

For Immediate Release – April 2007

**Thermoteknix launch the MIRICLE® 110KS with XTi™ Technology
The world's first truly shutterless Alpha Silicon uncooled and unstabilized
miniature thermal imaging camera...**

Thermal Imaging Breakthrough

Thermoteknix has raised the bar to new heights in launching the world's first Alpha Silicon based Focal Plane Array thermal imaging camera with shutterless XTi technology. The MIRICLE® 110KS with XTi is an ultra-compact uncooled (unstabilized) solid-state high resolution infrared camera delivering 'Never Blind™' thermal imaging. The camera is designed without a shutter or any moving parts to interrupt vision at critical moments and is unaffected by shock or vibration.



Continuous high resolution thermal imaging from the very instant the camera is switched on with no image deterioration with time or ambient temperature change. The removal of the shutter and associated motor, gears and control mean that MIRICLE® cameras with XTi™ technology are also smaller, lighter and lower power consuming, a major benefit to all portable and size critical applications.

Shutterless Thermal Imaging – The Challenge



Since the dawn of focal plane array (FPA) based thermal imaging, shutterless operation has been considered the holy grail of the industry and a seemingly technically impossible goal for all those involved in the thermal imaging world. Until now, the current generation of FPA based cameras have required frequent shuttered calibration (NUC or Wink) blanking off the incoming image with a "shutter" or "flag" and rendering the observer "blind" to the scene for several seconds at a time. In critical situations such as target tracking, on-line machine

vision or weapon based applications, this complete obstruction to vision can be at least inconvenient and at worst, fatal. Each element in the FPA detector possesses a different gain and offset value which require continuous adjustment to present a uniform image. Many factors including external ambient temperature, drift and the temperature of the detector itself lead to a fundamental fixed pattern noise in the detector output. This leads to steady deterioration of image quality over time. Traditional cameras address this issue by regularly interposing a uniform surface in front of the detector – typically a mechanically driven shutter or flag which blocks all radiation from the scene and performs a Non-Uniformity Correction (NUC). This 'shuttered' or 'blinkered' approach although being quite effective, has several obvious and major problems associated with it:

1. Vision is interrupted while the detector is calibrated which can take several seconds.
2. Inevitable additional size, weight, unreliability and fatigue of a mechanical, moving shutter
3. The acoustic noise generated by the shutter opening and closing
4. The additional power required to operate the shutter
5. Added design complexity of extra moving parts and susceptibility to wear, or jamming.

Said Thermoteknix Managing Director, Dr. Richard Salisbury:

"The Miricle® 110K with XTi™ technology has such awesome thermal imaging performance, you just can't believe there's no shutter"

Shutterless Thermal Imaging The MIRICLE® 110KS with XTⁱ™ Solution **'Never-Blind'™**

Thermoteknix have cracked the problem by designing the MIRICLE® 110KS with their unique XTⁱ™ technology – the world's first high resolution thermal imaging camera of its kind. Based on a 384 x 288 7-14 micron Alpha Silicon microbolometer, this ultra-miniature and lightweight, ruggedised thermal imaging device is Instant-On and provides continuous, uncooled, solid state, perfect digital thermal imaging – all of the time.

MIRICLE® 110KS with XTⁱ™ technology never blinks and is never blind. Ultra-compact, high performance, low power, silent infrared vigilance for all critical applications.

Available in a range of sealed housings as fully built cameras or as OEM cores and engines, the MIRICLE® 110K with XTⁱ™ range represents the future of infrared cameras, available today.



MIRICLE® 110K with XTⁱ™ will be shown in action for the first time at SPIE Defense & Security Symposium in Orlando April 10 – 12, 2007. See it for yourself, visit Thermoteknix on booth 817.

The MIRICLE® 110K with XTⁱ™ technology is part of the Thermoteknix MIRICLE® range of cameras which includes the world's smallest uncooled 640 x 480 ruggedized thermal imaging camera – the MIRICLE® 307K.

Thermoteknix Systems Ltd. was established in 1982 and has been a major developer and innovator in infrared engineering for applications from aerospace to industrial process monitoring. Its headquarters are in Cambridge, England and the Company has representation throughout the world.

For further information, contact

Thermoteknix Systems Ltd, Teknix House, 2 Pembroke Avenue, Waterbeach, Cambridge, CB25 9QR, United Kingdom
Tel: +44 (0)1223 204000 Fax: +44 (0)1223 204010
Email: sales@thermoteknix.com Web: www.thermoteknix.com

Or in the USA:

14457 NE 16th Place
Bellevue Washington 98007 USA
Tel: +1 425 746 6080 Fax: +1 425 746 4536
Email: sales@thermoteknix.com Web: www.thermoteknix.com