Case Study

2012-08-08 | 1/1

MotionBLITZ® LTR5p System: precise application for the military sector

Recording missile tests in high-speed

To avoid the cost and time intensive rerun of a missile launch, its recording requires the utmost precision. All relevant data such as height, launch angle and the occurrence time and number of erroneous deviations have to be simultaneously captured and exactly analyzed. Only the use of highly precise measuring and analysis tools can eliminate far-reaching, safety-relevant misinterpretation during data evaluation.

With the MotionBLITZ® LTR5 portable High Speed Long Time Recording System Mikrotron offers an excellent system to record tests in the military range. The prolonged recording time captures the entire starting sequence seamlessly. Via additional functions such as IRIG-B, GPS and the picture synchronous recording of other measured data, the LTR5p System can be adapted to individual requirements.

The application scenario

During a military missile test the launching was to be recorded continuously. This had to include the preparation stage, the ignition, the launch and the flight.

The task

To record and evaluate all relevant launch data the timestamp of the individual images had to be synchronized with a central IRIG-B signal at the test bench. This frame-accurate synchronization was also to extend to several long-time recorders partly located at greater distance to the launch pad. Mikrotrons task was accordingly to develop a special, highly precise IRIG-B pulsing. Besides the image data, a second set of data concerning azimuth and elevation (height), provided by a pan/tilt head, had to be recorded synchronously to the images.

The customer benefit

To fulfill these requirements, the mobile and specifically robust MotionBLITZ® LTR5p System with detachable Solid-State-Drive was used. The specifically developed high-precision-pulsing made a frame-accurate synchronization with up to 35000 fps with all in the trial participating long-time recorders possible. Additionally, boosters for the fibre optic connection for a length of up to 1000 metres ere deployed. Thus the entire missile launch sequence was digitally recorded in high-speed and from different perspectives. The movement data from the pan/tilt head systems were also image-synchronously correlated to the image data. This allowed for a comprehensive and precise analysis of the entire flight test.

MotionBLITZ® LTR5p System - All advantages at a glance

- Seamless: Up to 48 minutes recording time at full resolution (1280 x 1024 Pixel) and speed (506 fps)
- Task Specific: in-house developed IRIG-B pulsing for synchronization
- Robust: with dimensions of just 44 x 35 x 24 cm very flexible and mobile
- Expandable: Multi camera mode allows for connection and central control of up to four cameras with one system
- Flexible: Quad Mode permits quadruple speed or recording duration

MIKROTRON GmbH in Unterschleissheim near Munich develops, produces, and markets digital high-speed cameras, image processing components, and high-speed recording systems for industry, research, and development worldwide. As a specialized activity for industrial image processing, Mikrotron also markets industrial cameras of leading manufacturers, as well as image processing software.

MIKROTRON GmbH
Landshuter Strasse 20-22
D-85716 Unterschleißheim

Julia Mindermann
Phone: +49(0)89-726342-00
Fax: +49(0)89-726342-99
Email: info@MIKROTRON.de
Internet: www.MIKROTRON.de