

# TVPE: Thermal Video Processing Engine

Advanced Video Processing Engine for Thermal Imaging Systems.

Introducing a high-performance video processing engine for thermal imaging. Ideal for security and surveillance systems, this configurable engine delivers advanced enhancement and processing with unmatched performance to even the most demanding thermal imaging applications.

## PROCESSING FEATURES:

- NUC (2-point, x32 Tables)
- BPR (Bad Pixel Detection and Replacement)
- Contrast Limited Histogram Equalization
- Local DRC Contrast Enhancement
- Sharpening and Convolution Kernels
- Spatial Noise Reduction and Median Filter
- Adaptive Temporal Filter without Blur
- Auto Integration Control and NUC Selection
- Scene-Based NUC
- Image Statistics
- Autofocus and Lens Control
- Proprietary Detail Enhancement and Noise Reduction Algorithms
- Double Exposure Mode



## MANIPULATION FEATURES:

- Color Palettes
- Gamma Adjustment (Power-Law)
- Gain and Level Control
- Polarity (White-Hot/Black-Hot)
- Digital Zoom (Interpolated Scaling)
- Freeze
- Reticle/Cross-Hair
- User Image and Text Overlay
- Image File Capture and Display
- User Splash Screen
- User Presets



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<b>Supported Detectors</b>	
<b>Type</b>	Cooled Digital Detectors
<b>Image Size</b>	SD (640 x 512 pixels) HD (up to 1,280 x 1,024 pixels)
<b>Interface</b>	Camera Link, Megalink, and similar LVDS interfaces
<b>PCB Specification</b>	
<b>Processor</b>	1.2 GHz DSP + FPGA
<b>Memory</b>	256 MB RAM, 256 MB NAND (Flash storage)
<b>Communication</b>	Gigabit Ethernet (TCP/IP), 4x RS232/422
<b>Power Input</b>	+12V DC
<b>Power Consumption</b>	5 - 7 Watts
<b>Temperature Range</b>	-30 C to +60 C
<b>PCB Size</b>	112mmx70mm (60g)
<b>Video Input/Output</b>	
<b>Frame Rate</b>	60 Hz for SD 30 Hz for HD Up to 200Hz in high rate modes
<b>Detector Image Sizes</b>	Up to 1280x1024
<b>Output Formats</b>	NTSC/PAL 525i/525p, 625i/625p 720p, 1080i/1080p configurable digital formats
<b>Analog Output</b>	YPbPr Component and Composite
<b>Digital Output</b>	Camera Link
<b>Sync</b>	Internal or External Sync
<b>Latency</b>	2 frames (33 ms at 60 Hz)
<b>System and Peripheral Controls</b>	
<b>System Control</b>	RS422, Ethernet TCP/IP, Camera Link UART
<b>Lens Control</b>	Lens Control via RS422 Protocols Autofocus Auto NUC Table Selection using Lens Position
<b>Sync</b>	External or Internal Video Sync
<b>Ordering information</b>	
<b>TVPE/V</b>	Supports SD (640 x 512) detectors
<b>TVPE/X</b>	Supports HD (1,280 x 1,024) detectors



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