Changelog

752

1. You can use record button in play mode now.

2. Record override works also when running a move in reverse direction. Attention: Dwell frames are still not supported for record override.

751

1. Bugfix: In live targeting mode, un-clicking "inlude focus" works as expected: Focus is under manual control now.

2. Bugfix: Sometimes, the friction values for BP and BT were not used until one opened crane settings and clicked OK.

3. Bugfix: Record override should be reliable now. Before, it sometimes didn't start.

4. For each rocker or keyframe move, a file /usr/crane/cgi-streams/bloopplate/%DATE%_AR.cgi or /usr/crane/cgi-streams/rocker/%DATE%_AR.cgi, repectively, is created. You can later choose "import move from fbx/cgi" to repeat these moves. Attention: It is not yet verified that playing back these moves is frame accurate.

749

1. In geometry settings, you can specify an offset for telescope, BP, BT, track, pan, tilt and roll. Intended for e.g. periscope lenses (tilt 90 degree offset).

748

1. Inceased zoom label width to ensure readablity.

745

1. Added support for "trigger record by bloop button".

2. Added support for "trigger record by timecode".

739

1. Geometry setting (L1 ... L7) use descriptive pictures now. It is also mentioned whether a certain value is for data export, targeting or both.

2. For targeting, a new parameter L7 is added. This is the longitudinal displacement between tilt axis and focus reference. For TV lens, focus reference is at front glass. For film lens, focus reference is at film (CCD) plane. Previous versions used parameterr L3 for that.

3. Parameter L3 (now for data export only) shows two options: In case of prime lens, it is measured from perspective point which is equivalent to the center of iris as it appears when looking through the front glass. In case of zoom lens, perspective point is changing. As a result, we usually measure from the lens mount and post production has to deal with shift of perspective point with zoom.

736

1. New function "sample linking keyframe".

2. New function "Copy all to different directory". This function deals well with linking keyframes and therefor is a perfect way to copy complete move matrices.

3. Saving and loading interpolation settings is enabled now.

4. Bugfix: "define by current crosshair" works also for private interpolation settings now.

5. Bugfix: Filenames with dots didn't work correctly. Example: When saving a lens file as 'canon_4.3-22', it was saved as 'canon4.lens' (the part between the first and the last dot was omitted).

734

1. In geometry settings, L1 and L2 have a different meaning now. As a result, if using an old geometyry settings file (settings/geo/default), the following changes need to be done:

   (a) old value of L1 has to be increased by 1.6948 (meters).
   (b) old value of L2 has to be decreased by 0.5075 (meters).

732

1. Targeting works with roll head now.

731

1. Bugfix: Get target from crosshair should also work for "tilt on left" now.

727

1. Live targeting enhanced:

   - Focus override provided.
   - All overrides in live targeting mode are dsiplayed on status bar of main screen.

2. Bugfix for focus override (applies to play mode and live targeting mode): Complete override was not always possible before.

725

1. Live targeting enhanced:

   - Focus is controlled automatically.
   - If live targeting is on, head button becomes blue.

   Important: Geometry parameter L3 has to be measured from the same point as focal distance is measured from (that is, 0emphchip plane for movie lenses). In Contrast: For tracking data to be directly usable, L3 should be measured to *perspective point*. If you need live targeting and tracking data at the same time, the only option at the moment is to use perspective point for L3 and to manually change focus distance to refer to perspective point too (i.e. add a certain offset to each distance value).

715

1. Pan and tile zero values changed for 185.

713

1. There is a slider now for offset fine adjustment in crane settings.

703

1. Timecode trigger added: When a pre-set timecode is reached, crane starts a move (assuming that the yellow dead-man button is hold, of course).

700

1. Live targeting option added: By pressing CTRL-t, live targeting is switched on or off. Target position is the same as set in global interpolation settings. Focus is not yet controlled automatically. Right now, there is no indication whether targeting is on or off....

2. New keyboard shortcut: CTRL-space starts a move. Works the same way as using bloop plate.

3. New function and keyboard shortcut: CTRL-i saves incrementally. If move name ends on a number, that number is incremented and the move is saved. Otherwise, a "0" is appended and the move is saved.

