Release Notes, Ver. 1.2.x – 2.5.3:

2.5.3:
- Update FPGA for support of newest SATA SSDs.
- Fix bug allowing WiFi ad-hoc to function normally
- Auto-Trigger mode—Licensed camera feature to be used in conjunction with Auto-Playback (added in 2.1.x)
  - Implemented to allow camera to autonomously Record / Playback / Re-Arm / Trigger
  - May be used to continually monitor an ongoing process, whereby an HDMI display is connected to the camera. The user will see live video during a very short Record phase, then a much longer slow motion Playback, which will typically be set 10x to 50x slower than Live and represents 90% or greater of the Playback "duty cycle," giving the impression of witnessing the action in virtual "real time slow-motion."
- SDK features (added in limited releases between 2.4.2 and 2.5.3)
  - Add "Turbo-mode" support for SDK—support and access via NDA process
  - Add external I/O support
  - Gain change support
- Rename "Column" to "Sensor" for FPN control.
- Fix FasMotion bug that made centering the image inaccurate.

2.4.2:
- Image Trigger—FasMotion will trigger based on changing image content in a user-specified region
  - User-selects %change and %area to tune sensitivity of the feature
  - FasMotion must be actively controlling the camera
  - Computer performance and network will affect latency of response
- Time Trigger—FasMotion will send a trigger to one or more cameras at user-specified intervals
  - User-selectable intervals from 1s to about 25hrs
  - All other triggers remain valid
  - Computer performance and network will affect latency of response
- Auto Exposure Tracking—Adjusts shutter speed according average value of a specified region to keep the exposure constant when lighting varies
  - FasMotion feature requiring the user to specify a region of interest within the live image
  - FasMotion must be actively controlling the camera.
  - Cannot be used in multi-camera mode
  - Computer performance and network will affect latency of response
- Higher Maximum Frame Rates—lower minimum ROIs for IL5/TS5
  - Minimum ROI is now 64 x 32. Maximum frame rate is 29,090 @ any horizontal resolution 768 and lower and a vertical resolution of 32 with binning enabled. Maximum frame rate is 22,851 with binning disabled.
- SSDs up to 2TB are now supported
- Dropping support of FasMotion32
  - 32-bit version of FasMotion is being dropped for lack of performance.
- Release of SDK
  - SDK supports all IL3/4/5 and TS3/4/5 models
  - Requires advanced software engineering skills (not for the novice!)
- External SSD option is now available. The SSD may be used for Long Record on cameras with the "D" option. The drive may also be used for CAP, TIFF, DNG, BMP, or JPEG storage in Standard mode.
  - The external SSD option may be purchased for any IL5 that does not have an internal SSD.
  - The external SSD option may be purchased for any TS5. If the TS5 has an internal SSD it will only be enabled in "fast SSD" mode, external SSD will be enabled in "slow SSD" mode.
- Fix bug—Custom White Balance for CAP files. (Values were not being saved in CAP files)
- Fix bug—Custom White Balance intermittently recording unity

- Time 0 offset item has been added to the Available Items list for Overlays in FasMotion. The Time 0 offset is the time in microseconds between the beginning of exposure for frame 0 (the trigger frame) and the trigger time.
- Driver for new high-gain WiFi Dongle. The new dongle is the Hawking HWUN4. This adapter is compatible on any camera licensed for WiFi running 2.4.x or above.
- Major internal re-design of Web-App—faster refresh—better overall performance
- Update languages—add German to FasMotion
- Added an option to run IL5/TS5 in a special DVR mode for compatibility with "surveillance" type vision systems that are often deployed at industrial plants.
    - IL5/TS5 is connected to existing camera network via HDMI or SDI
    - Images from IL5/TS5 are written to existing DVR just as any other camera on the network
    - IL5/TS5 boots up "Armed," recording live images to the DVR
    - Whenever IL5/TS5 gets a trigger (software or hardware) the camera completes its high-speed recording and plays it back once—recording that slow-motion video to the DVR. The IL5/TS5 then returns to "Armed" waiting for a trigger and sending live frames to the DVR.

2.3.x:

Released only as Beta—for SDK users.

