

LGK-3901/DSK-3901 V3.1 Release Notes

\$Date: 2010-04-19 14:38:17 \$

Software Update Procedure

LGK-3901/DSK-3901 requires the following CPIO.GZ archive file for a software update

- **lgk-3.1.cpio.gz**

The following steps are required to perform a software update via the LGK-3901/DSK-3901 web page:

- From a networked PC on the same network as the card, open a web browser and type in the IP address of the card.
- Click the "LOGIN" button.
- Type in the web administrator password (default "miranda") to log into the card's web page.
- Choose the "Software Upgrade" option from the left-hand menu.
- In the "Software Upgrade" section, click on the "Browse..." button and then select the required CPIO.GZ archive file.
- Check the "Are you sure?" checkbox and then click on the "Software Upgrade" button.
- Upgrades take approximately 2 minutes during which time three LEDs on the front edge of the LGK-3901/DSK-3901 card will become orange and cycle continually.
- After the software installation process completes, the card will automatically power cycle and boot the new software.

IMPORTANT: Do not eject the card during a software upgrade. Doing so will interrupt programming and may render the card inoperable.

Software Release Notes

v3.1.1-028 - FINAL RELEASE - 2010-04-19

- No changes.

v3.1.1-027 - RELEASE CANDIDATE - 2010-04-19

- [Bug #5897] Line of corruption appears below analogue clocks in HD video standards.

v3.1.1-026 - RELEASE CANDIDATE - 2010-04-15

- [Bug #5935/2] Setting Colour field to 'PGM In' and 'Preview Output > Program O/P' causes IOCTL error log spamming.

v3.1.1-025 - RELEASE CANDIDATE - 2010-04-14

- [Bug #5935/1] Setting Colour field to 'PGM In' and 'Preview Output > Program O/P' causes IOCTL error log spamming.
- [Bug #5934] Not possible to blank datasources by setting them to "" or " ".
- [Bug #6051] Z0 'Update text field' automation command is ignored when sending an empty text string to clear the text box
- [Bug #6053] GPI macros miss off the first command following an upgrade from v2.0.1.1.
- [Bug #5931] PresMaster should not present EAS templates from /etc/eas folder.
- [Bug #6084] Use of the Xt frame delay command gives an IOCTL message.
- [Bug #6086] Restart animation command S4 does not work correctly.
- [Bug #5926] Add Easyplay2 example templates to the Audio Route Manager.

v3.1-024 - RELEASE CANDIDATE - 2010-03-22

- [Bug #6011] j72 tallies are not sent when a gain preset changes the values.

- [Bug #6014] No response is received when the O enquire is forwarded to Intuition.
- [Bug #6018] Invalid or incomplete multibyte or wide EAS character causes system crash.
- [Bug #6019] Passthrough testing 'R1' save image command is ignored by Intuition.

v3.1-023 - RELEASE CANDIDATE - 2010-03-11

- [Bug #5756] Logs spammed when changing PGM_IN or Fill_2 source.
- [Bug #5971] The j70 and j7a tallies are sent when loading a gain preset even when nothing changed.
- [Bug #5980] '#83' command description does not display 'Verbose+OxSox' in the logs.
- [Bug #5984] SET_PREVIEW_INPUT and SET_PREVIEW_OUTPUT do not send a NACK when invalid options are sent.
- [Bug #5988] Some Densite commands return an ACK when invalid parameters are sent.
- [Bug #5989] Logs spammed when using N enquire command and AB mix is not supported.
- [Bug #5990] Fix dereferenced pointer within audio multiplexer initialisation.

v3.1-022 - RELEASE CANDIDATE - 2010-02-26

- [Bug #5946] After making a new CF image, loading of images causes card to lock up. Reverts bug #5896.
- [Bug #5947] jo0 and jp tally enable flags are not initialised.
- [Bug #5924] Incorrect response for audio command enquire j7v.
- [Bug #5937] The Xhf fan speed request returns an Xht temperature response.

v3.1-021 RELEASE CANDIDATE - 2010-02-16

- No changes.

v3.1-020 BETA - 2010-02-09

- [Bug #5906] imsttest will not accept an IP address as a parameter.

v3.1-019 BETA - 2010-02-05

- [Bug #5903] 'jp4' Set bus master gain command does not limit to -100db and +28db value range.
- [Bug #5895] Moving between some shuffle presets fails.

v3.1-018 BETA - 2010-02-02

- [Bug #5873] Automation commands incorrectly compared against system features.
- [Bug #5880] AES alarm is not triggered correctly when changing audio type or signal presence.
- [Bug #5834/2] Easyplay banks will not replay if they were previously interrupted by another bank in the same stream.
- [Bug #5892] Audio trim value range check not working properly.
- ~~[Bug #5896] JFS must enable the "case insensitive" mode~~
- [Bug #5888] Previous log file (messages.old) is not being generated.
- [Bug #5895] Moving between some shuffle presets fails.

v3.1-017 BETA - 2010-01-29

- [Bug #5672/2] EAS audio does not work without an audio licence.
- [Bug #5831] imstReferenceExternalFormatMismatch SNMP response looks incorrect and alarm not triggered.
- [Bug #5846] Wakeup packet (Y7) is missing during a software restart.
- **Integrated LGK FPGA firmware (v2.08).**
 - [Bug #5822] Allow BLACK_SOURCE as a valid route to the audio feeds.
- [Bug #5844] Log spammed with 'Resource temporarily unavailable messages' when saving an image.
- [Bug #5845] Densite commands are not logged according in verbose logging modes.
- [Bug #5856] Default configuration template created on upgrade gives error message on opening in the Configurator.
- [Bug #5858] Spelling error in out of range log messages for jp and j0 4.
- [Bug #5867] Setting a keyer fader angle with '@' does not restart the animation/scroll.
- [Bug #5871] Incorrect response of unlicensed multiplexor commands.