698

1. Track zero positon changed for SN 185.

697

1. Bugfix: Set targetpoint from Crosshair works for calibrated lenses now.

2. Updated fbx converter.

684

1. During load of a huge move collection (500 moves or so), the system occasionally crashes. The reason seems to be an overrun of the event queue. Now, all pending events are processed after each loaded move avoiding any overruns. As a positive effect, the display shows the progress during loading.

680

1. Corrected pan and tilt zero for TD 185.

676

1. Bugfix: Private interpolation settings for limits should work now.

675

1. Bugfix: Clicking "cancel" in "define target by current crosshair" does the right thing (nothing).

2. Bugfix: Filemanager is correctly started as background process now (`actions -> start file manager`).

3. Bugfix: Record override was temporarily broken (unreliable). This bug was caused by automatic fbx file generation introduced in version 664.

4. Bugfix: Data export set to ASCII does not crash the system anymore.

667

1. Video standard can be changed from PAL to NTSC and vice versa in the GUI. No recompiling needed anymore...

2. Bugfix: Track joystick can be reversed by clicking the appropriate checkbox in crane settings. The checkbox had no effect before.

3. Bugfix: Using go-to to a destination-keyframe with a non-zero dwell time time was delaying the go-to move at the end.

664

1. New feature in data-export: In addition to streaming data, for each completed rocker or bloop-plate move, a fbx-file is generated. The directory and filename is the same as for cgi-files, extension is .fbx instead of .cgi. These files contain any override values and timecode if timecode was supplied. Restrictions / requirements:

   (a) Real-time data export must be set to binary to generate these fbx files.

   (b) Maximum length for a move is 36000 frames. This corresponds to 10 minutes in NTSC speed. Longer moves produce truncated fbx files.

654

1. Bugfix for targeting interpolation mode: Sometimes pan was wrong by 360 degrees. Fixed.

653

1. For reasons originationg from DSP firmware program version, cranes 185 and 186 had slightly slower telecope speed. This was normally not a problem but could become a serious problem when repeating a move created on any other serial number on 185 or 186. Now the onlky crane which needs re-checking of firmware version is 184.

652

1. Bugfix: Cranes with older versions of DSP software (programmed before mid 2012 or so) may make the software crash. Fixed.

651

1. Bugfix: Transformation of pan did not work for recorded moves or for moves imported from fbx. Fixed.

650

1. Framerate can be specified when importing a fbx file. Before, framerate had to be 50 fps.

2. Bugfix: When a move was imported from fbx which contains also a roll movement, there may have been a 360 degree jump in roll. Fixed.

648

1. Bugfix: Move transformation didn't always work with recorded moves or moves imported from an fbx file. Fixed.

2. Messages created during import of an fbx file are shown in log files.

646

1. New moves initially get interpolation settings and geometry settings from global settings.

645

1. Go-to can be started from within play mode.

2. Fixed a bug in go-to mode when start- and end-position differ by lens values only: In that case, the go-to was immediately terminated and the lens jumped to the new position.

644

1. Fixed a bug with TV lenses using internal focus servo: Focus value is now correctly displayed in status bar and in position window.

641

1. Fixed an almost-bug when recording a move: If you had a move loaded and you had choosen to record a move, two keyframes were appended to the existing move instead of creating a new one. Now, a new move is automatically created. This applies also to import move from fxb.

639

1. This version offers two choices for geometric transformations (offsets, rotation and scaling):

   Option 1 keeps the move calculation exactly the same and applies the transformation at the very end. This option is your friend if you want to match frame-by-frame two shoots taken with different crane positions. If the transformation makes the move exceed speed or acceleration limits (see, for example, that a longer arm results in lower achievable camera accelerations), a warning is generated but the crane will not refuse to run the move.

   Option 2 just transforms the keyframes. After that, the usual move-calculation is done (which, of course, makes sure that the limits are not exceeded). This option is your friend if you are still tweaking the move for shooting and if you can accept minor variations.

2. Bugfix for targeting interpolation: Under some circumstances, pan may have done an unwanted 360 degree rotation between two keyframes.

3. "record override" is always disabled after restart.

