



KLV Metadata Generation from FLIR TLM OUT/CMD IN Interface

Delta Digital Video encoder products can be configured with software that will accept the FLIR Star Safire TLM Out telemetry stream and convert it to KLV metadata which is then multiplexed with the video and output in an MPEG-2 transport stream.

The FLIR telemetry data is input at the encoder using the RS-422 Serial User Data input port. The encoder reads and parses the telemetry stream to extract the parameters that are required for the KLV output. In order to be able to generate the Minimum Metadata Set as defined in MISB EG 0902, it is very important that the FLIR sensor be configured with an INS unit or it must receive Platform Position information through the CMD IN interface. In addition to the dynamic telemetry data received from the FLIR Sensor, there is static data that the user must set using one of the available encoder control interfaces (serial, telnet, web page).

After parsing the telemetry data from the FLIR sensor, the software converts the parameters to the correct format and representation defined in MISB STD 0601. Telemetry parameters are combined into logical groups which are output as KLV messages as each group is received.

The output KLV groups are generated as follows:

- 1) Static Group - Mission ID, Platform Designation, Image Coordinate System, Security Information, and UDS Version.
- 2) Position Group - Platform Heading Angle, Platform Pitch Angle, Platform Roll Angle, Sensor Latitude, Sensor Longitude, and Sensor True Altitude.
- 3) Target Group - Frame Center Latitude, Frame Center Longitude, and Frame Center Elevation.
- 4) Range Group - Slant Range.
- 5) Field Of View Group - Image Source Sensor, Sensor Horizontal FoV, and Sensor Vertical FoV.
- 6) Gimbal Group - Sensor Relative Azimuth Angle, Sensor Relative Elevation Angle, and Sensor Relative Roll Angle.