



THE *TROUBLESHOOTER*[™]

**PUT THE POWER OF HIGH-SPEED IMAGING
IN THE PALM OF YOUR HAND**

**JUST POINT & SHOOT.
SEE WHAT YOU'VE
BEEN MISSING.**

TROUBLESHOOTER is the world's first truly portable high-speed camera that goes where you go.

Portable. Just use standard D-cell batteries and forget about heavy battery belts or power adapters.

Fast. Record up to 16,000 frames per second and stop the action.

Easy. Capture thousands of images with the push of a button, review them on the built-in screen, and then save to a compact flash card.

Connected. Communicate between *TROUBLESHOOTER* and your laptop through the built-in USB-2.0 port.



TROUBLESHOOTER SOLVES PROBLEMS EVERYWHERE

IN THE FACTORY

- Reduce jams
- Speed up line setup and changeovers
- Lower scrap and rejected material costs
- Reduce downtime and maintenance expenses

IN THE LAB

- New product design and development
- Human biomechanics research
- Animal behavior analysis
- Flow visualization studies

IN THE FIELD

- Weapons testing
- Sports training and analysis
- Locomotion and feeding research
- Crash analysis



FASTEC  **IMAGING**[™]

SPECIFICATIONS

MODELS: TroubleShooter 250, TroubleShooter 500, TroubleShooter 1000, TroubleShooter HR.

SENSOR: CMOS array, up to 1280 x 1024 pixels, monochrome or color, 8-bit pixel resolution in monochrome, 24-bit pixel resolution in color.

SHUTTER SPEED: 1x, 2x, 3x, 4x, 5x, 10x and 20x the recording rate.

RECORDING MODE: Manual
Begins recording when the record button is pushed. Continues to record and store images in memory until the stop button is pushed.

Trigger
Begins recording when the record button is pushed. Continues to record and store images in memory until an external trigger signal is received. The adjustable trigger position determines how many frames are stored before and after the trigger signal is received.

PLAYBACK RATES: Single step mode plus auto playback at 1, 2, 3, 4, 5, 10, 15, 25, 30, 50, 60, 125, 250, 500 or 1000 frames per second, forward and reverse.

DISPLAY: Built-in 5" LCD color digital display.

OPERATOR CONTROLS: Setup, Function Select, Record, Stop, Play Forward, Play Reverse, Download, Power On/Off.

I/O CONNECTORS: USB 2.0 Port, Compact Flash, IRIG-B, Trigger, Sync In, Sync Out, DC Power.

TRIGGER INPUT: Contact Closure or standard TTL signal, 3 to 30 VDC.

SYNCHRONIZATION: Multiple cameras can be synchronized through phase-lock.

SOFTWARE: Includes CamLink camera control software for recording, playback and downloading to a computer. Images are downloaded and saved in .avi file format. Also includes MotionMeasure Software Suite for image playback and analysis. Quickly and easily calculates metrics such as acceleration and velocity.

MOUNTS: Standard C-mount lens mount, 1/4-20 tripod mount.

POWER SUPPLY: Four (4) D-cell batteries or 110/220 VAC adapter.

SIZE & WEIGHT: 6" W x 5" H x 4" D, 2.2 lbs. without batteries.

RECORD TIME MATRIX: TROUBLESHOOTER

Frames Per Second	Sensor	Standard Memory - 512mb		Enhanced Memory - 1gb	
		Total Frames	Record Time (Sec)	Total Frames	Record Time (Sec)
Recording Rate	Resolution				
125	640 x 480	2,184	17.5	4,368	34.9
250	640 x 480	2,184	8.7	4,368	17.5
500	640 x 480	2,184	4.4	4,368	8.7
1000	640 x 480	2,184	2.2	4,368	4.4
125	320 x 240	8,736	69.9	17,472	139.8
250	320 x 240	8,736	34.9	17,472	69.9
500	320 x 240	8,736	17.5	17,472	34.9
1000	320 x 240	8,736	8.7	17,472	17.5

TROUBLESHOOTER HR

Frames Per Second	Sensor	Standard Memory - 1gb		Enhanced Memory - 2gb		Maximum Memory - 3gb	
		Total Frames	Record Time (Sec)	Total Frames	Record Time (Sec)	Total Frames	Record Time (Sec)
Recording Rate	Resolution						
125	1280 x 1024	1,022	8.2	2,044	16.4	3,066	24.5
250	1280 x 1024	1,022	4.1	2,044	8.2	3,066	12.3
500	1280 x 1024	1,022	2.0	2,044	4.1	3,066	6.1
1000	1280 x 512	2,044	2.0	4,088	4.1	6,132	6.1
2000	1280 x 256	4,088	2.0	8,176	4.1	12,264	6.1
4000	1280 x 128	8,176	2.0	16,352	4.1	24,528	6.1
8000	1280 x 64	16,352	2.0	32,704	4.1	49,056	6.1
16000	1280 x 32	32,704	2.0	65,408	4.1	98,112	6.1
125	640 x 480	4,368	34.9	8,736	69.9	13,104	104.8
250	640 x 480	4,368	17.5	8,736	34.9	13,104	52.4
500	640 x 480	4,368	8.7	8,736	17.5	13,104	26.2
1000	640 x 480	4,368	4.4	8,736	8.7	13,104	13.1
125	320 x 240	17,472	139.8	34,944	279.6	52,416	419.3
250	320 x 240	17,472	69.9	34,944	139.8	52,416	209.7
500	320 x 240	17,472	34.9	34,944	69.9	52,416	104.8
1000	320 x 240	17,472	17.5	34,944	34.9	52,416	52.4
2000	320 x 240	17,472	8.7	34,944	17.5	52,416	26.2