637

1. At each startup, a script automatically deletes those logs in /usr/crane/log/ and those cgi-streams in /usr/crane/cgi-streams/ which are older than 45 days. Furthermore, it deletes all orphaned (unreferenced) images in /usr/crane/td/images/.

635

1. The geometry parameters (L1..L6, tilt on left/right, pan/tilt/roll fine offsets) have been removed from "data export settings" and can be found in "geometry setings" now.

2. Each move can have its own private interpolation settings and geometry settings. Alternatively, it may use the global settings.

3. Targeting interpolation works basically now.

624

1. SN183, SN185, SN186, SN190 and SN292 (all US and canadian cranes) support timecode now.

2. SN183, SN185, SN186, SN190 and SN292 (all US and canadian cranes) work with the third axis ("roll") based in NY. Good for not too heavy cameras.

620

1. This version introduces an important change in move transformation: It keeps a keyframed move exactly the same (except the transformation, of course), even if mechanical limits of the crane may be violated by applying that transform. A later version of move-transformation should offer the option of re-calculationg the maximum speed.

618

1. Log window does not pop up anymore at program start.

617

1. Fixed a serious bug present since a long time: For moves without crane movement (i.e. only head or lens are moving), the system may have crashed. This applies to both go-to and normal moves. The reason why the behaviour is unpredictable in that case is the use of an uninitialized memory location during calculation of the interpolation data. Consequently, dependent on memory layout, the bug may have shown up frequently, rarely or even never in different versions.

2. Disabled ("greyed out") targeting feature because it is without any effect right now. Coming very soon...

3. For the version with reduced feature set for TV studio applications (actually set for SN 295 only), I decided to make the "sync settings" menu visible but password protected. It may be important for diagnistic purposes, even in permanent studio installations.

615

1. Software compensation for mechanical zoom play is even more sophisticated now: A Table can be used to make the compensation value dependent on zoom value. Right now used for SN 295 only.

2. For the version with reduced feature set for TV studio applications (actually set for SN 295 only), the following menu items are password protected:

   (a) data export settings

   (b) record settings

3. SN 295 has a power on indicator output (relay contact).

614

1. Created a version with reduced feature set for TV studio applications (actually set for SN 295 only). Removed

   (a) playback settings

   (b) interpolation settings

   (c) sync settings

   (d) import move from fbx

   (e) import KF from fbx

613

1. Bugfix: If BP multiples were non-zero, the calculated head value was wrong by 360 degrees. As a result, the crane switched off at end of go-to.

612

1. Bugfix: If BP multiples were non-zero, the calculated head value was wrong by 360 degrees. As a result, the crane switched off at end of go-to.

611

1. Bugfix: Permanent ASCII CGI data stream always started with a few packets in binary mode. Now its pure ASCII.

2. Each line in ASCII CGI data streams ends with just a newline charachter, not followd by a NULL character anymore. Thats a more concise behaviour.

3. Tool "datadisplay" has new option "-r" to generate a format equivalent to that of ASCII real time data. Good for converting binary to ASCII.

610

1. ASCII CGI data stream gets a new field "absolute frame mumber" appended at the end. This helps correllating the data sets of permanant data streams to real frame numbers.

609

1. This version has working fbx import feature. Three options exist for the ambigous choise of track:

   - Constant track position.
   - Track moves with X-coordinate, a percentage can be choosen.
   - Telescopic length is kept constant.

603

1. Bugfix: Transformation of recorded (or imported) moves should work correctly now.

593

1. Bugfix: `view -> curves` correctly displays recorded values now.

589

1. Bugfix: Calibrated lens values are now properly used for CGI data export to file.

583

1. `actions -> start file manager` added to simplify basic file operations for non-experienced linux users.

582

1. Bugfix: Staus baar of main window shows lens values (zoo, focus, iris) even for TV lenses with internal servos.

579

1. Bugfix: Changing program settings (`settings -> program settings`) may have crashed the program.

2. `view -> positions window` shows the actual crane positions. Both pure motor values and true cartesian camera coordinates are displayed.

