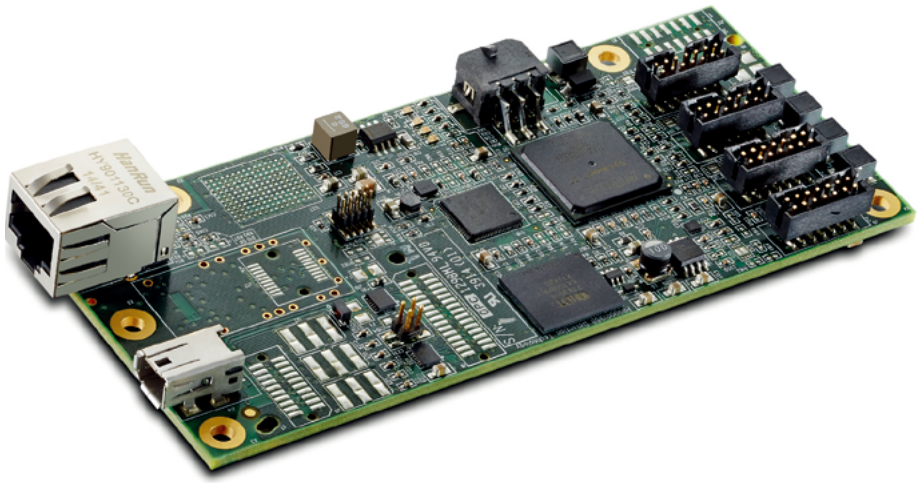
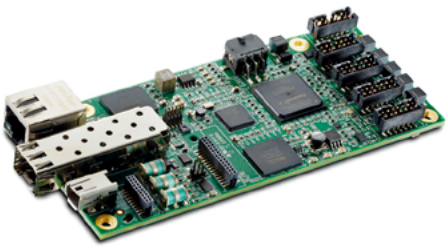
X-GCU

Data acquisition and control board for digital X-Cards

Detection Technology
FOREKNOW. FORESAVE.®

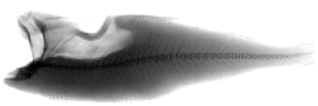


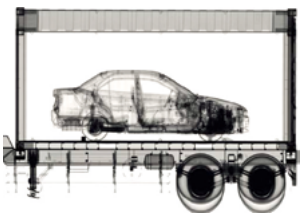


X-GCU | X-GCU is the data acquisition and control board of Detection Technology's next generation digital X-ray detector sub-system platform.

X-GCU together with DT's digital X-Cards provides a complete detector sub-system for X-ray image acquisition with easy to use, high throughput and reliable Gigabit Ethernet PC interface

Demonstration software, control library and sample source code are available for rapid evaluation and software development.





APPLICATIONS

- Security inspection
- Cargo and vechicle inspection
- Multi-view imaging
- Non-destructive testing
- Food inspection
- Raw material sorting
- Thickness measurement
- Foreign particle detection
- CT imaging
- Bone densitometry

KEY FEATURES AND BENEFITS

- High throughput data transfer (600 Mbps) with easy-to-use and reliable GigE PC interface
- Connection for up to 80 pcs of 64-channel dual energy digital X-Cards
- On-board signal processing functions include offset and gain calibrations, adaptive constant integration time, pixel binning, line summing and averaging functions and pixel discontinuity correction
- Configurable line stamp function with external RS-485 triggers
- Remote firmware upgrade via Gigabit Ethernet or SPF fiber interface
- Robust local configuration parameters management
- Diagnostics functions including data test patterns, remote readable temperature sensor, humidity sensor and voltage monitoring and status indicator LEDs
- Auto-recovery for Gigabit Ethernet connection
- Serial number readout for traceability
- Very compact size for easy integration 132 mm x 58 mm
- EMC compliance

