FASTEC IMAGING™

DATA SHEET

April, 2016

TS5

In the Plant, in the Studio, in the Field...High-speed imaging in the palm of your hand!

- Four models from QSXGA (2560 x 2048) @ 250fps to SVGA (800 x 600) @ 1650fps--all with faster frame rates at lower resolutions
- 7” touch display for control, frame and focus, and playback
- Built-in battery, good for up to 4 hours of operation
- Flexible recording and triggering modes to assure you capture every shot, every time
- Multiple built in non-volatile storage devices, including optional SSDs with up to 2TB capacity allow you to shoot and save your high-speed video quickly and securely without connecting to a PC

An essential tool for the analysis of human and animal movement.

Single cameras may be used for simple motion analysis but very often multiple frame-synchronized TS5s are used for Sports and animal locomotion applications.

Its superior image quality and dynamic range makes it a great studio camera for everything from food commercials to music videos.

...conceived as an instrument for diagnosing mechanical problems in manufacturing equipment...,

...an application at for which it has unparalleled capabilities.

Recording with the Circular Buffer

TS5, *an extremely efficient tool for capturing high-speed footage...*

...of unpredictable events such as mechanical failures, animal behaviors, or even some human behaviors such as hitting a baseball.

Using the circular buffer the TS5 may record some video trailing into the past as well as some advancing into the future.

Frame the shot and Arm the camera. The camera begins recording...captures a programmable amount of video into the circular buffer and then begins to overwrite it...

The batter swings and misses... swings and misses... takes a pitch... take another... and then...

Contact!

You trigger the camera at the crack of the ball hitting the bat...

...recording exactly what you want...no more, no less.

The camera retains the swing, the hit, the follow-through using your programed timing.

Fas*F*ire *automatically saves that clip while continuing to record the next...*

It's a long fly ball, but the fielder is running back... onto the warning track...

You trigger the camera again as the fielder catches the ball.

Fas*F*ire *queues that clip for saving and continues to record into the circular buffer, waiting for the next trigger...*

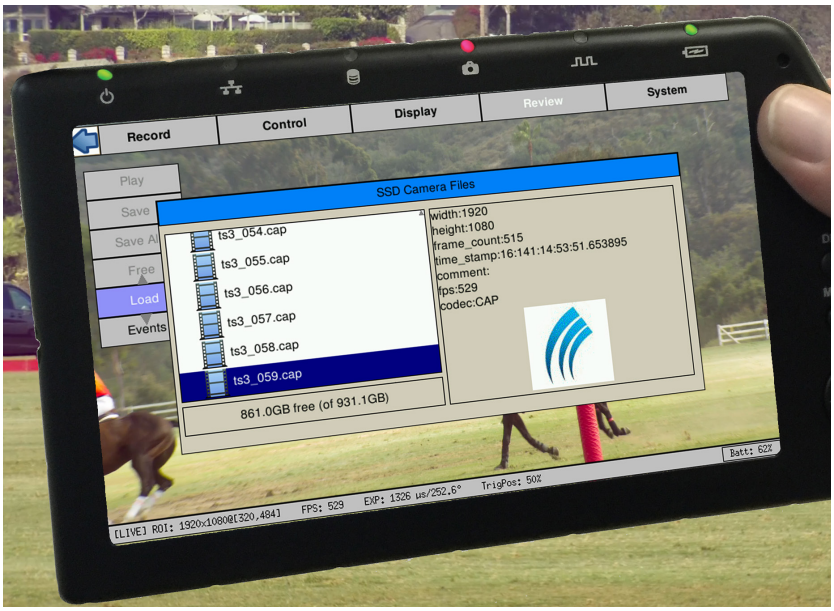
TS5 with Optional SSD

Optimized workflow with the optional SSD!

Record hundreds of high-speed clips on the TS5 without having to stop to download...

Save Raw, Uncompressed 8- 10- or 12-bit images

- The native raw format of the camera (CAP file) may be saved to the SSD very quickly (about 6 seconds for a 2GB clip)
- Once saved to the SSD, CAP files may be played back on the camera display
- CAP files may be converted to other formats (DNG, TIFF, JPEG, BMP, AVI) when transferred via Gigabit Ethernet to computer
- Batch transfers allow you copy all or selected files to computer



SSD Sizes up to 2TB

Stream directly to the SSD with the "Long Record" option as one long, continuous video, or start and stop the recording as you would a regular camcorder in **FasCorder** *mode.*

- The entire event is accessible for playback on the TS5 display, mobile device or computer.
- Start and Stop markers are placed on the timeline for easy navigation.
- Save any portion of the recording to onboard media or to a computer.