572

1. Bugfix: Under certain conditions, loading a move may have crashed the program (noticed first at VRT in Brussels).

564

1. Fixed a bug for pan / tilt /roll override with head limits in effect.

2. Bigfix for matrix mode: System crahed if matrix mode was changed on an compteley empty (inital) screen.

561

1. Added option `always use raw (uncalibrated) zoom / focus / iris values` in data export settings.

2. Cleaned up status bar: "Clear Pan override" button (and friends) have been removed. These functions are available at `actions -> clear override` now.

560

1. Zoom, focus and iris may be scaled now. By entering the values written on the lens into a table, the software displays real physical units (zoom: mm, focus: m, iris: f-stop). These values can also used for data export. See updated document "dataexport.pdf" for changes in data format.

2. For timecode enabled desks: Camera's exposure period can be determined using the bloop plate flash.

554

1. Fixed a serious bug in matrix mode: Re-sampling a linking keyframe eventually made the program crash.

2. Added menu entry `actions -> updateAllMoves`.

3. In matrix mode, file names displayed in title bar are reversed (i.e. `B-->A` instead of `A-->B`) if the reversed move is actually used.

551

1. Override simplified: Returning override is removed.

548

1. This version provides a "robotic mode" for certain TV studios where Technodolly is controlled by "newsroom control systems" (NCS). Enabled at the moment of writing for serial number 294 only.

542

1. Fixed a bug in fbx export: Works independent of `data format` setting in "data export" window.

540

1. Disengage track feature added.

537

1. Reverted an formerly introduced bug of sample from rocker: Works now by pressing clearing and ACK at the same time.

534

1. This commit enables timecode reader if desk hardware is provided for that.

2. For timecode enabled desks: Real-time data export contains timecode if available. See updated document dataexport.pdf for changes in data format.

3. A separate window "sync settings" takes some of the options from "data export settings" window.

522

1. Bugfix: Sampling keyframes from rocker unit works now.

2. By choosing `settings -> interpolation settings` you can intentionally reduce motor limits (speed and force). With that feature, you can achieve moves with a constant (or at least almost constant, see below) speed. The rule is that linear moves get an exactly constant speed if reducing cartesian speed limit to an appropriate value. Non-linear moves get an almost constant speed. **Warning:** Right now, the values in interpolation settings window are not stored together with the move nor are they remembered after powering down the system. If a certain move relies on specific interpolation settings, please write down these

values and make sure you enter it correctly each time you play back that move.

3. Plot and evaluate functionality complete now. Brief description: By clicking menu `actions -> plot curves` you get a window to choose what plots to generate. You can plot

- all camera coordinates (x,y,z, pan, tilt, roll, zoom, focus ,iris) as a function ot time.
- the respective 1st derivative (speed).
- the respective 2nd derivative (acceleartion).
- the crane axes (telescope, track, BP, BT) and 1st and 2nd derivative.
- the percentage of maximum motor torque and speed
- the projections of the camera path (top view, two side views)

Furthermore, you can evaluate these values at a specific time. As an example, this function is helpfull to make position and speed of two different moves match in a specific point.

513

1. Basic plot functions provided.

497

1. Bugfix: The sync-settings display (no genlock, genlocked, shutter pulse synce'd) was sometimes not updated and showd wrong status.

495

1. After overrideing a move, the system ask whether this override should be saved.

487

1. Sampling from rocker is possible now: "Matrix mode" checkbox and "display hidden KF" checkbox have moved from display settings menu to a new program settings window. There is an additional checkbox "enable sampling from rocker": When checked, holding the yellow "dead man" button and pressing the illuminated yellow button acts as an additional sample button.

483

1. Absolute focus works now (checkbox in lens settings window). However, until we have a chance to reprogram the DSP boards, there is a inconvenience: Each time you reset focus, you have to manually move the focus wheel to a reference position (a kind of zeroing procedure). When starting a focus reset in absolute mode, a window pops up telling you what to do.

478

1. Fix of a bug for CGI streams. Streams are created now in /usr/crane/cgi-streams. To make these streams ussefull, you need to supply shutter pulse or GenLock in most cases.

   /usr/crane/cgi-streams/permanent/ Each time you start the software, a file in the form YYYY-MM-DD–HH-MM–SS-CC.cgi (CC means centi-seconds) is created. It contains the exact same data as you would get when capturing the RS232 serial port with an external machine.