v3.1-016 BETA - 2010-01-18

- [Bug #5819] Message logs for Xv command should show 1-based channels.
- [Bug #5825] Datasource semaphore not released.
- [Bug #5798] Add Densite enquires of the audio feed and AES input status.
- [Bug #2443/1] Text cuts down before strap completes on auto cut down.
- [Bug #5823] Backplane loss alarm should be based on system features.
- [Bug #5696] PREVIEW_INPUT unsolicited messages may be incorrect.
- [Bug #5809/2] Add PST option to Setup > Audio Setup > Easyplay > Stream x > Follow DSK.
- [Bug #5800/2] Shuffling input channels using 'jo 0' automation command does not work correctly.
- [Bug #5832] Numbering in 'Show GPI IPs' and 'Show GPI OPs' should be 0-based.
- [Bug #5834/1] Easyplay banks will not replay if they were previously interrupted by another bank in the same stream.
- [Bug #5836] Temperature probe datasource names should be 'CELSIUS'.
- [Bug #5840] Implement a log rotation scheme for the alarms log.
- [Bug #5841] Default system AB mix rate reported as zero.

v3.1-015 BETA - 2010-01-11

- [Bug #5814] 'system value persists' should be removed for the audio type setting in the Configurator.
- [Bug #5812] Configuration templates create error messages on opening in the Configurator.
- [Bug #5815] Correct GPI output options on the front panel.
- [Bug #5817] Message log text is incorrect for UG command.
- [Bug #5818] Add AB mix fade rate to Configurator Tool.
- [Bug #5809/1] Add PST option to Setup > Audio Setup > Easyplay > Stream x > Follow DSK.

v3.1-014 BETA - 2010-01-07

- [Bug #5747] Extra error logging for stores and easytext.
- [Bug #5764] Make the automation output method more robust.
- [Bug #5781] Move and clean-up unit tests directory, run within valgrind where appropriate.
- [Bug #5748] Correct the behaviour of Densite commands compared to previous releases.
- [Bug #5744/2] ACKs not received if handler is slow and thumbnails enabled.
- [Bug #5793] Diagnostics archive is not creating device information for CF card (/dev/hda).
- [Bug #5794] Fix highly unsafe use of invalid memory in comms.cpp.
- [Bug #5797] Make commands and tally message names more sensible.
- [Bug #5768] Set Text Background to Gradient (Z7) command does not draw 'Source Colour' and 'Dest Colour' correctly.
- [Bug #5801] Tally and reply sending slightly unsafe.
- [Bug #5707] Re-enable self tests (except for audio delay bank).
- [Bug #5451] Message should be added when thumbnailing parameters are changed.
- [Bug #5569] imstlic --zaplicences does not use shared memory object - zaplicences disabled on LGK.
- [Bug #5555] A GPI configuration load or save is not re-tried if it fails.
- [Bug #5800/1] Shuffling input channels using 'jo 0' automation command does not work correctly.
- [Bug #5683] Audio fade rates in the Configurator Tool, front panel and automation are inconsistent.
- [Bug #5412] Improve initialisation of state_t.
- [Bug #5808] ALM_METER_CONFIG not working for Fill-2 and Key-2 alarms.

v3.1-013 BETA - 2009-12-21

- [Bug #5726] Add verbose logging mode for OxSox messages.
- [Bug #5713] Serial protocol automation command parameters are incorrectly interpreted.
- [Bug #5745] AES alarms have not been added to the Densite commands.
- [Bug #5736] Enquiring Easyplay audio when Easyplay is not licenced crashes the unit.
- [Bug #5761] Add the temperature probe baud rate to the SERIAL_PROTOCOL response.
- [Bug #5754] Front panel inconsistencies between 'Input Status Feed N' and 'Input Status AES'.
- [Bug #5749] GPI Out events incorrectly include 'B Video' options.
- [Bug #5744/1] ACKs not received if handler is slow and thumbnails enabled.
- [Bug #5718] Logs spammed with 'Resource temporarily unavailable' messages when sending R1 'Save Image' command.
- [Bug #5758] Message logs for Xv command should show audio feed 1/2/3/4, not A/B/C/D.

v3.1-012 BETA - 2009-12-11

- [Bug #5697] Densite parameter range checking missing in places and inconsistent in others.
- [Bug #5696] PREVIEW_INPUT unsolicited messages may be incorrect.
- [Bug #5734] Easyplay filenames with spaces are not correctly shown on the front panel.
- [Bug #5600/2] Easyplay files that fail to load are reported to be successful.
- [Bug #5705] Various Densite messages missing unsolicited responses.
- [Bug #4659/2] Add support for shuffle crosspoint tallies.
- [Bug #5721] Use libedit for CLIs that require history/autocompletion and upgrade to new distro v2.03.
- [Bug #5436] Shuffle and gain presets saved with jo2 or jp6 are created with the wrong file ownership.
- [Bug #5674] Allow audio feed configuration to use the PGM-In, Fill1 or Fill 2 source.
- [Bug #4976-WIP] Explicitly set the values for externally used enumerations.
- [Bug #5740] Densite video input loss alarm broken.
- [Bug #5738] Easyplay follow video k9 command should be rejected for un-configured streams.
- [Bug #5743] Easyplay tallies are sent even when the stream is not configured.
- [Bug #5748] Correct the behaviour of Densite commands compared to previous releases.

v3.1-011 BETA - 2009-12-08

- [Bug #5640/2] Correct internal set text crawl count automation command behaviour.
- [Bug #5704] Extra STORE_KEYER_CONFIG unsolicited message received when you register for tallies.
- [Bug #5652/2] Incorrect usage of imsttest gives a segmentation fault.
- [Bug #5725] Rename assert.h header file to avoid conflict with standard library.
- [Bug #2567] Add unit tests where possible.
- [Bug #5723] 'S' commands not being forwarded to Intuition correctly.