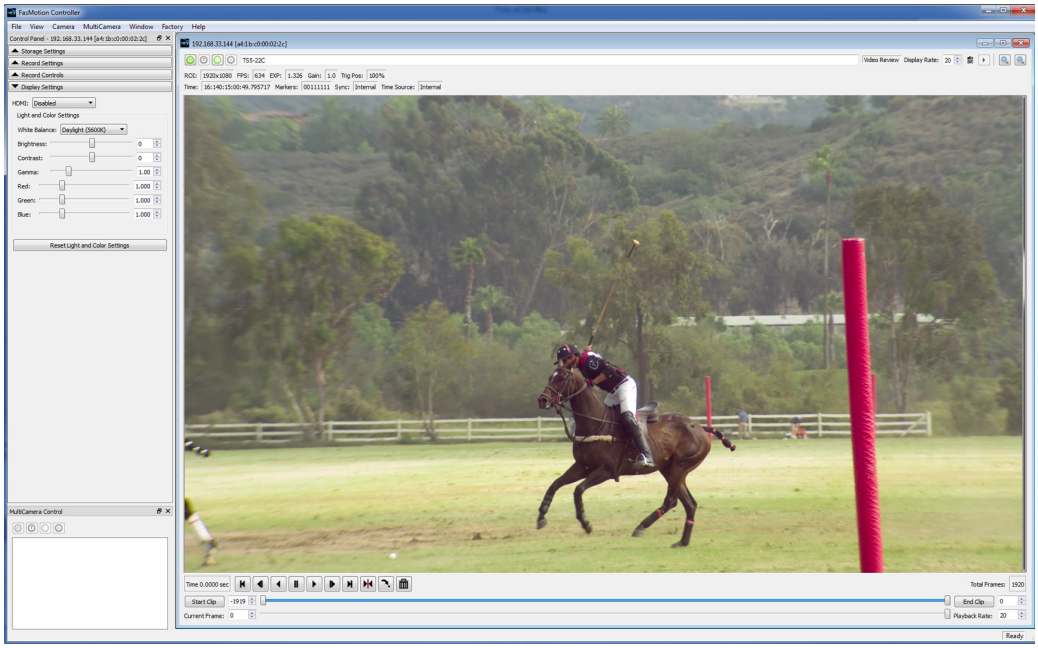
Camera Control Interfaces

7” on-camera display with touch and D-Pad controls for complete setup, control, and playback.

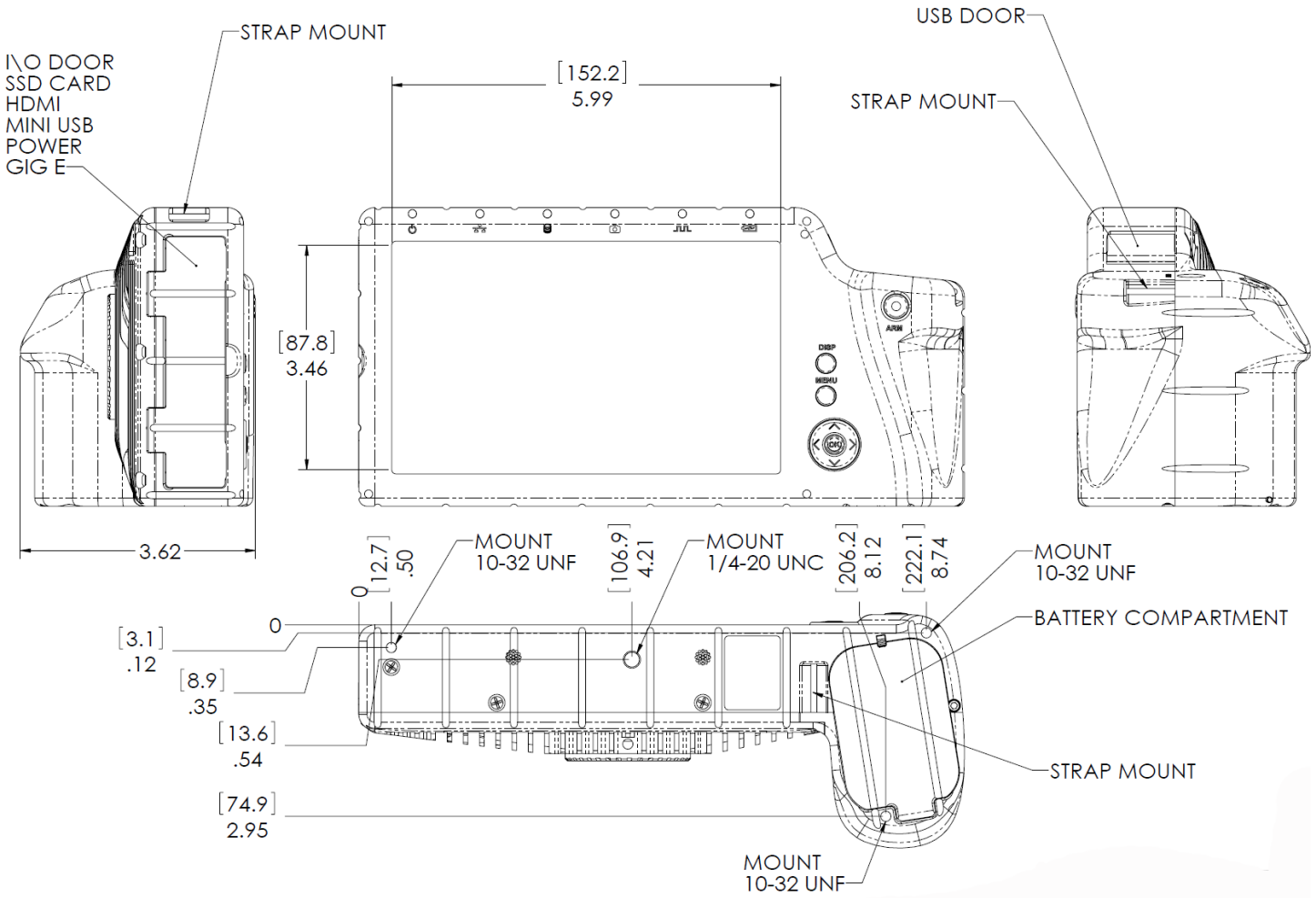
Connect wirelessly via the TS3’s built-in Web-Server for camera control on PC or mobile device on any browser without loading additional software.