   /usr/crane/cgi-streams/bloopplate/ Each time you start a move by the red button on bloop plate, a file in the form YYYY-MM-DD–HH-MM–SS-CC.cgi (CC means centi-seconds) is created. It contains the exact same data as you would get when capturing the RS232 but for the duration of the bloop plate move only.

   /usr/crane/cgi-streams/rocker/ Each time you start a move with the rocker, a file in the form YYYY-MM-DD–HH-MM–SS-CC.cgi (CC means centi-seconds) is created. It contains the exact same data as you would get when capturing the RS232 but for the duration of the move only.

477

1. Fix of a serious bug: When using record mode with track disenagaged, the move could in some cases not be played back.

2. Solved a bug with uniitialized irsi value.

473

1. LED in rocker unit flashes when sampling a keyframe. This is to inform grip if he can proceed to next keyframe during creation of a move.

473

1. The levelling head motor actively corrects for beam deflection being a function of telescopic position. This reduces the the maximum LH error angle from more then 0.3 degree to less then 0.1 degree. How it works: There is a table which stores correctional offset angles for a number of telescopic positions and two differnt camera weights. The user may enter the actual "total camera package weight" in crane-settings window. Based on that weight and the actual telescopic position, desired offset angle it calculated by linear interpolation.

471

1. When playing back a recorded move, the crane could slightly move when the path rocker was pressed against the end. This happend when the crane was not perfectly stillstanding at either end.

470

1. log-files show more complete information now.

2. log-files go to /usr/crane/log/ instead of /usr/crane/log/td/XXX (where XXX was the actual serialnumber).

467

1. Solved a serious bug occuring when changing framerate of a recorded move. As a result, the crane could switch of during playback and the behaviour of speedrocker was strange.

465

1. Choosing "load" allows to select multiple files now.

2. You will be asked before overwriting an existing move collection file.

462

1. Corrected wrong telescope-joystick direction.

460

1. Solved a serious bug with zoom and focus visible in 3.1 branch: After switching from play mode to manual mode, zoom and focus could sometimes not me moved within the full range.

2. By right-clicking onto the green (go-to) arrow, you can enter a specific time to go to. The main purpose of this option is stop-motion mode where it can be used to go to a certain frame number (see also pdf-file stop-motion.pdf). But, even without stop-motion mode, the option may be very convenient.

447

1. Fixed a bug related to record override: With that bug, record override always stopped immediately.

415

1. Got rid of the inital "communication interrupted" window.

2. Fix of a serious bug related to included / exluded axes: Values stored on disk are not used until the respective settings window is opened once.

407

1. Solved a bug which lead to noticeable overshoot of zoom and focus in record mode.

384

1. Changed majur version number to 3.1.

375

1. Added option to reorder moves.

2. Keyboard shortcut 'm' introduced to open path listbox.

368

1. Move number and KF number allow direct selection by use of a listbox.

2. Solved a bug related to shutter pulse: A software reload was sometimes necessary to make it work.

366

1. This is the first version which is not compiled for a specific serial number. The actual serial number is defined in /usr/crane/settings/config/config.xml. The database for all serial number dependent information is in /usr/crane/settings/parameters.xml. When swapping cranes / desks, just update config.xml and the system will work (applies to 3.X software only).

358

1. Solved a serious bug with move transformations if track value was not zero.

357

1. Corrected a bug with move transformations. A re-load of files was sometimes necessary.

355

1. Record override works for KF movs with porogrammed times now.

2. User may choose between old (2.0) and new (3.X) software now.

354

1. Made playback of recorded moves synchronize to shutter / Genlock.

349

1. This is the first release which has record and record override features good for productive use.

342

1. Slider to adjust Track fluid added.

2. Sliders for BP and BT friction added.

331

1. Corrected a problem with unprecise timabase on new (intel based) mainboards from Fujitsu-Siemens.

309

1. Added move transformation option (xyz-shift and xy-rotation).

308

1. Added fbx (framebox) format to cgi data export.

305

1. Added stop-motion mode.

2. Solved a bug which could produce too fast moves which made the crane switch off.

3. Camera on/off indicator (yellor / red) is working now.

4. Changed the keyframe merge threshold for go-to: Before it could happen that you could not start a go-to move when too close to a KF, but, at the same time, the distance to that KF was considered too high to start play directly.