v3.1-010 BETA - 2009-12-02

- [Bug #5670] Automation system never recovers if non-terminated command is left in 'mbuf'.
- [Bug #5664] Full state is not always saved after loading a new configuration preset.
- [Bug #5672/1] EAS audio does not work without an audio licence.
- [Bug #3909/2] Add support for configurable audio feeds.
- [Bug #5334/4] Densite automation library should use action handlers rather than translating to Oxtel.
- [Bug #5679] The config tool suggests that each AES input has 16 channels.
- [Bug #5034/3] Add alarm for AES presence.
- [Bug #5330] Delayed replies should use messages like the tallies.
- [Bug #3646/2] Ensure that all malloc/realloc errors are logged.
- [Bug #5640] Correct internal set text crawl count automation command behaviour.
- [Bug #5652] Incorrect usage of imsttest gives a segmentation fault.
- [Bug #5642] Remove dead code for forwarding "F" enquire to Intuition.
- [Bug #5639/2] Correct the colour parameter for Easytext commands in the log messages.
- [Bug #5696-WIP] PREVIEW_INPUT unsolicited messages may be incorrect.
- [Bug #5700] Audio feed source configuration can be confusing when shared between 'AB mixer' and 'Logo' units.
- [Bug #4942] Add support for GPIO SNMP attributes/traps.
- [Bug #5703] Rename Premote_ to auto_connection_.
- **Integrated LGK FPGA firmware (v2.07).**
 - [Bug #5675] Allow audio feed configuration to use the PGM-In, Fill-1 or Fill-2 source.
- [Bug #5627] Can not change the Preview input selection when there is no 'ABMIX' licence.
- [Bug #5698] Misspelled words in codebase.

v3.1-009 BETA - 2009-11-18

- [Bug #3468-WIP] Include set of common Route Manager templates.
- [Bug #5634] j2 2 tallies are not working correctly.
- [Bug #5334/3-WIP] Densite automation library should use action handlers rather than translating to Oxtel.
- [Bug #5632] j0 commands tally regardless of change and do not react to new commands.
- [Bug #5643] Add fader positions to voiceover and AB mixer fader tallies.
- [Bug #5601/2] Legacy j7 audio tallies no longer work correctly.
- [Bug #5645] Front panel popup for shuffle/gain preset export is not centre justified.
- [Bug #5644] Shuffle and gain presents always save with 48 channels.
- [Bug #5034/2] Add alarm for AES presence.
- [Bug #5649] Add program AB mix option to Densite PREVIEW_OUTPUT commands.
- [Bug #5619/2] Y8 tallies are not enabled in passive mode.

- [Bug #5182/2] Audio A and B preview blocks labelled differently and some blocks contain duplicated words in the pin names.
- [Bug #5656] Standard setting is lost over software upgrade.
- [Bug #5658] Input group 'collapsed' pingroup attribute is lost during configuration import/export.
- [Bug #5657] Y7 response should use STX2 for consistency.
- [Bug #5653] Easyplay start/stop tallies are not received reliably.
- [Bug #5639/1] Correct the colour parameter for Easytext commands in the log messages.
- [Bug #5659] Saving an Animation through the front panel inserts green into odd fields.
- [Bug #5651] Add front panel control of input multiplexors.
- [Bug #5036/2] Add support for audio meter multiplexor.

v3.1-008 BETA - 2009-11-11

- [Bug #5494] Animations with 'None' keyer source sometimes generate one black field when cutting up.
- [Bug #5589] Error messages at startup due to voice-over default values.
- [Bug #5597] Change default voiceover duck level to -20dB.
- [Bug #5332-WIP] Add const qualifiers to state (and everywhere) where appropriate.
- [Bug #5601/1] Legacy j7 audio tallies no longer work correctly.
- [Bug #5600] Easyplay files that fail to load are reported to be successful.
- [Bug #5605] Easyplay will not work with certain Easyplay configurations.
- [Bug #5610] Bulk Easyplay tallies show all streams as both started and stopped.
- [Bug #5608] Easyplay tallies should not appear enabled when there is no licence.
- [Bug #5469] OXI animation files will not transfer from Animation Builder.
- [Bug #5334/2-WIP] Densite automation library should use action handlers rather than translating to Oxtel.
- [Bug #4726] Express gain block "gain_level" attribute as a float.
- [Bug #5614] Arming a Fade via RCP-BR logs badly formatted string error.
- [Bug #5616] Testing the METER_SOURCE_NAME with GDE converting the hex.
- [Bug #5428] Voice-over duck and preset values set via Configurator Tool do not update correctly.
- [Bug #5619] Y8 tallies are not enabled in passive mode.
- [Bug #5615] Audio tallies are sent when you AB mix to the current mixer input.
- [Bug #5617] Easytext template does not display any text when playout type is set to 'Single Shot'.
- [Bug #5620] The voiceover configuration parameter fade_position is ignored if an Easyplay is associated with that voiceover.
- [Bug #5626] Command deferral does not work.
- [Bug #5625] Field swap detection code is failing.
- [Bug #5623] Stopped animations (via S1) are often field-swapped when restarted (via S0).
- [Bug #5628] The oxtel_to_text output is wrong for 'j1 1' command.

v3.1-007 BETA - 2009-11-05

- [Bug #5523] Add STOPWATCH and COUNTDOWN internal datasources.
- [Bug #5577] Front panel voice-overs 2 to 8 do not follow current voice over state.
- [Bug #5334/1-WIP] Densite automation library should use action handlers rather than translating to Oxtel.
- [Bug #5570] R0 command should return "> Empty <" for any keyers without a store.
- [Bug #4319-WIP] Review TODOs in software code base, remove them and log bugs appropriately.
- [Bug #5578] Animation and Easytext glitches exhibited when video thumbnails are sent to iControl.
- [Bug #5579] Correct bus channel trim jp1 and level jp3 tallies and limits.
- [Bug #5583] Add sign for the jp3 tally.
- [Bug #5584] The Easyplay Load menu does not show the currently loaded file.
- [Bug #5585] The front panel does not scroll Easyplay filenames that are 15 characters long.
- [Bug #5529/2] Add command to set/query voiceover-easyplay associations.
- [Bug #5332-WIP] Add const qualifiers to state (and everywhere) where appropriate.
- [Bug #5544/2] Add multi-stream replacements for k0, k1, k2, k3 and k4.
- [Bug #5587] Tally responses are not being correctly broadcast.
- [Bug #5576] Easyplay message queues fail to be created.
- [Bug #5558] Add tally support for ka, kb and kc commands.
- [Bug #5595] Easyplay load failures when 'video layer follow' used.
- [Bug #5514] Decrease performance impact of audio metering tallies.
- [Bug #5592] Add command to query whether an Easyplay stream is available.

