray.com](mailto:sales@adsc-xray.com)**



# ADSC Quantum 315r



## Technical Summary (typical):

**Detector Type:** Array (3 x 3)  
**Active Area:** 315mm x 315mm  
**Inactive width strip:** 400 microns  
**Number of Pixels:** 6140x6140; 37.75 M  
**Pixel Size at Detector Surface:** 51x51 microns  
**Phosphor (optimized):** 1 X-ray Angstrom  
**Spatial Resolution FWHM:** 90 microns; 1.76 pixels  
**Taper Ratio:** 3.7:1  
**Optical Coupling (CCD to Taper):** Direct Bond  
**CCD Type:** ATMEL THX 7899  
**CCD Pixel Size:** 14 x 14 microns  
**Operating Temperature:** -45 degrees Celsius  
**Cooling Type:** Thermoelectric  
**Dark Current:** 0.015 e/pixel/second  
**Controller Electronics:** ADSC Custom  
**ADU's/12KeV X-ray Photons:** 2.4  
**Vertical Charge Transfer Efficiency**  
**Pixel-to-Pixel:** 99.99999%  
**Horizontal Charge Transfer Efficiency**  
**Pixel-to-Pixel:** 99.99999%

## Readout Times:

- **Full Resolution:** 0.90 seconds
- **2x2 Hardware Binned:** 0.25 seconds
- **2x2 Software Binned:** 0.90 seconds

## Readout Noise:

- **Full Resolution:** 11.0 electrons
- **2x2 Hardware Binned:** 11.5 electrons
- **2x2 Software Binned:** 2x11 electrons

## Dynamic Range:

- **Full Resolution:** 18,100
- **2x2 Hardware Binned:** 22,600
- **2x2 Software Binned:** 36,300

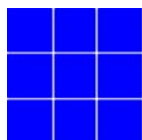
## Full Well Depth (low noise MPP mode):

- **Full Resolution:** 200,000 electrons
- **2x2 Hardware Binned:** 260,000 electrons
- **2x2 Software Binned:** 800,000 electrons

**DQE:** > 80% (0.9 – 1.5 Angstroms)

**Dimensions:** 880mm x 450mm x 460mm

**Weight:** 133Kgs



ADSC

Area Detector Systems Corporation

12550 Stowe Drive

Poway, CA 92064

Voice: 858-486-0618

Fax: 858-486-0722

Web Site: [www.adsc-xray.com](http://www.adsc-xray.com)