2.2.x:
- Implemented new higher frame rates for 5-series cameras.
    - IL5 and TS5 cameras set with horizontal resolutions equal or below 1280 are able to achieve higher frame rates due to improved row timing. 1000fps is now possible @ 1280 x 1014 and over 1400fps is possible @ 1280 x 720.
        - When these resolutions are used at frame rates that can be achieved with the old row timing, that old timing is used to preserve the best image quality. *Black frame calibrations should be performed by the operator to ensure use of valid black frames when changing frame rates.*
    - IL5 and TS5 cameras set with horizontal resolutions equal or below 768 see substantial improvement in frame rates with this software and even greater improvement when 2x or 4x binning is enabled.
        - Maximum frame rate @768 x 768 was 886 with 2.1.x. Maximum frame rate @ 768 x 768 is now 1098 without binning, and 1745 with binning enabled.
- New default values for Recent Settings have been implemented for all TS models.
- Time zone may now be set via FasMotion.
- Image in FasMotion may now be rotated using ctrl/← and ctrl/→
- CAP file Load on the TS now opens with the focus on the most recent recording.
- Improved black calibration on TS3/TS4 to better optimize correction near black as well as near saturation.

2.1.x:
- Support for TS5/IL5 Q
    - Resolutions up to 2560 x 2048
- Support for Dual Mode, "D," versions of TS5/IL5 cameras
    - Dual Mode includes all Long Record and Standard Modes
    - The Dual Mode option is available for all TS5/IL5 models (-L, -S, -H, -Q)
- New Charging menu for TS4100LR3 and all TS5-D cameras
    - TS4100LR3 and TS5-D cameras are all capable of fast SSD (SATAIII) mode in both FasFire and Long Record (Basic and FasCorder mode). The instantaneous power requirements for operating in these modes may surpass the camera's ability to operate under internal battery power. The new charging

menu gives the operator the choice to run the camera in in slow SSD (SATAII) mode when operating exclusively on internal battery power.

- IL4100LR3 and all IL5-D cameras always operate in fast SSD mode
- TS3100 and TS4100LR2 and TS5 cameras without the "D" option always operate in slow SSD mode
- TS4100LR3 and TS5-D cameras always operate in fast SSD mode if the internal battery is removed (operating on external power only)
- TS4100LR3 and TS5-D cameras always operate in slow SSD mode when they are powered up on internal battery power only (not connected to external power)
- TS4100LR3 and TS5-D cameras give the operator a choice of fast or slow SSD mode when they are powered up connected to external power with the internal battery installed.

- Support for "Level" sensitive Arm-In only for a Low signal
    - The I/O signals are High until pulled low or shorted to ground. If an operator enabled Arm-In, Level High with nothing attached to pull the signal Low on the camera, it would be enabled Low with no good way of disabling it via FasMotion.
- Improved black calibration for TS/IL-3 and -4 series cameras
    - Improved both near-black and near-saturation performance
- Auto-Playback: Added preference to set the camera in Playback as soon as it enters Review mode after making a recording, thus allowing immediate playback without any intervention
- Added the option of asserting Arm-In without clearing warning messages when the image buffer is not empty.
    - This allows more flexibility for unattended operation of both TS and IL cameras
- Automatically disable HDMI if any resolution greater than 1920 (horizontal) or 1080 (vertical) is applied
    - The TS/IL platform does not support HDMI in resolutions higher than 1080p. The Q versions of the IL5 and TS5 support resolutions up to 2560 x 2048. On these models, HDMI will automatically be disabled if any resolution over 1080p is set.
- Known Issues:
    - On some installations of FasMotion, the user needs to set the permission to let FasMotion through the Windows Firewall.
        - The user needs to go to Control Panel > All Control Panel Items > Windows Firewall > Allowed Programs. Once there they need to make sure there is a check mark next to EVERY instance of FasMotion
    - File transfers on some Mac computers is slower than before
        - We don't yet know if this is due to an Apple update. A warning message is seen if the UDP receive space on the Mac is less than 2MB
        - There is documentation available through on how to increase the UDP receive space. If this becomes necessary, please contact support@fastecimaging.com
- On Setup dialog for TSx touch control, the Resolution and Frame Rate sliders now dynamically rescale according to the current parameter limits.
    - When using the Frame Rate slider, for any resolution, the slider bug can move all the way to the right-hand side for the highest frame rate
- Offsets may be set from the TSx touch control Settings menus.
    - A new dialog box with sliders and edit boxes was added to the Settings controls
- A locking mechanism was added to "Recents" on TSx touch control Settings
    - Up to eight settings may me locked and not overwritten in the "Recents" dialog
- Bug that did not allow saving of 2560 x 2048 raw images to Sdcard and USB drive fixed.