v3.1-006 BETA - 2009-11-02

- [Bug #5539] Add command to query number of Easyplay streams.
- [Bug #5541] File lists retrieved from imstdisk contain duplicates across adjacent sequences.
- [Bug #5542] Increase disk read-ahead size to improve store load times.
- [Bug #5529] Add command to set/query voiceover-easyplay associations.
- [Bug #5486] Add feature to view last 20 and 40 lines of messages file to webpage.
- [Bug #5544] Add multi-stream replacements for k0, k1, k2, k3 and k4.
- [Bug #5187] Add a mode to imsttest which shows ACKs, NAKs and STXs of responses.
- [Bug #5493] Easyplay2 should never be supported by DSK-3901.
- [Bug #5368] Densite protocol lacking TAKE_DONE non-solicited message.
- [Bug #5552] Add multi-stream support for Easyplay.
- [Bug #5554] All Easyplay streams stop if any Easyplay stream finishes.
- [Bug #5546] Remove source code for Easyplay1.
- [Bug #5535] Add function to clear protocol specific state to the protocol handlers.
- [Bug #5558] Add tally support for ka, kb and kc commands.
- [Bug #5559] Use the exact size of the largest tally message for creating message queue.
- [Bug #5560] Implement prefix support for Easyplay video layer associations.
- [Bug #5565] Increase number of Easyplay streams to two.
- [Bug #5566] Configuration changes cause high CPU usage.
- [Bug #5567] Add multi-stream Easyplay support to front panel.
- [Bug #5568] Restructure audio menu.
- [Bug #5562] Removing all audio-related licences causes log spamming.
- [Bug #5491] Ensure that new (factory) configurations are generated with 16 channel embedded passthrough + 8 channel AES voice-over.
- [Bug #5571] Use Miranda logo with white surround for web pages.
- [Bug #5572] Remove thumb_image_load load failure message for unsupported Audio Icon.png thumbnail.
- [Bug #5574] Log spammed with 'Invalid multiplexer source' errors on start-up.
- [Bug #5513] Software version information on the front panel should use shortened.

v3.1-005 ALPHA - 2009-10-28

- [Bug #5455] User presets are exported with wrong owner/group identifier.
- [Bug #5515] Front panel reports incorrect store memory figures.
- [Bug #5485] Store memory allocation failure message seen during DSK self test.
- [Bug #5329] Remove multiple message queues - cleanup.
- [Bug #5516] Front panel menu dump from the webpage does not work.
- [Bug #5483] Add audio configuration templates for EAS (2 channel AES voice-over).
- [Bug #5519] 'Invalid free' message on software restart.
- [Bug #5521] 'j2' voice over command log messages are incorrect.
- [Bug #5396] Ensure Easyplay underruns are logged.
- [Bug #5531-WIP] Switch from using pointers to connections to connection descriptors.
- [Bug #5482/2] Inconsistent behaviour reading and writing unsigned int in Oxtel.
- [Bug #5536] Remove dead code for handling intuition response for "F" command.
- [Bug #5534] Move easyplay follow and voiceover association configurations into easyplay block.
- [Bug #5518] Invalid automation commands being received at start up from Densite connection.

v3.1-004 ALPHA - 2009-10-23

- [Bug #5473] Use "YYYY-MM-DD" date format throughout the release notes.
- [Bug #5450/2] Gain control and shuffle control tallies do not work.
- [Bug #5457] Extend passive mode (Ya) to allow j7 and/or individual audio tallies on a per-port basis.
- [Bug #5452] Invalid jn command being sent when try to scroll outside range of audio select sources.
- [Bug #5474] DSKx fade rate increases every time entering the 'Fade Rate' menu.
- [Bug #5476] iControl does not recover PGM In status after input cable is disconnected.
- [Bug #5482/1] Inconsistent behaviour reading and writing unsigned int in Oxtel.
- [Bug #5449] Improve the look-and-feel of the web pages.
- [Bug #5479] Default source for 'SDI Audio Feed 2' should be 'Fill-2' (not 'Fill-1').
- **Integrated LGK FPGA firmware (v2.06).**
 - [Bug #5267] Easyplay2 appears to output 3 channels from a 2 channel wav file.
 - [Bug #5397] Easyplay fails to restart correctly.
- [Bug #5480] No bulk tallies received on registration of the passive mode.
- [Bug #5501] Move and rename PASSIVE_AUDIO_TALLY_*.
- [Bug #5504] Sending the empty automation command ':' incorrectly reports a fade-to-black.
- [Bug #5489] IMM and Xplorer are unable to build thumbnails for EAS templates.
- [Bug #5498] Correct log messages for Easytext commands Zd and Ze.

- [Bug #5496] Ensure textbox commands 'Zd' and 'Ze' can cope with a string length shorter than specified.
- [Bug #5505] Decibel values for j commands should have 0.5dB precision in message log.
- [Bug #5512] Cannot set the serial baud rate.
- [Bug #5329] Remove multiple message queues.
- [Bug #5285/3] Add ABMIX_POSITION and ABMIX_FADER_RATE Densite commands.
- [Bug #5495] Unacceptable CPU load due to I/O wait on test for locked status of AES transceivers.

