FLIR® Tau® 2 thermal imaging cameras offer an unmatched set of features, making them well-suited for demanding applications, such as unmanned vehicles (UVs), thermal weapon sights, and handheld imagers. Improved electronics now give Tau 2 even more capabilities, including radiometry, increased sensitivity, a 60Hz frame rate, and powerful image processing modes that dramatically improve detail and contrast.

**IMPROVED IMAGE PROCESSING**
*For clearer imagery, edge sharpening, and contrast*
- Second generation Digital Detail Enhancement (DDE)
- Active Contrast Enhancement (ACE)
- Smart Scene Optimization (SSO)
- Information Based HEQ (IBHEQ) automatically adjusts AGC
- Silent Shutterless NUC for continuous image improvement

**ACCURATE TEMPERATURE MEASUREMENT**
*Supports radiometry, analytics and telemetry*
- TLinear output places temperature data in each pixel
- Adjustable isotherm thresholds colorize temperatures of interest
- Rugged and reliable in all terrain

**COMMON FEATURES ACROSS MODELS**
*Fosters improved OEM integration*
- 640, 336 and 324 resolutions
- Multiple lens and FOV options
- 60Hz or 30mK frame rates
- Mechanical / electrical compatibility
- FLIR brand and support
# Imaging Specifications

## System Overview

<table>
<thead>
<tr>
<th>System Type</th>
<th>Uncooled LWIR Thermal Imager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tau 2 640</td>
<td>640 × 512 VOx Microbolometer</td>
</tr>
<tr>
<td>Tau 2 336</td>
<td>336 × 256 VOx Microbolometer</td>
</tr>
<tr>
<td>Tau 2 324</td>
<td>324 × 256 VOx Microbolometer</td>
</tr>
<tr>
<td>Pixel Size</td>
<td>17 µm (Tau 2 640, 336); 25 µm (Tau 2 324)</td>
</tr>
<tr>
<td>Spectral Band</td>
<td>7.5 - 13.5 µm</td>
</tr>
<tr>
<td>Performance</td>
<td>&lt;50 mK @ f/1.0</td>
</tr>
</tbody>
</table>

## Outputs

<table>
<thead>
<tr>
<th>Analog Video</th>
<th>Field-switchable between NTSC and PAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tau 2 640</td>
<td>30/60Hz (NTSC), 25Hz/60Hz (PAL); &lt;9Hz option for export (factory set)</td>
</tr>
<tr>
<td>Tau 2 336, 324</td>
<td>30/60 Hz (NTSC), 25/50 Hz (PAL); &lt;9Hz option for export (factory set)</td>
</tr>
</tbody>
</table>

## Digital Video

- 8- or 14-bit serial LVDS; 8- or 14-bit parallel CMOS; 8-bit BT.656

## Operation & Control

**Image Control**
- Invert, revert, continuous digital zoom, dynamic zoom & pan, digital zoom presets, polarity, false color or monochrome, isotherms, AGC, second generation digital detail enhancement (DDE), image optimization (BPR, NUC & AGC’d video), Active Contrast Enhancement (ACE), Information Based Histogram Equalization (IBHEQ), Smart Scene Optimization (SSO), settable splash screens

**Camera Control**
- Manual via SDK & GUI, dynamic range switching (Tau 2 324 only)

**Signal Interface**
- Camera Link (Expansion Bus Accessory Module), discrete I/O controls available, RS-232 compatible (57,600 & 921,600 baud), external sync input/output, power reduction switch (removes analog video)

**FFC Duration**
- <0.5 sec

## Physical Attributes

**Size**
- 1.75” × 1.75” × 1.75” (less lens)

**Mounting Interface**
- 6 attach points in lens mount, M2 × 0.4 on 3 sides, 2 per side (sealable bulkhead mounting feature on lens barrel [M29 × 1.0], WFOV only)

## Power

- Input Voltage: 4.0 – 6.0 VDC
- Primary Electrical Connector: 50-pin Hirose
- Power Dissipation: ~ 1.0 W (Tau 2 324, 336); <1.2 W (Tau 2 640); <1.3W (Tau 2 640/60Hz)
- Time to Image: <5 seconds (Tau 2 640); <4 seconds (Tau 2 336 and 324)

## Environmental

- Operating Temperature Range: -40° C to +80° C external temp
- Storage Temperature Range: -55° C to +95° C external temp
- Scene Temp Range: High gain: -40°C to +160°; Low gain: -40°C to +550°
- Shock: 200 g shock pulse with 11 msec sawtooth
- Temperature Shock: 5°/min
- Vibration: 4.3 g 3 axes, 8 hours each
- Humidity: 5 - 95% non-condensing
- Operational Altitude: +40,000 feet
- ROHS, REACH, and WEEE: Compliant

## Applications:

- Unmanned Airborne Vehicles
- Handheld imagers
- Security Cameras
- Maritime cameras
- Thermal weapon sights

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