2.0.x:

- Support for TS5/IL5 H, S, and L
    - Resolutions: H-1920 x 1080, S-1280 x 1024, L-800 x 600
    - 2x binning or sub-sampling on resolutions up to 1280 x 1024; 4x binning or sub-sampling on resolutions up to 640 x 512; 2x binning + 2x sub-sampling on resolutions up to 640x 512 (using full

sensor: 2560 x 2048 pixels)
- o Implementation of 12-bit images: save 12-bit CAP, DNG, or TIFF(raw); 10-bit CAP, DNG, or TIFF(raw) using high (12:3), middle (11:2) or low 10-bits (10:1); save 8-bit AVI, JPEG, DNG, BMP, CAP, DNG, TIFF, or TIFF(raw) using bits 12:5, 11:4, 10:3, 9:2, or 8:1.
- Save images with metadata and/or custom text overlays in Fas*M*otion
  - o Overlays added to JPEG, AVI, BMP, and TIFF images when saving to computer Path in Fas*M*otion
  - o Multiple overlays may be added
  - o Overlay may be added to top, bottom, sides, or "overlaid" on top of images
    - ▪ Overlays may extend the image resolution
  - o User selects from a large number of metadata options for inclusion in each overlay and may select the order in which they appear
  - o User may add custom text fields within an overlay
  - o User may select font, pitch, and color of overlay text
  - o User may select size, shape, color, and transparency of background
- Transcode images and videos saved on PC
  - o May open any saved file type (AVI, JPEG, TIFF, BMP, DNG, TIFF(raw), and CAP.
  - o May re-save as AVI, JPEG, TIFF, BMP. Note TIFF(raw) images are not colorized.
  - o Cut-in and cut-out positions may be changed (save a subset of the original).
  - o Overlays may be added.
- Known Issues:
  - o This version is not compatible with the "D" versions (Long Record) of the TS5. The "D" versions will be released in 7/2015 along with 2.1.x.
  - o When changing bit depth from 12 to 8 bits in FasMotion, the image loses center—to regain center you must select the "center" checkbox in the ROI Settings portion of the Record Settings tab

1.9.x:
- Added Multi-Camera support for Fas*M*otion
  - o New Fas*M*otion supports all versions of TS3/4 and IL3/4 cameras.
  - o Multiple live camera windows: window with "focus" maintains highest bandwidth and, thus, has fastest refresh rate.
  - o User chooses cameras to add to multi-camera control pane (or add all connected).
  - o Selected Cameras may be Armed, Triggered, set to Live, Review/Playback, etc. as a group
  - o Configurations may be "pushed" to attached cameras
- Many items now found in context menus (right click on a window and a context menu for that window appears). This saves a lot of time and "navigating" between menus.
- New "Found Cameras" window
  - o User may select information (camera name, IP address, MAC address, Serial #, etc.) shown in window via context menu.
  - o Window is a detachable pane that may be left open; moved outside FasMotion window; or closed.
- Zoom control using mouse wheel
  - o Any camera or playback view may zoomed-in or –out using ctrl+ mouse wheel.
- Delete Icon added to playback controls in Fas*M*otion and the TSx Camera GUI
  - o On TS3/IL3 this deletes the present partition.
  - o On TS4/IL4 it may also be used to delete from the present cursor position to the end of the recording in Fas*C*order ROC or BROC modes.
- Disallow deletions on SSD
  - o FasMotion and the Camera GUI no longer allow deletions of any files from the SSD. This includes all Move functions, which are functionally Copy + Delete.
- Playback support for DNG Stacks.
- Advanced Calibration
  - o Calibration now includes Advanced functions including Gain and Offset controls
  - o Calibration now supports Column FPN

- Battery LED on TSx cameras now always blink when camera is operating from internal battery
  - When operating from new external battery option the LED will remain solid. The blinking LED becomes the indicator that the external battery power has run low.
- Fas*M*otion "Stats" file is now in csv format
  - This makes it compatible with Xcel.
- Shutter angle added to Exposure dialogs
  - Fas*M*otion and Camera GUI (advanced) dialogs now include shutter angle.
- Improved Web GUI for mobile devices
  - Edit boxes are now employed in place of many sliders to enhance usability on mobile devices.
- Known issues:
  - Battery gas gauge is calibrated for Normal basic mode only
    - When in Long Record and FasFire Modes, especially on the TS4100LM3 models, the camera will shut down well before the battery gauge gets to 0.
    - NOTE: there are new wearable external batteries available through Fastec to mitigate the issue and to give the operator many hours of record time
    - Power requirements vary greatly depending on mode, display settings, HDMI settings, and SSD type.

