



What is T2IR?

“T2IR” stands for Trigger to Image Reliability. It is a combination of hardware and software features built into Teledyne DALSA vision components that work together to improve the reliability of your vision system.

What does it do for me?

T2IR delivers full system level monitoring, control, and diagnostics capability. T2IR lets you reach inside your vision system to audit and debug image flow. It stores images temporarily in its onboard memory to overcome unexpected transfer bottlenecks and avoid data loss. That means no lost data, no false data and a clear source to identify and track any errors. T2IR ensures robust and reliable operations to produce repeatable results, and it does so in a non-intrusive manner that does not interfere with other system applications.

Is T2IR part of hardware or software?

Both. T2IR is a combination of system-level features specifically built into Teledyne DALSA's hardware and software products. For hardware products, it includes visual indicators and firmware features that can be controlled and monitored from user applications using Sapera LT SDK. Sapera LT SDK provides a programming API and standalone GUI-based tools to deliver T2IR functionality.

How do I take advantage of T2IR functionality?

T2IR functionality is available in three distinct methods. Teledyne DALSA hardware products incorporate visual indicators - LEDs. These visual indicators use color coding and varying flashing rhythms to indicate device status. These indicators are indispensable tools when diagnosing issues at a distance from a host PC or before the PC is booted. T2IR also includes standalone GUI tools which are part of the Sapera LT SDK. These tools can be run concurrently with user applications without interfering with the normal operations. Users can monitor low level system events without modifying their applications.

The T2IR functions included in the GUI tools are also available via API as part of the Sapera LT SDK. Users can directly incorporate these functions into their applications.

What are the software utilities included in T2IR?

T2IR provides a number of diagnostic software utilities:

- Sapera Monitor
- Sapera LogViewer
- Sapera PCI Diagnostic Tool
- Sapera Networking Tool
- Sapera Configuration
- Xtium Diagnostic Tool

For more detail on these tools, refer to the T2IR Technology Primer.

Do I have to use the Teledyne DALSA software utilities to access T2IR functions? Is there an API?

Our software utilities are always available, but you can use the Sapera LT SDK to integrate T2IR functions into your own applications.

Do you provide code samples for using the API?

Yes, in .Net C#, VB and C++, as part of the Sapera SDK.

What functions does it provide?

T2IR functions can be grouped into these main areas:

- Acquiring the Right Target: Ensures synchronization between image acquisition and object motion to acquire the images necessary to make correct decisions
- Managing External Triggers: Handles expected and unexpected external events and provides control responses to reduced image artifacts due to motion
- Tracking and Tracing Images: Provides continuous coverage of the entire image flow to deliver confidence; greatly aids debugging.
- Monitoring the Acquisition and Transfer Process: Enables preventive action if resource usage exceeds a predetermined threshold, selectively keeping or discarding images to sustain processing speed
- Overcoming Too Much Data: Handles peak loads to avoid data loss
- Ensuring Data Quality: Helps increase uptime and reduce waste
- Advanced Diagnostics: Rapid pinpointing of errors for speedy diagnostic and preventive actions



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What products support it?

Teledyne DALSA Cameras:

- GigE: Linea, Genie Nano, Genie TS, Genie "classic"
- Camera Link: Piranha4, Piranha XL

Teledyne DALSA Frame Grabbers:

- Xtium-CL Series
- Xtium-CLHS Series
- Xcelera-CL Series
- Xcelera-HS Series
- PC2-Comp Express

Teledyne DALSA Software

- Sopera LT SDK for Windows
- Sopera LT SDK for Linux

Does it work with non-Teledyne DALSA components?

Since T2IR is a system-level framework comprised of hardware and software components working together, its full functionality is only available with Teledyne DALSA components. But as long as your system includes some Teledyne DALSA hardware and software, you will be able to use some functions—for example, if you use a Teledyne DALSA frame grabber with another vendor's camera, the frame grabber will still offer T2IR functions. Conversely, Teledyne DALSA GigE cameras (which do not use frame grabbers) also provide T2IR functions when used with

Teledyne DALSA software drivers.

How much does it cost?

It is Free! All Teledyne DALSA hardware come pre-configured to take advantage of T2IR functions. The Sopera LT SDK is also available free of charge from our website at:

www.teledynedalsa.com/imaging/support/downloads/sdks/

Does it make my system faster?

Not directly (and not in the same way as TurboDrive™). But it allows more robust, reliable operation, which increases system uptime, ultimately increasing throughput.

How does the [your question here] part work?

Please consult our T2IR Technology Primer for more details on the design and use of T2IR. If you still have questions, feel free to contact technical support.