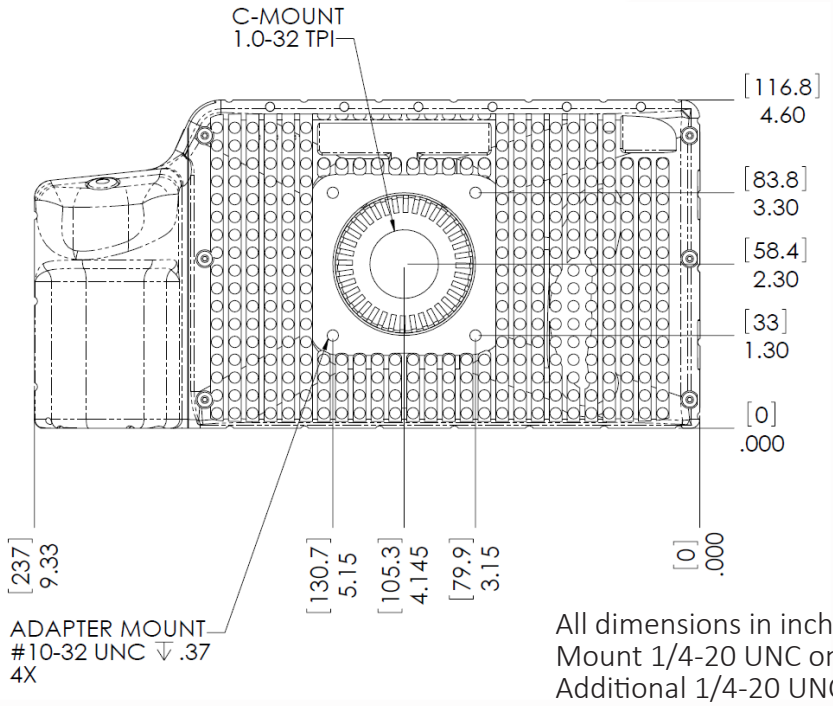
...or use FasMotion software on a PC or Mac

- *Fast downloads to PC (up to 90MB/sec)*
- *Multi-camera control*
- *Batch downloads and transcoding*
- *Flexible custom overlay superimposing metadata, user text or images on video*



TS5 Dimensions





All dimensions in inches and [ ]mm.
Mount 1/4-20 UNC on bottom is for tripod.
Additional 1/4-20 UNC is located on the top of the camera.