5. You cannot switch to play mode if telescope is moving (before, just BP and BT were checked).

304

1. Fixed a bug that made the program crash when loading certain move-files with manually set times.

300

1. Corrected a bug with focus override: It could not be disabled!

285

1. Real-time CGI data for each move is streamed to disk now. Each time a rocker move is started, a file with name yyyy-MM-dd-hh-mm-cc.cgi is created in /usr/crane/td/cgi-streams/permanent/ (with yyyy the year, MM the month, dd the day, hh the hour, mm the minutes and cc the centiseconds). This file contains all cgi data until the next rocker move is started. As a result, you will have the cgi data from all moves (programmed moves as well as manual moves) on you harddisk for later use. Similiary, in /usr/crane/td/cgi-streams/bloopplate/ one file for each bloop plate move is created which contains the same data but for the duration of the bloop plate move only.

282

1. Option to zoom in completely by pressing 'z' key on keyboard. Intended for quick focus adjustments. Unfortunately, right now it may work the opposite way depending on how zoom motor is attached.

2. Framegrabber performs an autoadjust of brightness when pressing sample the first time.

3. Provided hidden keyframes which are displayed grey. By un-clicking clickbox `Display settings -> show hidden keyframes` those hidden keyframes can be excluded from being displayed.

4. Go-to can be startrd from play mode and even from within go-to mode (to another destination keyframe).

5. Left-clicking onto a keyframe starts a go-to to that keyframe.

6. Yellow light in hand rocker shows whether clearing button is hold by a different flashing mode (periodically modulated between bright and dark).

7. Added software compensation for mechanical play in zoom motor. Play is much less visible now.

279

1. Presssing keyboard key 'z' should zoom in completely.

2. Provided hidden keyframes to save space on computer screen.

3. Left-clicking a keyframe starts go-to.

274

1. Bugfix: It could happen (mainly in go-to mode, but sometimes also in normal play mode) that calculated move speed was too fast. As a result, brakes could be activated.

2. Bugfix: Panbar is now working again.

271

1. Overall move time is displayed in title bar now.

270

1. Bugfix: Resolved the odd situation that sometimes it was not possible to choose go-to (because crane was too close to destination keyframe) but, at the same time, one could not switch to play mode (because crane was still to far...). By reducing the minimum distance for go-to, this situatiopn cannot happen anymore.

2. Bugfix: Left-clicking on keyframes is disabled outside matrix mode now.

266

1. Bugfix: When laoding a move from disk, the last keyframe got a dwell time of the last keyframe with non-zero dwell time (if any).

2. Bugfix: Disable go-to if crane is moving. Before, this situation could lead to brake activation.

260

1. Focus override is provided now.

2. Solved a bug which made resamling using override not working correctly.

257

This release introduces further improvements to override feature. It is assumed that override feature will not change significantly anymore in future releases. Furthermore, this release introduces a new feature called move matrices. See document `matrix_and_override.pdf` and also changes for version 232. Further changes:

1. If end of go-to is reached, this is indicated by a different (slower) flashing of yellow light in hand rocker.

2. Bloop plate works in backwards direction now.

239

1. This revision supports shutter pulse inputs on dolly side (by using the so called lens extension board).

238

1. Corrected a serious bug: Clicking the crane button while crane was moving switches crane to manual. Now, a warning message is shown stating that crane has to stillstand to perform this action.

2. Keyframe settings windows displays whether a keyframe is a linking keyframe.

3. Keyframe settings windows allows to give keyframes a name.

4. Keyframe settings windows allows to give keyframes a name.

232

This release contains much advanced override options. Override has two modes now: "returning" and "keeping". "Returning" behaves basically like before while "keeping" is new. However, there is also one important change concerning "returning" override: At the end of a move, the value given by the joystick / wheel at that moment is hold. To go back to zero override, one has to toch the joystick / handwheel again. Remind that the override value is even preserved when leaving the play mode!
"keeping" override, as the name suggests, puts an offset to the respective axis which remains even if the joystick / handwheel is released (speed control). There is no special treatment for reaching the end of a move. To go back to zero override, you can either do it manually (an numerical override display helps you to find the exact position) or you can activate "stop@0". That means that the axis will smoothly stop at exactly zero override when you direct it by joystick/ handwheel to the right direction. Please try out how theese options works for you, we would be happy for some feedback!