v3.1-003 ALPHA - 2009-10-19

- [Bug #5140] Move passive_mode and audio_metering_send_mode into oxtel_port_state_t.
- [Bug #5422/2] Remove the use of preinitialised arrays in any C++ code that are dependent on an enum.
- [Bug #5458] Add OXE support to audiofile library.
- [Bug #5459] Easyplay crashes with truncated WAV/OXW files.
- [Bug #5462] Refactor implementation of get audio file length to support audiofile library.
- [Bug #2499] Implement Easyplay 2 support.
- [Bug #5463] Ensure Easyplay is disabled when there is no audio licence.
- [Bug #5464] Disable OXE support based for low end platforms.
- [Bug #5433] Add new configuration DTDs to Imagestore release.
- [Bug #5456] Log message format for 'jp4' command is incorrect.
- [Bug #5467] Add support for XML based configuration component enabling.
- [Bug #5466] The log message for the asymmetrical rate command UG is incorrect.
- [Bug #5450] Gain control and shuffle control tallies do not work.
- [Bug #5310] Arm-take tallies for Densite commands need fixing/refactoring.
- [Bug #5472] Sounds directory missing on LGK-3901.

v3.1-002 ALPHA - 2009-10-13

- [Bug #5309/2] Alarm config and status tally messages wasteful of space.
- [Bug #5434] 'jo0' command parameter 6 'MakeBreak' log message displayed incorrectly.
- [Bug #5417] Log spammed with 'Voiceover out of range' messages.
- [Bug #5422/1 WIP] Remove the use of preinitialised arrays in any C++ code that are dependant on an enum.

v3.1-001 ALPHA - 2009-10-12

- [Bug #5402] Add support for playing out OXW files with Easyplay 2.
- [Bug #5271/1] Add support for jp commands in oxtel_to_text.
- [Bug #5420] Add support for build numbers in version string.
- [Bug #5421] Use of the serial ports hangs up imstmain.
- [Bug #5377] Audio feed status menus are broken.
- [Bug #5405] Audio feed routing is not correctly dealt with.
- [Bug #5425] Files uploaded with the web page are owned by the wrong user.
- [Bug #5410] Selecting to download a configuration file from the webpage fails in Internet Explorer.
- [Bug #5427] Add configuration templates to LGK web page.
- [Bug #5419] Configuration library can fail to use default values when reading config/state.
- [Bug #5413] '#h' enquire current mixfile command returns an empty response when sent from imsttest.
- [Bug #5393/2] Fix AB mix fade rate commands.
- [Bug #5424] Log message errors related to 1-based integers.
- [Bug #5411] Preview Input menu is confusing when AB Mix licence is present.
- [Bug #5431] Some commands do not get logged after log suppression is enabled.
- [Bug #5395] Add ability to load/save shuffle/gain presets from the front panel.

V3.0rc1 - 2009-10-08

- [Bug #5335] imstmain process should use CPP linking throughout.
- [Bug #5123] Add Densite commands to allow control of voiceovers.
- [Bug #5378] Sending an AB mixer command that matches the current state is logged as invalid.
- [Bug #5383] 'Xd' command description should be changed to 'Delay next command by'.
- [Bug #5380] Remove swap behaviour from Densite AB mix command.
- [Bug #5393/1] Fix AB mix fade rate commands.
- [Bug #5401] Easyplay fails to unload data properly if a new clip is loaded but load fails.
- [Bug #5389] Remove the ability to arm fade rates from the Densite commands.

- [Bug #5407] Memory leak causes imstmain to crash.
- [Bug #5408] 'j78' command description should display 'AES status' (not EAS).
- [Bug #5409] 'j1' command description should display 'Mute' (not 'Mote')

V3.0b9 - 2009-10-06

- [Bug #5309/1] Alarm config and status tally messages wasteful of space.
- [Bug #5335 WIP] imstmain process to use CPP linking throughout.
- [Bug #5365] In the context of arm-take internal structures "delete" should be renamed "disarm".
- [Bug #5285/2] Add ABMIX_POSITION and ABMIX_FADER_RATE Densite commands.
- [Bug #5310] Arm-take tallies on densite need fixing/refactoring.
- [Bug #5337] Automation control on RS422 fails if ethernet is disconnected.
- [Bug #5364] Verbose logging shows the '3' command twice 50% of the time.
- [Bug #2499 WIP] Implement Easyplay 2 support.
- [Bug #5370] The gainpresets and shufflepresets directories are missing from the backup.
- [Bug #5361] Capabilities file saves with wrong extension.
- [Bug #5371] Add action handlers for slot number changes.
- [Bug #5333] Take densite_remote out of remote_ so it is managed by densite library
- [Bug #5181/2] Automation formatting must be exactly consistent with older versions of software (including spacing and parameter lengths).
- [Bug #2839/2] Add Xb automation command to return full software version number - **(Xpanel/RCP-BR)**.
- [Bug #5037] Add "Follow Video AB Mix A Input" and "Follow Video AB Mix B Input" to SDI feed sources.
- [Bug #4851] Trying to restore a 'backup' file fails with backups over 150MB.
- [Bug #5297] Changing GPI On/Off macros should not affect the real output state of the GPO.
- [Bug #4715] Add configuration templates for audio to LGK.

V3.0b8 - 2009-09-29

- [Bug #5285/1] Add ABMIX_POSITION and ABMIX_FADER_RATE Densite commands.
- [Bug #5092] Implement support for AES input status.
- [Bug #5306] GPI output status not display status correctly for GPI pins (5 to 8) from front panel 'Setup > GPI > Show GPI OPs'.
- [Bug #5034/1] Add alarm for AES presence.
- [Bug #5087] Selecting to download a configuration template from the webpage fails in Internet Explorer.
- [Bug #5328] The upgrade web page should refer to 'CPIO.GZ' instead of 'CPIO'.
- [Bug #5341] Imagestore crashes if the mix engine fails to initialise.
- [Bug #5181/1] Automation formatting must be exactly consistent with older versions of software (including spacing and parameter lengths).
- [Bug #5348] Use 'Enquire' for R6 and R8 message log strings (not 'Inquire').
- [Bug #5344] Correct Doxygen warnings.
- [Bug #5350] U4 and U5 commands not working correctly.
- **Integrated LGK FPGA firmware (v2.05).**
 - [Bug #5174] Animation with bounding box plays out with glitches.
 - [Bug #5439] Stores incorrectly load certain width images.
- [Bug #5353] Implement floating point support in oxtel_to_text library.
- [Bug #5271] Add support for jp commands in oxtel_to_text.
- [Bug #5352] Correct behaviour when automation command receives a rate of 0.

