

# BLASTER'S HIGH-SPEED DIGITAL VIDEO CAMERAS & ASSOCIATED ACCESSORIES 2011 PRODUCT LIST

MREL DOCUMENT #: PROD110810

THESE PRODUCTS ARE AVAILABLE TO PRE-SCREENED, PRE-APPROVED CUSTOMERS ONLY.

## **SELECTING THE CAMERA AND ACCESSORIES FOR YOUR APPLICATION:**

MREL provides high speed digital video cameras and accessories solely to the blasting and explosives industries and to those recording the effects of explosives. Contact MREL, <a href="mailto:sales@mrel.com">sales@mrel.com</a>, and we will be pleased to forward your request to a third-party who may be able to assist you with your application.



### BLASTCAM™ HIGH SPEED CAMERA:

### HOW TO SELECT THIS PRODUCT:

Decide on a monochrome or color camera. Consider selecting one or more of the Optional Accessories listed below.

Product #	Product Name	<u>Unit</u>	

BLASTCAM™ MODEL BCM2GB-F

BlastCam™ Model BCM2GB-F: Rugged, portable, light sensitive (2500 ASA monochrome), monochrome high speed video camera (10 bit monochrome pixel resolution). 1 to 112,183 frames per second (fps) recording speeds. Maximum horizontal x vertical resolution at all speeds up to 506 fps = 1280 x 1024 pixels. Recording time of 3.3 seconds at 500 fps at maximum resolution. Recording time of 3.3 seconds at 1000 fps at a resolution of 1280 x 512 pixels. Operation from 10-30 VDC or 110-220 VAC. Includes: BlastCam™ High Speed Camera with 80-200mm f/2.8 F-mount Zoom Lens, BlastCam™ Controller, BlastCam™ Control & Playback Software including detection of motion in a selectable field of view to automate triggering, ProAnalyst® TrackOne Edition Software which allows auto-tracking of one feature and/or manually tracking of up to 32 features and exporting to Microsoft Excel™ for further analysis and graphing, BlastCam™ Tripod, BlastCam™ Ethernet Cable, Power Adapters and cables for DC and AC operation, BlastCam™ Operations Manual (English), BlastCam™ Carry Case. Includes MREL's 1 year Comprehensive 100% Parts and Labour Warranty.

### Optional Accessories (not included):

PWT™ Portable Wireless Trigger (Product 1-51-01): To command-trigger the camera wirelessly from up to 500 m (1,640 ft.) distance.

ProAnalyst® Professional Edition (Product 1-50-03): Includes all the analysis features and engines for auto-tracking objects in 1-D and 2-D, data reduction and report generation.

ProAnalyst® 3-D Professional Edition (Product 1-50-04): Includes all the features of the Professional Edition, plus the 3-D Manager. Analyze events captured by multiple cameras to reconstruct and display motion in 3-D with accuracy. ProAnalyst® Image Stabilization Toolkit (Product 1-50-05): A recommended toolkit for the ProAnalyst® Professional Editions which removes unwanted jitter and vibration from a video.

Other Lenses: A wide variety of C-Mount lenses to meet specific requirements – contact MREL.

### BLASTCAM™ MODEL BCC2GB-F 1-54-03 each

BlastCam™ Model BCC2GB-F: Rugged, portable, light sensitive (2000 ASA color), color high speed video camera (RGB color with BAYER-Filter). 1 to 112,183 frames per second (fps) recording speeds. Maximum horizontal x vertical resolution at all speeds up to 506 fps = 1280 x 1024 pixels. Recording time of 3.3 seconds at 500 fps at maximum resolution. Recording time of 3.3 seconds at 1000 fps at a resolution of 1280 x 512 pixels. Operation from 10-30 VDC or 110-220 VAC. Includes: BlastCam™ High Speed Camera with 80-200mm f/2.8 F-mount Zoom Lens, BlastCam™ Controller, BlastCam™ Control & Playback Software including detection of motion in a selectable field of view to automate triggering, ProAnalyst® TrackOne Edition Software which allows auto-tracking of one feature and/or manually tracking of up to 32 features and exporting to Microsoft Excel™ for further analysis and graphing, BlastCam™ Tripod. BlastCam™ Ethernet Cable, Power Adapters and cables for DC and AC operation, BlastCam™ Operations Manual (English), BlastCam™ Carry Case. Includes MREL's 1 year Comprehensive 100% Parts and Labour Warranty.

### Optional Accessories (not included):

PWT™ Portable Wireless Trigger (Product 1-51-01): To command-trigger the camera wirelessly from up to 500 m

ProAnalyst® Professional Edition (Product 1-50-03): Includes all the analysis features and engines for auto-tracking objects in 1-D and 2-D, data reduction and report generation.

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Other Lenses: A wide variety of C-Mount lenses to meet specific requirements – contact MREL.



1-54-04	BLASTCAM™ C-MOUNT ADAPTER	each			
Can be attached to the BlastCam™ by the Customer. Allows use C-Mount lenses with the BlastCam™ High Speed					
Cameras. Includes MREL's 1 year Comprehensive 100% Parts and Labour Warranty.					

BLASTCAM - OPTIONAL ACCESSORIES: See Page 5.