1. In addition to head axes, zoom can be overriden now.

2. "returning" and "keeping"mode, see above.

3. Status bar contains a numerical display for override value.

4. Status bar contains a display for absolute pan / tilt position now. This value is measured in degrees relative to center of pan / tilt limits, if specified. If no pan / tilt limits are set, its display just the plain values.

224

1. When saving to an existing file, user is asked for confirmation now.

2. When leaving an modified (unsaved) move by the path-arrow keys, there is a third option "don't ask again" now.

3. For convenience, we added the option to open a loaded move-file within an editor (emacs). To avoid the risk of accidentally corrupting the file, a backup file is actually opened within the editor.

4. Two bugs related to saving to / loading from USB-sticks solved:

   (a) A move loaded from USB stick can now be saved to harddisk again.

   (b) Filenames on USB sticks may contain spaces now.

222

1. Added menu entries to load and save move collections. A move collection is theset of all moves which are currently loaded. By saving it to a file (file extension : ".moves"), you can later on retrieve it in a single step.

2. Corrected a bug concerning real-time data export: There could be one corrupted packet each couple of seconds. As a result, the rendered virtual images show little jumps. This bug was not present before version 213.

220

1. Corrected a bug in the follwing situation: Two moves with a different number of keyframes are loaded. Crane is located on last keyframe of the move with higher number of keyframes. If you change to other move (by using the arrow keys), the software crashes.

2. Corrected a serious bug concerning real-time data export: A rounding error made data export unstable after 4h30 or so. This bug was not present before version 213.

219

1. Added "save" entry to file menu.

218

1. Corrected a serious bug concerning keyframe replace/resample: Under some circumstances, users could easily insert equivalent keyframes. As a result, interpolation fails. This keyframes where almost invisible and could confuse a lot.

2. Corrected a serious bug: When goto was choosen but the actual path could not be interpolated (e.g. because there is only one keyframe or because all keyframes are almost equivalent), hundreds of error message windows popped up (20 per second).

217

1. Corrected a bug which could result in an erratic interpolation (crane switches off). This happens if two keyframes have almost the same xyz-coordinates but track is different.

216

1. To reduce noise, fan speed is dependent on temperature now. Attention: To work, this feature requires also an updated DSP software version (i.e. TECHNOCRANE maintanance at crane's location).

2. Solved an important bug: When crane was excluded and BP or BT was moved manually, the crane switches off when pressing sample.

213

Some general remarks: Beginning with Version 213, the system is based on a newer combination of Linux Kernel (2.6.28), RTAI real-time core and open-Suse. Furthermore, it uses a solid state disk (SSD) for enhanced reliability.
To use this version and higher, you need a new system (based on 64-bit openSuse 11.1 and solid state harddisks)!
Software changes:

1. Head and track have adjustable limits now. Can be activated and changed in head-settings menu and crane-settings menu.

2. Head-settings, crane-settings and dataexport-settings are saved and restored at reboot now.

200

This is the last version which can be used with old systems (based on 32-bit openSuse 9.3 and conventional harddisks)!

1. Solved a bug in TD software: When pressing play with just one keyframe sampled, a bunch of error messages was produced.

2. Solved a bug in TD software: When just one keyframe was sampled, it was not pssible to increment path number.

3. Solved a problem introduced with version 193 with real time data export and interlaced video: A data packet was just sent out for odd fields. Because some renderers (e.g. VizRT) require a data packet for each field, I changed the bahaviour accordingly.

193

1. Solved a bug in TD software in conjunction with our maya plugin: The first frame recorded could differ by one.

2. Solved a bug in our maya-plugin: The rotation order of the head was wrong.

192

1. Changed the servo filter parameters for head motors. Under some circumstances, there was an oscillation of about 10Hz.