V3.0b7 - 2009-09-24

- **Integrated LGK FPGA firmware (v2.04).**
 - [Bug #5124] Implement support for AES input status.
 - [Bug #5174] Animations play out with glitches or semi-transparency.
 - [Bug #5258] LGK-3901 stores are missing key remap block.
 - [Bug #5208] Loading a Fill/Key pair with no SDI input present darkens PGM output.
 - [Bug #5138] Easyplay 2 channels misaligned.
 - [Bug #5139] Easyplay 2 FIFO overflows causing incorrect channel alignment.
- [Bug #5140] Move passive_mode and audio_metering_send_mode into oxtel_port_state_t.
- [Bug #5316] Log spammed with 'Resource temporarily unavailable' message.
- [Bug #5283] Remove 'Prod Tests' from front panel menu.
- [Bug #5305/2] Prevent 'Active Preview' from controlling PVW keyers when PGM keyers are cut up/down without arm/disarm - (Configurator Tool description).
- [Bug #5175/2] Images with linear key do not fade-to-black along with the background.
- [Bug #5240] Self and Separate key settings do not work as expected.

- [Bug #5100/2] Active Preview should be disabled by default - **(Xpanel/RCP-BR)**.

V3.0b6 - 2009-09-22

- [Bug #5094/4 WIP] Refactor Densite command tallies.
- [Bug #5289] Make logging library multiplatform.
- [Bug #5250] Fetching MAC address far too expensive.
- [Bug #5275] When the user changes the video standard and selects 'Soft Restart', force a hardware restart to reload the correct firmware.
- [Bug #5300] Use a script to generate submakefiles.
- [Bug #5304] Add native target to make system.
- [Bug #5305/1] Prevent 'Active Preview' from controlling PVW keyers when PGM keyers are cut up/down without arm/disarm.
- [Bug #5029] Implement Basic Swap Preview mode - (always disabled for LGK-3901/DSK-3901).
- [Bug #5205] Update hwmap.xml to include store registers.

V3.0b5 - 2009-09-15

- [Bug #5094/3 WIP] Refactor Densite command tallies.
- [Bug #5272] Easytext templates containing clocks spam the message log.
- [Bug #5268] OxSox: GetDir/GetFullDir commands does not return EAS from factory default directory.
- [Bug #5265] ZC command log message shows speed parameter incorrectly.
- [Bug #5281] 'Erase Audio' and 'Erase Mixfile' should not be available from front panel 'Setup > Miscellaneous > File Ops'.
- [Bug #5254] DEV_ID command returns firmware version number incorrectly.

V3.0b4 - 2009-09-11

- [Bug #5094/2 WIP] Refactor Densite command tallies.
- [Bug #5251] Drop frame parameter to XE command is not actually sent.
- [Bug #5244] Audio is not supported for DSK 3901.
- [Bug #5225] imstmain crashes with exception 11 when performing a soft reset.
- [Bug #5266] System locks up when moving store images or on startup with an RCP-BR - **(Xpanel/RCP-BR)**.
- [Bug #5261] The "no thumbnail" thumbnail is incorrectly generated.
- [Bug #5270] Audio cut with a V fade causes glitch.
- [Bug #5262] All error log messages should include the function name.
- [Bug #5211] Easyplay not working as expected when 'Use Voiceover' set.
- [Bug #5269] Make loop device recognition more robust.

V3.0b3 - 2009-09-07

- [Bug #5168] Visibility of front panel voiceovers and audio program select should depend on whether the route manager is being used.
- [Bug #5094/1 WIP] Refactor Densite command tallies.
- [Bug #5200] Move Oxtel automation handling files to new location.
- ~~[Bug #5100/1] Active Preview should be enabled by default - **(Xpanel/RCP-BR)**.~~
- [Bug #5143/2] Preview input selection is no longer in the routing section of the Configurator tool.
- [Bug #5204] imstmain process crashes if /home/params/config.xml does not exist.
- [Bug #3646] Ensure that all malloc/realloc errors are logged.
- [Bug #5215] Set text background to gradient Z7 automation command is being ignored completely.
- [Bug #5220] Consolidate imstdef.h stdhdr.h and imst.h header files.
- [Bug #5175/1 WIP] Images with linear key do not fade-to-black along with the background.
- [Bug #5223] Enquiring textbox Za automation command does not return any valid text box information.
- [Bug #5149] Logs spammed with thumbnail related message when restarting.
- [Bug #5216] Logs spammed with 'imstdensite: handleMessage: Couldn't send immediately, retry 10...'
- [Bug #5224] Send a Y9 tally if media fails to load and the previous image is unloaded - **(Xpanel/RCP-BR)**.
- [Bug #5222] Linux reports no memory left on creating message queues.
- [Bug #5219] Software hangs on startup with DSK-3901.
- [Bug #5232] The Yg tally should only be sent when the crawl count changes.
- [Bug #5199] iControl options functionality is missing.

- [Bug #5239] Set Intuition Keyer Input command is reported as invalid.
- [Bug #5226] Arming a keyer fade rate causes any previously armed fade rate for any keyer to be disarmed - (**Xpanel/RCP-BR**).
- [Bug #4910] EAS templates thumbnails show corrupt or no thumbnail on Presmaster - (**Xpanel/RCP-BR**).

V3.0b2 - 2009-08-26

- [Bug #3565/3] Refactor configuration code.
- [Bug #5177] Refactor configuration object into shared memory.
- [Bug #5180] Add new automation command (Xn) to enquire the full product name - (**Xpanel/RCP-BR**).
- [Bug #5089] Improve descriptions of audio blocks shown in the Configurator Tool.
- [Bug #5186] Audio feed selection set in config file not validated when read in.
- [Bug #5173] Network address changes should take effect immediately.
- [Bug #5176] Animations glitch and flash every second.
- [Bug #5190] Move lsplib into shared.
- [Bug #5193] Logs spammed with config errors.