Recording Rates and Time

Normal Mode*

	Resolution	Max Frame Rate	Recording Time
TS5-Q: QSXGA	2560 x 2048 (QSXGA)	253 fps	6.3 sec
	2560 x 1440 (QHD)	359 fps	6.3 sec
TS5-H: HD 1080p	1920 x 1080 (HD: 1080p)	634 fps	6.5 sec
	1440 x 1080	634 fps	8.5 sec
TS5-S: SXGA	1280 x 1024 (SXGA)	991 fps	6.4 sec
	1280 x 1014	1001 fps	6.4 sec
	1280 x 720 (HD: 720p)	1403 fps	6.5 sec
	1000 x 1000	1015 fps	8.2 sec
	1024 x 768 (XGA)	1316 fps	8.1 sec
TS5-L: SVGA	800 x 600 (SVGA)	1677 fps	10.4 sec
	800 x 450	2221 fps	10.5 sec
	768 x 576	2764 fps	6.8 sec
	640x480 (VGA)	3289 fps	8.3 sec
	512 x 384	4061 fps	10.5 sec
	320 x 240	6267 fps	17.4 sec
	64 x 32	29090 fps	2min 19 sec

Long Record Mode**

	Resolution	Max Frame Rate	Recording Time
TS5-Q: QSXGA	2560 x 2048 (QSXGA)	91 fps	34.9 min
	2560 x 1440 (QHD)	130 fps	34.7 min
TS5-H: HD 1080p	1920 x 1080 (HD: 1080p)	231 fps	34.7 min
	1440 x 1080	308 fps	34.7 min
TS5-S: SXGA	1280 x 1024 (SXGA)	366 fps	34.7 min
	1280 x 1014	369 fps	34.7 min
	1280 x 720 (HD: 720p)	520 fps	34.7 min
	1000 x 1000	478 fps	34.7 min
	1024 x 768 (XGA)	610 fps	34.7 min
TS5-L: SVGA	800 x 600 (SVGA)	993 fps	34.7 min
	800 x 450	1331 fps	34.7 min
	768 x 576	1084 fps	34.7 min
	640x480 (VGA)	1562 fps	34.7 min
	512 x 384	2441 fps	34.7 min
	320 x 240	5000 fps	42.8 min

All specifications subject to change. All record rates assume 8-bit data.
*Record times assume 8GB of memory. Divide Record times by 2 for approximate 4GB record times.
**LR Record times assume “D” option and 1TB SSD. Divide by 2 for 512GB SSD; multiply by 2 for 2TB SSD.

TS5 Specifications

Standard Features

System Design	Handheld, battery-powered, portable with touchscreen LCD
Sensor	12-bit CMOS sensor with 5µm square pixels, color or monochrome
Sensor Modes	Standard, binning 2x2 or 4x4; sub-sampling 2x2 or 4x4; Or 2x binning + 2x sub-sampling
Resolution by Model	TS5-Q: QSXGA 2560 x 2048; TS5-H: HD 1920x1080;-S: SXGA 1280x1024;-L SVGA 800x600
Light Sensitivity	1600 to 12,800* ISO monochrome, 800 to 6400* ISO color (depending on mode)
Shutter	Global electronic shutter from 3µsec to 41.654ms
Image Memory	4GB (std.) or 8GB (optional)
Removable Storage	SD card (SDHC: 32GB maximum); USB flash drive
File Formats	Stacks – BMP, DNG (color), JPEG (selectable quality), TIFF, TIFF(raw); Video – AVI (selectable quality (compressed) or un-compressed), CAP(raw); Still – JPEG
Lens Mounts	C-mount (all cameras ship with C-mount), F-mount or PL-mount (optional)
Built-in Monitor	High resolution, 178mm (7”) diagonal LCD
Communication Ports	USB 2.0 device port (micro-B), Ethernet (10/100/1000Base-T)
Control Software	Fas*M*otion (PC/Mac application), web interface (web browser on all platforms)
Six External I/O Ports	Trigger In/Out, Sync In/Out, Arm In/Out (LVTTL (3.3V) or switch closure); Any or all of the I/O ports may be used as Marker inputs
Marker Data Views	Camera display info line, playback timeline, Fas*M*otion o-scope mode, XML file
Video Out	HDMI (1080p30, 1080p60, 720p, 480p)
Construction	Anodized machined aluminum housing
Power	Rechargeable Internal Li-ion battery or 10-26 VDC external
Power Consumption	42W maximum
Operating Environment	+5°C to +40°C
Size and Weight	228mm (9.0”) W x 114mm (4.5”) H x 89mm (3.5”) D. 1.8 Kg (3.9 lbs.)

Optional Features

WiFi	802.11 b/g/n, Security: open, WEP, WPA(2)- PSK
Built-In Storage	Solid State Drive (SSD): 256GB, 512GB, 1TB, 2TB
Long Record	Streams uncompressed video to SSD at 480MB/sec; 8GB mem. + SSD required; ships with an external battery pack

*Higher ISO settings available via bit-shifting and analog gains result in lower SNR. Binning modes reduce noise.

All specifications subject to change.

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