1.8.26:

- Fixed intermittent bug that affected a very limited number of cameras: JPEG encoder would not always initialize properly and would hang. This would most often occur when trying to save JPG stacks or AVIs (Error code 2), or when connecting to FasMotion (no live display).

1.8.25:

- Fas*C*order Mode! Operate the TS4/IL4 as a camcorder in Long Record mode.
  - ROC, Record on Command: In this mode, the camera toggles between recording and paused states with every trigger—much like a Camcorder. When you wish to playback the video, you see all of the recordings on one timeline.
  - BROC, Burst Record on Command: In this mode the camera acquires a set number of images with each trigger.
    - Play the video with all of the normal playback controls for searching, stepping, etc.
    - Use the new "Record Start" markers to skip to the beginning of the next or previous recording.
    - Cut-in and Cut-out buttons now toggle off and on so it is easy to change their positions.
  - When you are done reviewing the recorded video, you can record more. The camera appends new video to the timeline.
- Long Record mode recordings now persist after a power down—even a power failure!
  - Long Record Fas*C*order mode recordings will persist on the camera until deleted. You may append these—add recordings to the timeline whenever you like until the SSD is full.
  - Long Record Basic recordings, which are single recordings streamed to the SSD in "circular buffer mode" will persist. They cannot be appended.
- Touch screen menu changes
  - Added Advanced Shutter Speed item: a slider so you can perfectly dial in the correct exposure.
  - Record menu moves to left and is open when the camera boots
  - System menu moves to the right
  - Added Mode element to the Record menu to guide the user through setup of the different Standard and Long Record modes:

- **Standard Basic**
- **Standard FasFire**
- **Long Record Basic**
    - Long Record Fas*C*order: Record on Command (ROC), and Burst Record on Command (BROC
- o Removed Trigger Position Element in the camera's Control menu
    - Trigger position is not relevant Fas*C*order ROC and BROC modes
    - Trigger position changes will now be don via Record Mode Options
- Known issues:
    - o Battery gas gauge is calibrated for Normal basic mode only
        - When in Long Record Modes the camera will shut down well before the battery gauge gets to 0.
        - Power requirements vary greatly depending on mode, display settings, HDMI settings, and SSD type.
    - o Autosaving per-frame metadata may fail in FasMotion on some systems.
        - If the progress bar does not close or a warning message appears while downloading metadata, close the message box and then re-enable markers using the "Events…" button. The per-frame metadata will then download.
    - o While in Autosave, a trigger may be ignored if it occurs too soon after re-Arming
        - In Autosave the camera re-Arms automatically. If a trigger is received while the camera is re-Arming, which may take up to 30ms, the trigger may be ignored.

1.7.x:

- TS4 – IL4!: Support for new "Dual Mode" cameras
    - o TS4 and IL4 are capable of recording directly to internal SSDs in Long Recording Mode—record times are increased approximately 30 to 60x! TS4 and IL4 cameras have standard 256GB or optional 512GB SSDs.
    - o TS4-IL4 cameras also support all of the "Burst" camera modes of the TS3 and IL3.
    - o TS4100LR2 / IL4100LR2 cameras support SATA II performance in Long Recording Mode
        - 1280 x 1024 @ 183fps
        - 640 x 480 @ 770fps
    - o TS4100LR3 / IL4100LR3 cameras support SATA III performance in Long Recording Mode
        - 1280 x 1024 @ 366fps
        - 640 x 480 @ 1541fps
- Slightly faster record rates (all TS3100S / IL3100S / IL4100L Rx cameras—not applicable to "L" models)
    - o With the 1.7.x update all TS3100S/IL3100S and TS4 cameras will have faster record rates. Examples:
        - 1280 x 1024 @ 510fps
        - 1280 x 720 @ 725fps
        - 640 x 480 @ 1959fps
- Event Markers displayed on Review Timeline on the Camera Display and in FasMotion (all models)
    - o Up to 6 I/O inputs may be used to establish marker data.
    - o User choses which markers to show on timeline.
    - o Multiple inputs may be used in conjunction with And or Or logic
- I/O Status displayed in "Oscilloscope Mode" when in Review in FasMotion (all models)
    - o Up to 6 channels may be displayed at a time
    - o Channels may be arranged in any order
- Record Cancel and Retain (all models)