V3.0b1 - 2009-08-19

- **Integrated LGK FPGA firmware (v2.02).**
 - [Bug #5111] Incorrect address decode for Easyplay2 Engine.
 - [Bug #5093] Ensure all used input/outputs are within the first 512 slots.
 - [Bug #4984] Add one extra colour field for use with AB Mix V-fade.
 - [Bug #5121] Allow blanking control to follow AB mixers.
- [Bug #4899/2] Add a tally for the Store to Keyer assignment - (**Xpanel/RCP-BR**).
- [Bug #2499/3 WIP] Implement Easyplay 2 support.
- [Bug #4962] Send tallies with new automation handlers.
- [Bug #5122] Massive system slowdown and log spamming when colour fields set as inputs.
- [Bug #5141] Add software support for AB mix V-fade colour field.
- [Bug #5118] Reduce number of audio crosspoints to 512.
- [Bug #5142] Correct Easyplay register addresses.
- [Bug #5145] Front panel locks up and spams the log when changing audio Preview/Program select.
- [Bug #5146] OxSox file rename fails upon transfer completion.
- [Bug #5127] Colour fields are not within range at startup.
- [Bug #5099] Program output audio goes to silence after system restart.
- [Bug #5143] Preview input selection is no longer in the routing section of the Configuration tool.
- [Bug #5147] Ensure message queue library does not log "EAGAIN" errors in non-blocking mode.
- [Bug #5077/3] Ensure all new audio commands have 0.01dB accuracy.
- [Bug #5157] Reduce the front panel status refresh rate.
- [Bug #5073] 'Load Pending' messages spamming logs during file load.
- [Bug #4927] Allow special Temperature Probe template to work without Easytext option enabled.
- [Bug #5166] SDI fill/key preview outputs are not accepted from configuration file.
- [Bug #5167] Stores cannot be repositioned to negative offsets.
- [Bug #5169] 'imstmain' crashes when media/configs are copied/moved/changed/deleted.
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- [Bug #5170] Log is spammed when cmddelay or cmdstall is used.

V3.0a16 - 2008-08-14

- [Bug #4177] Ensure compatibility of the configuration files from older software versions.
- [Bug #5077/2] Ensure all new audio commands have 0.01dB accuracy.
- [Bug #5107] Config tool fails to open active config.
- [Bug #5110] Add audio mix engine support for 48 channel buses.
- [Bug #5086] Logs spammed with messages for unsupported automation commands sent by external applications.
- [Bug #5113] Tally send attempted even after disconnection.
- [Bug #5119] Ensure HAL is used to determine number of crosspoints.
- [Bug #5106] Log messages spammed when config imported with unsupported audio modules.
- [Bug #4967] Add LAYER_THUMBNAIL Densite commands.
- [Bug #2499/2] Implement Easyplay 2 support.
- [Bug #5075] Move oxtel-specific code into oxtel automation library.
- [Bug #5134] Move densite protocol-specific code into densite automation library where possible.
- [Bug #5131] Keyer and FTB rates are swapped when saved and when enquired.

V3.0a15 - 2009-08-10

- [Bug #4657] Add AB mixer support in software.
- [Bug #4954] Sending automation without gaps works but you get no auto2text message.
- [Bug #5083] 1200 baud doesn't work on LGK.
- [Bug #4811] Rename MAX_FADER to make it more understandable.
- [Bug #3444] Correct log messages for j4 commands when toggling AB mix and voiceover status.
- [Bug #5071] Selecting a default mix file from the webpage fails.
- [Bug #5077] Ensure all new audio commands have 0.01dB accuracy.
- [Bug #2499/1] Implement Easyplay 2 support.
- [Bug #4998] Allow time for audio initialisation after setting video standard in firmware.
- [Bug #4519] Add audio support to LGK.
- [Bug #4781] Refactor search for next file code.
- [Bug #4638] Add temperature probe option.
- [Bug #4967 WIP] Add LAYER_THUMBNAIL Densite commands.
- [Bug #5084] R0 automation command does not respond when the layer enquired has no store.
- [Bug #5101] Front panel does not show the current Intuition settings.
- [Bug #5104] 'imstthumb' executable is missing from the release.

V3.0a14 - 2009-08-05

- [Bug #5065] New kernel appears to cause performance drop.
- [Bug #5068] Upgrade to distro v2.01.
- [Bug #5069] String library function crashes calling function when string argument is too long.
- [Bug #5063] Logs are spammed with messages on entering the audio menu.
- [Bug #4812] Make the AB mix transition types an enum.
- [Bug #5075] Move oxtel-specific code (auto2text) into oxtel automation library.
- [Bug #5047] Program audio output is incorrect when using legacy mixfiles.
- [Bug #5076] Add support for reading and writing fixed point signed floats.
- [Bug #4928] Xpanel/Presmaster audio meters do not display preview and program audio correctly - (Xpanel/RCP-BR).
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- [Bug #4782] Refactor maximum file number code.

V3.0a13 - 2009-07-30

- [Bug #4971/3] Implement Audio Level Metering (ALM) Densite commands.
- [Bug #4590/2] Add checks to the Xv embedded audio type command.
- [Bug #5057] High CPU usage.
- [Bug #5060] Embedded audio type is not initialised when the config selects it as a default value.
- [Bug #5062] Add new option names for v3.0 software.

V3.0a12 - 2009-07-27

- [Bug #4095] Basic arm/take allows 'Virtual GPI On' but not 'Virtual GPI Off' - (Xpanel/RCP-BR).
- [Bug #4971/2] Implement Audio Level Metering (ALM) Densite commands.
- [Bug #5039] Message queue file system not mounted at startup.