189

1. When refining a move (adding keyframes with corrected head or lens values), the changed axes are automatically put into play mode ("included"). So you can quickly move the crane along the path to the next position which needs refinement.

2. If track is disengaged, track axis is always assumed to be at zero (for data export and in move-files). Furthermore, you can load a move-file which was programmed with tracks engaged when the track is disengaged now.

187

1. With this release, it is not necessary anymore to switch off the red circuit breakers ("reset") after crane has been moved manually or after a emergency stop. Consequently, camera power supply can stay on all the time. Attention: For some cranes, this update may require a little hardware update by one of our technicians to work. If so, a reset will still be required, even with this release.

185

1. Zoom and focus display in status bar shows "-" when not initialized.

184

1. Yellow button in hand rocker unit blinks faster in go-to mode then in play-mode.

2. *For cranes with new rocker unit (183) only:*
   Grip can leave or enter play-mode by pressing the yellow button at rocker unit.

183

1. *For cranes with new focus roll without mechanical stops (183) only:*
   Focus motor does not jump when leaving the play-mode. *Attention:* The position of the focus roll does not correspond to focus motor position anymore.

182

1. *For cranes with new rocker unit (183) only:*
   This software version works with the new rocker unit. Confirming changes from manual mode to play-mode and vice versa are not necessary anymore.

2. Solved a bug that crane does not go to the right keyframe when just zoom, focus or iris was changed before that keyframe.

181

1. Important convenience update: When refining the movement by sampling new keyframes in play-mode (for example, with head excluded from play-mode), the crane stays in play-mode.

180

1. Data export window allows to specify pan and tilt offsets when the camera is not perfectly mounted.

175

1. Zoom and focus display in status bar shows three digits for improved precision now.

173

1. Important functional update: To replace a keyframe its not necessary anymore to delete it first. The crane uses the following rules to find out whether to replace a keyframe or to add a new keyframe:

    - In manual mode, pressing the sample button will allways generate an additional keyframe.
    - In play-mode close to an existing keyframe (keyframe number display is red): In this case, pressing the sample button will replace the nearby keyframe.
    - In play-mode far away from any existing keyframe (keyframe number display is black): In this case, pressing the sample button will generate an additional keyframe.

    If this automatism is not what you want, you can allways choose "actions → sample (ovwerwrite)" or "actions → sample (replace)" to get what you want.

170

1. User can change video mode between NTSC and PAL in camera settings window.

2. Real-time data export has an indicator whether crane is running a programmed move (see document dataexport.pdf for details). Important for e.g. the maya plugin.

169

1. Important bug fix: Solved a bug which lead to a visible drift after a long and fast track move.

167

1. Several changes to make data export window more clear and more informative. See dataexport.pdf.

166

1. The "about" menu shows the serialnumber now.

164

1. Bug fixed for dwell times on first and last keyframe. Important e.g. to get a delay between bloop plate flash and start of move.

2. When using the bloop plate, the crane runs with programmed speed. Nor the knob at rocker unit nor the path speed slider within the crane properties window are effective.

163

1. Imporatant functional update: Programming the speed of a move works much better now. Many time specifications which were rejected in earlier versions are accepted now. This is mainly the case when the user increases the times between several keyframes quite a lot.

148

1. Fixed a bug in data export to file. Instead of using ASCII mode, cooper mode was always used.

2. Fixed a bug which could make the crane switch off after go-to.

145

1. Fixed a bug in real time data export when using GenLock. The result was an arbitrary delay of one half frame.

2. Fixed a bug which could make the crane switch off after go-to.

3. Fixed a bug when using shutter pulse. Attention: To work, this bug fix requires also a fixed DSP software version (i.e. TECHNOCRANE maintanance at crane's location). At the moment of writing, serial-number 182, 183, 188 and 189 have the required modifications to make shutter pulse work.

144

1. Important functional update: Beginning with this revision, there is a keyframe settings window (opened by right-clicking onto a keyframe) and a move settings window. In older revisions, both things where mixed up. There are many new options in the move settings window.

134

1. Fixed a bug concerning mechanical model of the crane. As a result, data export is more precise and straight lines are exactly straight lines now.

130

1. Pan and tilt override have adjustable range now.