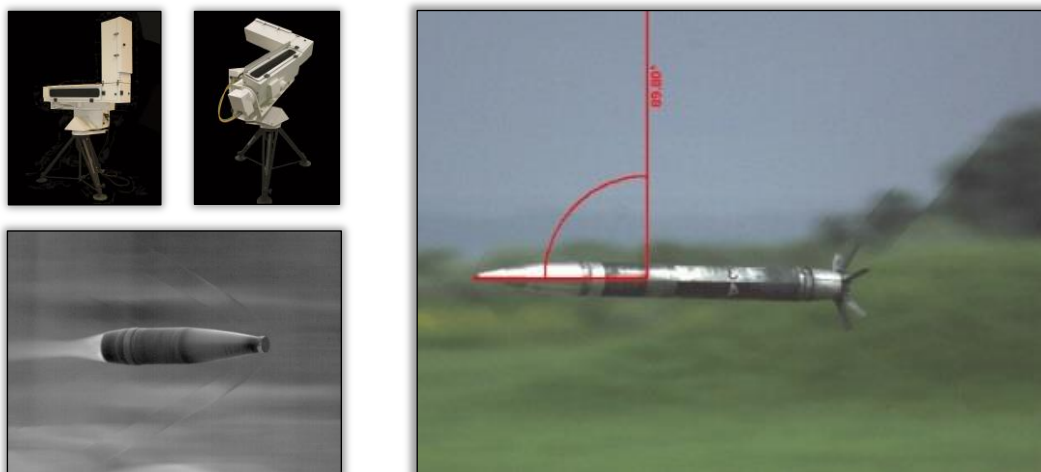


Revolutionary Projectile Imaging



AUTOMATED FLIGHT-FOLLOWER TYPE 631

The Flight-Follower has been developed to meet the high-speed-imaging needs of modern ammunition designers. The system consists of a computer controlled triggered rotating mirror positioned in front of a High Speed Video camera. The mirror is programmed to rotate at the correct speed, such that the camera will “follow” the projectile.

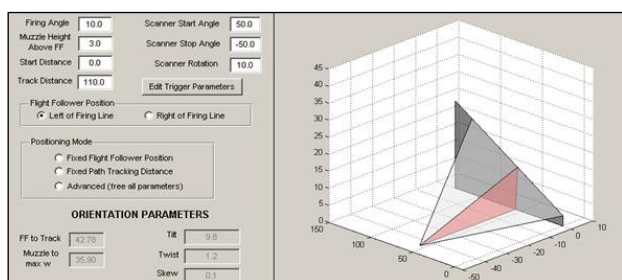
Typically, the system will track the trajectory for 100m or more as the mirror scans a 90° arc, providing high quality images of the projectile in flight.

This latest design offers much improved performance whilst eliminating the need for calibration. The combined functionality of the hardware and software greatly simplifies system operation without limiting flexibility.

HIGH QUALITY IMAGING

Simple and Versatile Equipment:

- Simplified range surveying
- Accommodates a variety of cameras
- High mechanical stability



Efficient and Optimised System:

- Software wizards
- In-built instrumentation
- Real-time mirror position control

Time and Effort Saving:

- Easy, quick set up
- Remote operation
- Automatic adjustment to data entries



HARDWARE

- **Velocity profile modes** (*Fixed, Measured, Multiple Update or User-defined*) with multiple trigger inputs (up to 256) and built-in trigger delay.
- **Housing** accommodates most High Speed Video cameras, and allows camera focusing without obscuring the flight path.
- **Mirror Halt function** stops the mirror in mid-flight for impact analysis.
- **High optical throughput** due to large mirror, angled optical axis, and optical components optimised for visible or infrared applications.
- **High mechanical stability** with benefit of remote/automated tilt, skew, and twist.
- **Double axis or extended trajectory analysis** using two or more synchronised units.

SOFTWARE

- **Remote Operation via dedicated MS Windows software** (with set-up wizards) ensures optimised set-up for all geometries including *Horizontal, Inclined, and Skewed*.
- **Real-time (10MHz) mirror position control** enables in-flight velocity and acceleration correction.
- **Video analysis software** supplied if required.

SPECIFICATION

CONFIGURATIONS	
Operation Modes	<ul style="list-style-type: none"> • Measure/Fixed/Multiple Update or User-defined velocity profile • 3 x TTL • 3 x Skyscreen • 1 x Multi-trigger (up to 256 inputs)
Power	100 – 240V, 50 – 60Hz
Trigger Output	<ul style="list-style-type: none"> • 1 x +5V TTL in synchronism with the start of the mirror scan • 2 x TTL stand-alone (for 3-D scan etc.)
Communication	RS 232/RS485/GBit Ethernet/Fibre Optic/Wireless LAN
HOUSING	
Rotation Range (about mirror axis)	<ul style="list-style-type: none"> • Pitch: -17 - +90° • Roll: ±45° • Yaw: ±12°
Rotation Measurement	±0.1°

MIRROR	
Scan Ratio* (highest)	0.1 - 100
Tracking Angle	100° total, 90° tracking
Angular Tracking Accuracy	Better than 0.1°
Flatness	¼ Wave
<i>*Scan Ratio = Projectile Velocity ÷ Stand-off Distance</i>	
ENVIRONMENT	
Operating Temperature	0°C - +40°C [+32 °F - +104 °F]
DIMENSIONS	
L x W x H (mirror)	3mm x 133mm x 88mm [0.12 in x 5.24in x 3.46in]
OPTIONS	
Dual AFF System	Linked systems with 3-D view and 3-D software analysis

USED WITH



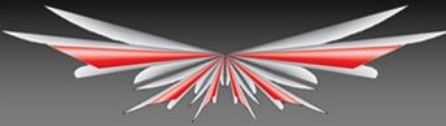
Multiple Trigger System Type 630-320



Flash Detector Type 768






Optical Detector Type 858



MS INSTRUMENTS Range Consultancy

Precision, Expertise, Quality

- Professional Bespoke Range Designs
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- Only the Latest Standards

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The information in this document is correct at the stated time. MS Instruments Ltd has a policy of continuing development and reserves the right to make design changes/improvements to the products.