



ALTAIR 13A-E

Long Range Imaging SWIR
By the global leaders in infrared

HIGH DEFINITION, LOW NOISE EXTENDED VIS-SWIR CAMERA

The Altair 13A-E, powered by SCD's Cardinal sensor platform, is a low noise camera with extended spectral range from 0.6 μ m to 1.7 μ m. The camera uses SCD's latest 1280 x 1024 format InGaAs detector with 10 μ m pixel pitch. The advanced digital ROIC provides advanced programmable on-chip features and very low noise performance.

The camera features Automatic Gain and Exposure Control to optimize image quality over a wide range of imaging conditions. A proprietary non-uniformity correction NUC provides nonuniformity correction over the -40°C to +70°C operating range with full performance from -30°C to +55°C.

The camera has a TEC to cool the focal plane for low light-level imaging. On-board Correlated Double Sampling (CDS) delivers dynamic range of up to 70dB and low read noise <50 rms electrons for low-light operation.

A key feature of the FPA is on-chip digital Asynchronous Laser Pulse Detection (ALPD) that is enabled by proprietary circuitry on the FPA. ALPD provides a full-frame two-dimensional capture and X-Y position of short duration laser pulses in both daytime and nighttime. Multiple asynchronous spots can be tracked in the same FOV. This capability is completely independent of imaging, assuring optimal imaging capability with laser pulse detection.



ALTAIR 13A-E

BENEFITS

- ALPD mode** for "see-spot" operations in all lighting conditions with multiple, asynchronous laser sources
- Low Image Lag** eliminates image persistence
- Extended spectral range** increases sensitivity and allows for shorter wavelength illuminators
- Compact size** fits small space claims

APPLICATIONS

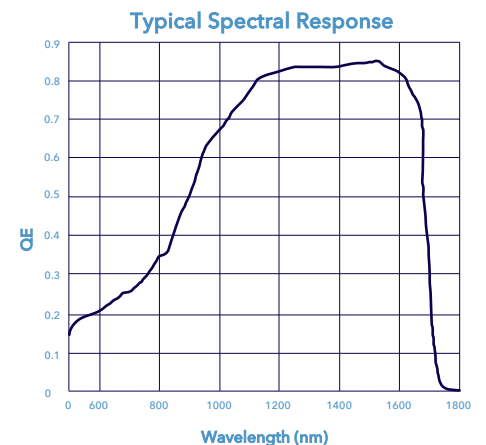
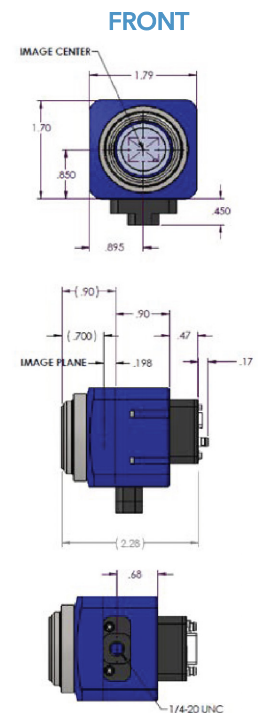
- Automotive and Airborne Driver Enhanced Vision
- UAV applications
- Semiconductor inspection
- Airborne reconnaissance (Haze penetration)
- Laser spot detection (See Spot)
- Bio Applications

SCD.USA reserves the right to make product design or specification changes without notice. NOTE: Export of this product (including associated technical ICDs and Mechanical Models) is strictly prohibited without a valid export license issued by the U.S. Government. This limitation applies to direct export, re-exports and "deemed exports" (e.g., provided to a supplier outside the U.S.) or provided to a non-U.S. Person wherever located.

SYSTEM FEATURES

- 1280 x 1024 Resolution with 10µm pixel pitch
- Extended spectral response 0.6µm to 1.7µm
- 30-60 FPS (29.97 fps in NTSC mode)
- Snapshot Imaging
- 12-bit or 16-bit digitization
- Total noise <60e- rms (typical at 20°C sensor). Total noise in uncooled mode is dependent upon temperature
- Total Power <4 Watts (typical), <2W uncooled mode
- Camera Link® and other outputs available upon request
- Internal or external trigger
- Programmable NUC, AGC, Trigger, and ALPD

ALTAIR 13A-E		
PARAMETER	VALUE	COMMENTS
Sensor Type	InGaAs	
Sensor Readout	Full-frame	Snapshot mode
Image Format	1280 x 1024	
Pixel Size (µm)	10µm x 10µm	
Active Area	100% fill factor	
Spectral Response (µm)	0.6µm - 1.7µm	See QE Plot
Read Noise	<50e- rms	Typical
Total Noise	<60e- rms	20°C sensor temp
Max Frame Rate	30 up to 60 FPS	
Dynamic Range	70dB	Typical
Power Dissipation	4 Watts	Typical
MECHANICAL		
Housing Material	Aluminum	
Lens Mount	C-Mount/M42	Other mounts available
Weight	<4oz	
Dimensions	1.7" x 1.8" x 2.3"	See drawing
POWER AND SIGNAL INTERFACE		
Power Input	+12VDC	
Data	Base Camera Link®	
Trigger/Sync		SamTec MCX and Camera Link® CC1
Mode Control	Serial port	Via Camera Link®
ENVIRONMENTAL		
Operating Temp.	-30°C to +55°C	Full Performance
	-40°C to +70°C	Degraded Performance (Random noise)
Storage Temp.	-50°C to +85°C	Non-condensing



SCD.USA reserves the right to make product design or specification changes without notice. NOTE: Export of this product (including associated technical ICDs and Mechanical Models) is strictly prohibited without a valid export license issued by the U.S. Government. This limitation applies to direct export, re-exports and "deemed exports" (e.g., provided to a supplier outside the U.S.) or provided to a non-U.S. Person wherever located.