- - With very long record times, you may wish to cancel a recording early. This feature allows you to cancel a recording and retain the images already captured. (Works in Long Recording Mode and all Burst (Normal) Modes.)
    - When recording using external sync "slave" mode, it is possible that the "master" sync source is stopped before the recording ends. If this happens, the slave camera recording may be cancelled in order to end the recording, and the images can be retained.
  - Minimum ROI changed to 48 x32 in order to maintain image quality (all models)
    - Maximum frame rate adjusted to 60518

1.6.x:
- Fas*F*ire!—Never miss a shot!
  - Take a shot…while it is being saved, take another…and while the second is in the queue and the first finishes saving, take another…
  - Up to 16 partitions may be in the queue…Just set Session length to less than half the DRAM memory size…the shorter the sessions, the more partitions you have, and then put the camera in Autosave and start shooting.
  - Works well saving CAP files to the SSD (on compatible cameras), with AVI files to SSD (for cameras that cannot do CAP files) and with AVI files to SD card…Can be used with any file format to any mass storage device on the camera.
  - Works on the TS3 camera GUI and in Fas*M*otion with the TS3 or IL3
- Batch Transfers and Conversions in Fas*M*otion
  - Select multiple image stacks or AVI for Copy or Move to PC
  - JPEG and BMP stacks may be converted to AVIs (JPEG/AVIs are compressed, BMP/AVIs are not)
  - Batch transfer and Convert CAP files to any format to your PC
- Language Support additions
  - FasMotion now in Japanese and Korean…more to come
  - TS3 camera GUI in Japanese, Korean, Chinese (traditional and simplified), Russian…more to come
- IRIG on the TS3
  - TS3 can now be ordered with IRIG
- Per Frame Metadata can be viewed in Review/Playback or downloaded in XML file
  - Timestamp to microseconds
  - Marker status
  - Sync status
- More I/O Functionality—including Markers
  - Trigger In and Trigger Out
  - Arm In and Arm Out
  - Sync In and Sync Out
  - Any one or more of the 6 I/O channels may be used as Marker inputs
- Important Bug fixes
  - TS3 Camera GUI much more responsive and quick
  - Improvement in image artifact reductions
- Beta version for Mac
  - Beta version for Mac available on request…if interested, contact Fastec

1.5.x:

- IL3 Support
  - First release of Firmware that supports the new IL3 family.
- TS3 New Build
  - This release supports the new build of TS3 cameras (serial # A0 and higher). When equipped with an optional SSD, these cameras can save image data to the SSD at much higher rates than the previous build. These cameras also can save and reload CAP files (a new Fastec proprietary uncompressed raw image file format) between the camera's high-speed memory and SSD.
  - New TS3 build does not support AVI save to SSD. Older cameras (serial # up to 9x) have no change

in SSD save functions and still support AVI to SSD saves.

- Japanese and Korean Language
  - The language set for the camera menus on the TS3 may be switched to English, Japanese, or Korean in the Preferences dialog.
- Fas*M*otion
  - Fas*M*otion is a PC application for controlling TS3 and IL3 cameras.
  - Fas*M*otion uses UDP for saving image data to the PC. Most file types will transfer from camera to PC about 10x as fast as when transferring via USB OTG or a Gig-E connection (using Explorer).
- Battery Charging
  - On 1.5.x there is a new Battery charge dialog that pops up whenever powering up or down with power connected and a battery installed.
  - Battery charging begins as soon as power is applied to a camera with a battery (that is not fully charged).

1.4.x:

- Session Length
  - Allows user to choose the portion of the record buffer to use in increments of .25GB.
  - Dialog with slider displays the session length adjustment in terms of Size (memory to be used), Frames, and Time.
  - May be used in conjunction with AutoSave to streamline production of clips when the full buffer is not needed and when events may occur in rapid succession.
- Default Gamma in Preferences Menu
  - Sets LCD Gamma to 1.0 or 2.2. (See LCD Gamma in 1.3.x notes, below.) Sets the default reset Gamma in Display/Image Adjust to 1.0 or 2.2.
- WiFi
  - On WiFi enabled cameras, new WiFI menu under System with functionality to find and connect to local WiFi networks and enter Password (Currently in pre-release testing / Beta testing).
  - Scans for local networks or permits manual entry of SSID.