### **HIGH SPEED CAMERAS – OPTIONAL ACCESSORIES:**

Product #	<u>Product Name</u>	<u>Unit</u>	
1-50-03	PROANALYST <sup>®</sup> PROFESSIONAL EDITION SOFTWARE (1 LICENSE)	each	

ProAnalyst® is the world's premier software package for automatically measuring moving objects with video. ProAnalyst® allows you to import virtually any video and quickly extract and quantify motion within that video. Used extensively by NASA, engineers, broadcasters, researchers and athletes, ProAnalyst® is the ideal companion software to any high speed video camera. This ProAnalyst® Professional Edition Software package is the industry-standard. Includes all the analysis features and engines for auto-tracking objects in 1-D and 2-D, data reduction and report generation. Optional toolkits add particle tracking, contour tracing, and image stabilization.

# 1-50-04 PROANALYST® 3-D PROFESSIONAL EDITION SOFTWARE (1 LICENSE)

ProAnalyst<sup>®</sup> is the world's premier software package for automatically measuring moving objects with video. ProAnalyst<sup>®</sup> allows you to import virtually any video and quickly extract and quantify motion within that video. Used extensively by NASA, engineers, broadcasters, researchers and athletes, ProAnalyst<sup>®</sup> is the ideal companion software to any high speed video camera. ProAnalyst<sup>®</sup> Professional Edition is the industry-standard. Includes all the analysis features and engines for auto-tracking objects in 1-D and 2-D, data reduction and report generation. This ProAnalyst<sup>®</sup> 3-D Professional Edition Software package is the ultimately flexible motion analysis software package. It includes all the features of the Professional Edition, plus the innovative and simple-to-use 3-D Manager. Analyze events captured by multiple cameras to reconstruct and display motion in 3-D with high precision and accuracy. Optional Versions (not included):

- 3-D FLIGHT PATH: Using two fixed camera views, analyze and reconstruct the 3-D motion of projectiles and bullets, including pitch, yaw, relative position and deviation from a desired flight line. Ideal for ballistics engineers and military range environments. Contact MREL for more information.
- 3-D TRACKER: Using two cameras and two flight trackers, measure and reconstruct 3-D motion of projectiles and rockets over a long distance, measures motion of multiple objects including sabot and ordnance separations over 100 m (328 ft.) or more using high speed cameras. Contact MREL for more information.

### 1-50-05 PROANALYST® IMAGE STABILIZATION TOOLKIT each

A recommended toolkit for the ProAnalyst<sup>®</sup> Professional Editions (Products 1-50-03 and 1-50-04) which removes unwanted jitter and vibration from a video. Simply select features within the image to stabilize upon and ProAnalyst<sup>®</sup> will create a new, stabilized video for later analysis. Great for vibration environments, hand-held jitter, airborne testing, frequency analysis and more.

### 1-51-01 PWT™ PORTABLE WIRELESS TRIGGER each

2.4 GHz Transmitter/Receiver pair, providing wireless remote triggering of instrumentation such as high-speed cameras. This radio frequency approved for use in North America and throughout the world. Utilizes Frequency Hopping Spread Spectrum Technology to provide superior signal reliability. 50 mW transmission power, up to 500 m (1,640 ft.) range "line of sight". Includes Transmitter, folding antenna, push button trigger switch, 120 VAC or 230 VAC Battery Charger (as specified by Customer), adapter for external 6 VDC. Includes Receiver, folding antenna, 120 VAC or 230 VAC Battery Charger (as specified by Customer), adapter for external 6 VDC. Padded Carry Case. Includes 2 professional tripods with pistol grip action camera ball mounts. Colour Operations Manual (English or Spanish as specified by Customer). Training video on DVD. Includes MREL's 1 year Comprehensive 100% Parts and Labour Warranty.



# 1-51-03 PWT™ PORTABLE WIRELESS TRIGGER each

Additional 2.4 GHz Receiver for use with Product 1-51-01. Programmed to match Transmitter. Provides remote triggering at an additional location. This radio frequency approved for use in North America and throughout the world. Utilizes Frequency Hopping Spread Spectrum Technology to provide superior signal reliability. Includes Receiver, folding antenna, 120 VAC or 230 VAC Battery Charger (as specified by Customer), adapter for external 6 VDC. Includes 1 professional tripod with pistol grip action camera ball mount. Maximum of 4 Receivers per Transmitter. Includes MREL's 1 year Comprehensive 100% Parts and Labour Warranty.

### LENSES HIGH SPEED C-MOUNT AND F-MOUNT LENSES each

MREL supplies a varity of high speed zoom and fixed focal length lenses to suit a variety of high speed video recording applications. Tell us about your application and your camera and MREL will recommend one or more appropriate zoom or fixed focal length high speed lenses.

### **ADDITIONAL INFORMATION:**

All prices are EXW Kingston, Ontario, Canada.

More information on MREL's BlastCam<sup>™</sup> High Speed Camera, PWT<sup>™</sup> Portable Wireless Trigger and ProAnalyst<sup>™</sup> Software is available online at www.mrel.com.

For more information or to request a formal quotation please contact your local Authorized MREL Blasting Instrumentation Distributor, or MREL's Blasting Instrumentation Department:

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