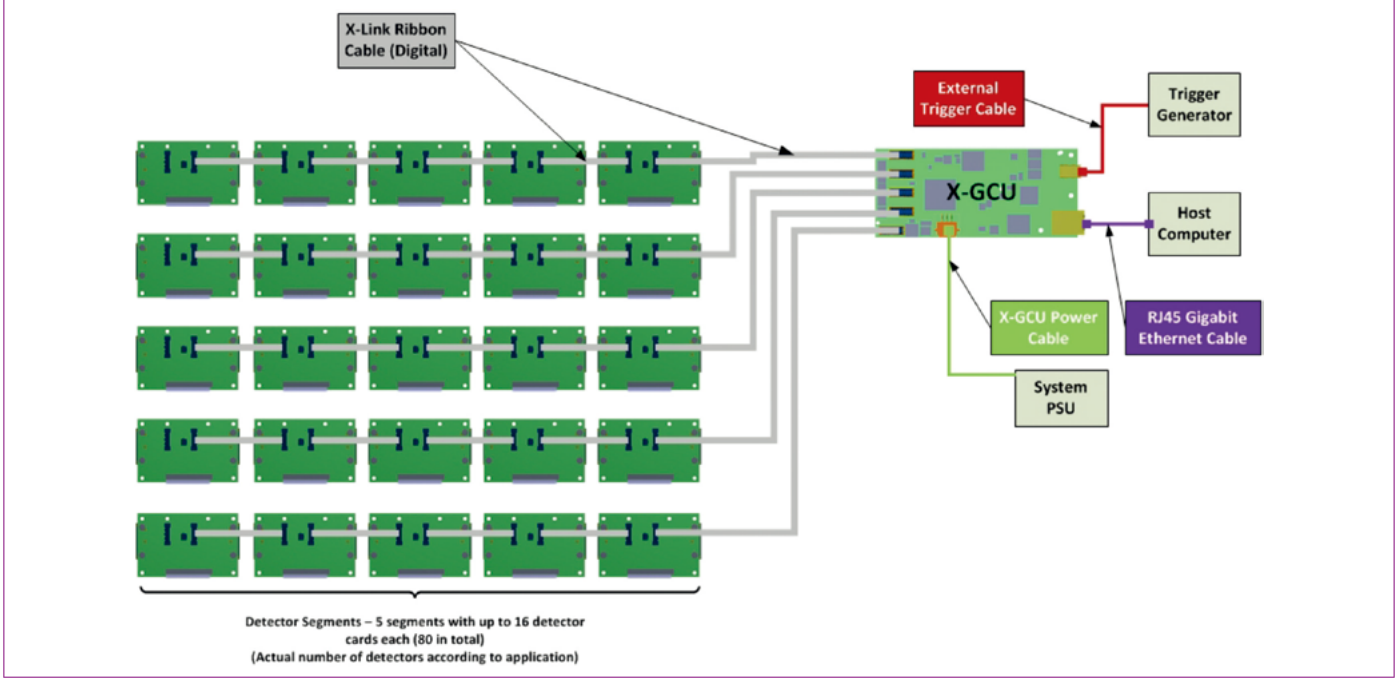
GENERAL CHARACTERISTICS

PARAMETERS	X-GCU STD	X-GCU EX	X-GCU CL
Product code	13012413	13012441	13012669
Input voltage	10.8V - 26.4V DC		
Typical power consumption	3 W	4 W	
Number of segment	3	5	
Max number of digital X-Card per segment	16		
Max number of total digital X-Card	48	80	
Max pixel quantity	6144	10240	
Max cable length between X-GCU and digital X-Card	3 m	20 m*	
Minimum integration time	100 us**		
Maximum integration time	128 ms		
System linearity	> 99 %		
Supported interface	GigE	GigE and SFP fiber	GigE, SFP fiber and Camera Link
Max throughput	600 M bps		
Voltage sensor	Yes		
Temperature sensor	Yes		
Humidity sensor	No	Yes	
Advanced features	Non-continuous mode, pixel discontinuity correction, pixel binning, adaptive constant integration time and remote upgrade		
Mechanical dimensions	132 mm (L) x 58 mm (W) x 19.3 mm (H)		132 mm (L) x 58 mm (W) x 26.5 mm (H)

* Use CAT-5E or CAT-6 pair twist cable and pigtail with external power to digital X-Card

** Depending on system topology

Typical system topology



DETECTION TECHNOLOGY PLC

Elektroniikkatie 10
90590 Oulu Finland

Tel. +358 20 766 9700
Fax +358 20 766 9709

contact@deetee.com
www.deetee.com

All images © Detection Technology