1.3.x:

- New User Preferences Dialog in Systems Configuration Menu
  - JPEG Qfactor: Range from 1 to 100 affects the quality and size of JPEG and AVI files. Reset value is 80, which is high quality at a reasonably small size. 100 gives the best quality, but is considerably larger (typically 2x) and will be proportionately slower to Save. Actual compression rates will depend on the image content.
  - LCD Gamma: User sets the LCD Gamma to 1.0 or 2.2, whichever best matches the display on which the images will be viewed after download. Test by placing the camera next to the PC screen or monitor you will be using and display the same image on both to compare. Select the Gamma setting that matches the best.
- Playback speed control for AVI
  - AVI save from either Autosave or Review/Playback allows the user to set the playback frame rate.
  - Playback rates are selectable from 1 to 999 frames per second.
- New choice of Reset: Hard or Soft Reset
  - Hard Reset powers the camera down and back up and loads the factory default configuration values. Images in memory and saved configurations are discarded.
  - Soft Reset restarts the user interface and clears most error conditions. The camera configuration is not changed and the images in memory are preserved.
- Display Menu functionality has been revised.

o The DISP button is now a four-way toggle in Live Mode: 1) display off; 2) display on; 3) display + status bar on; 4) display + status bar + histogram on.

1.2.x:

- All Camera Menus and Dialogs are now Touch enabled
  o Menu / Back arrow icon in upper left corner of LCD display when touch is enabled works as alternate MENU button.
- Touch Keypad is now QWERTY.
  o New touch Number Pad for edit boxes that only require numbers such as Save/Start and End frames.
- All new Review/Playback:
  o Touch slider to help browse through captured video and find frames of interest.
  o Return to Live button (video camera icon).
  o Save Clip button opens Save dialog (floppy disk icon).
- Touching the screen now resets the LCD timer.
- Record Settings Menu
  o New functionality in Basic menu to more easily select desired frame rate and resolution.
  o New Auto-Max selection automatically selects highest frame rate for any selected resolution or highest resolution for any frame rate selected.
  o User may now change both Frame Rate and Resolution without leaving the Basic Dialog box.
  o New "Apply" button.
  o Record Settings Advanced Menu with Auto-Max feature (works the same as in Basic Menu).
- Storage/Format now has EXT2 option for SD Card and USB as well as SSD
  o Approximately 10 to 20% faster download times for TIFF, BMP, AVI, and DNG formats.
  o Up to 6X faster download for large JPG stacks (reduces per/frame overhead).
  o Users need a 3rd party disk utility to access EXT2 formatted drives and SD Cards on their PCs. Recommend DiskInternals Linux Reader (www.diskinternals.com) or Ext2fsd Ext2 Volume Manager (www.ext2fsd.com).
- DNG (Raw) format available for color cameras: 8- and 16-bit
  o DNG files may be opened with Adobe products, including After Effects, Premiere Pro, Photoshop, and Photoshop Elements. They may also be opened in Black Magic Resolve and Resolve Lite, IrfanView, AVS, Raw Therapee and others.
  o FPN Correction applied to "RAW" formats: TIFF(Raw) and DNG. (Pixel FPN correction may be turned off if desired).
- Image pipeline now 16 bits wide
  o Eliminates artifacts caused by quantization errors.
  o Smoothing effect (more intermediate pixel values) when image processing gains are applied through white balance, or brightness, contrast, and gamma adjustments.
  o Increases color space—more useable colors after color correction and white balance is applied—better color detail.
  o When 10 bits are recorded, all 10 bits available to the image processor for color correction, white balance, and all user image controls. (This is true even when the saved file format is 8-bit).
  o Eliminates the need for low-med-high 8-bit selection when 10 bits are saved: User can adjust brightness, contrast, and gamma to expose the lower bits in a much more controlled way.
- New Image Adjust dialog
  o Sliders for Brightness, Contrast and Gamma.
- New LCD Adjust dialog
  o Brightness, contrast and backlight sliders control the LCD display only.