V3.0a11 - 2009-07-23

- [Bug #5016] Bootloader now too large for its partition.
- [Bug #4994] Add remaining FPGA firmware information to the system information webpage.
- [Bug #5009] Audio command enquires do not respond.
- [Bug #5011] LGK-3901 logs non-installed licence codes.
- [Bug #4962/3 WIP] Send tallies with new automation handlers.
- [Bug #4895/2] Remove HIDDEN, PUBLIC, LOCAL and extern on function declarations.
- [Bug #4981] Ensure audio features are checked against hardware/software capabilities.
- [Bug #5013] Increase limit of TCP-IP sockets from 8 to 32 - (Xpanel/RCP-BR).
- [Bug #5026] Log messages spammed with messages about "Unknown alarm severity!".
- [Bug #5027] Add target for 64 bit X86 architecture.
- [Bug #5036] Add support for audio meter multiplexor.
- [Bug #4971/1] Implement Audio Level Metering (ALM) Densite commands.
- [Bug #5042] Ensure imagestore_core driver uses correct types for pointer arithmetic.
- [Bug #4432/3] Refactor forward to Intuition code.

V3.0a10 - 2009-07-15

- [Bug #4995] Upgrade build system to toolchain v1.02, distro v2.00.
- [Bug #5007] ntpd should use imstenvget instead of fw_printenv.

V3.0a9 - 2009-07-15

- [Bug #4962/2] Send tallies with new automation handlers.
- [Bug #4993] Rename state_ to state_t, remove ssa_local.
- [Bug #4941] Read back of FPGA ident, version and build date.

V3.0a8 - 2009-07-14

- **Integrated LGK FPGA firmware (v2.01).**
 - [Bug #4938] Add audio engine support to firmware.
- [Bug #4940] #F command does not log message for invalid parameters.
- [Bug #4953] The B and @ commands do not work for values bigger than 2 digits.
- [Bug #4931/2] Refactor schedule commands to use automation handlers.
- [Bug #4787] Program and preview should have separate fade-to-black control.
- [Bug #4958] LGK is using the wrong function to get the GPIO direction.
- [Bug #4959] Message file spammed with errors about input status/lookup.
- [Bug #4930] Refactor arm take commands to use automation handlers.
- [Bug #4792/6] Add automation parsing library.
- [Bug #4964] Ensure the reference offset is re-set when escaping the front panel menu option.
- [Bug #4768/2] Current mixfile incorrectly displayed as NONE.
- [Bug #2788] Add arguments to .enable functions in front panel code.
- [Bug #4970] Change "Embedded Audio Present" alarm to "Embedded Audio Loss".
- [Bug #4965] GetFileStat2 OxSox command should return successfully for files that are currently being copied.
- [Bug #4948] DVE sequence enabled does not display after system reboot.
- [Bug #4972] DSK-3901 without DDR2 memory module cause the card to malfunction.
- [Bug #4519 WIP] Add audio support to LGK.
- [Bug #4962/1] Send tallies with new automation handlers.
- [Bug #4909] Alarm for video embedded audio loss is not yet implemented.
- [Bug #4195] Loading of an analogue clock at start-up fails.
- [Bug #4974] Suppress unused sscanf parameters rather than reading and discarding them.
- [Bug #4977] GPI input events are not correctly displayed on the front panel.
- [Bug #4936] Ensure audio feed status is not tied in with SDI input status in the front panel.
- [Bug #4980] Fix compiler warnings picked up with gcc 4.3.2.
- [Bug #4975] Improve frame GPI determination code.
- [Bug #3870] Y7 command responds with ACK and STX.

V3.0a7 - 2009-07-02

- [Bug #4432/2] Refactor forward to Intuition code.
- [Bug #4711/2] Extend front panel to use all 8 voiceovers.
- [Bug #4792/5] Add automation parsing library.
- [Bug #2839/1] Add Xb automation command to return full software version number - **(Xpanel/RCP-BR)**.
- [Bug #3908] Selecting PGM DVE o/p from Preview Select causes message clogging in absence of DVE hardware.
- [Bug #3945] Configuration tool shows audio input B even if not supported.
- [Bug #4752] Correct return values for audio action handlers.
- [Bug #4593] Add j78, j1, j78, j7s, j7v, #6, #7, #z, RB to auto2text for logging.
- [Bug #4881] Messages spammed with 'Command not supported (no easyplay licence/hardware)'.
- [Bug #4834] Software changes prevent Licence Manager understanding output of imstlic.
- [Bug #4890] Remove unused parameter MAX_OBJECT.
- [Bug #4825] Log a message when the timezone offset is changed.
- [Bug #4666/2] Serial protocol not checked against system features.
- [Bug #3466] XL command does not display System Halt information on the front panel.
- [Bug #4488] Add SERIAL_BAUD_RATE/SERIAL_PROTOCOL/SERIAL_TYPE Densite commands to support Serial Port setup.
- [Bug #4899] Add a tally for the Store to Keyer assignment - **(Xpanel/RCP-BR)**.
- [Bug #4808] CARD_OPTIONS response should be non-solicited.
- [Bug #4904] Set correct permissions and boa configuration for shuffle and gain presets.
- [Bug #4914] Integrate latest validation file DTD.

- [Bug #4908] Temperature sensor serial protocol does not fit on the front panel.
- [Bug #4915] Add validation sections for shuffle and gain presets.
- [Bug #4916] Integrate latest config file DTD.
- [Bug #3842] Ensure that a local systemFeatures is accessed where possible.
- [Bug #4707] Change duck and preset config attributes to floats.
- [Bug #3532] Some audio components allow multiple sources for a single audio channel.
- [Bug #4652] ZC command allows a strap speed of zero that prevents further speed updates.
- [Bug #4919] Add deprecate messages to deprecated components.
- [Bug #4708] Add caption support for configurator params, containers and components.
- [Bug #4920] Some channel names on audio components are incorrect.
- [Bug #4513] Add Preview option to output a copy of PGM In.
- [Bug #4921] Use pingroup names as the multiplexor source names.
- [Bug #4923] Rename SDI inputs as SDI feeds in the configurator.
- [Bug #3741] expand_time log messages.
- [Bug #4859] Select Mixfile should show 'Route Manager' as its first list item.
- [Bug #3909] Add support for configurable audio feeds.
- [Bug #4694] Remove unused arm and take code.
- [Bug #4845/2] 'imstmain' hangs if the BR-RCP is restarted - **(Xpanel/RCP-BR)**.
- [Bug #4849/2] Prevent network connections/disconnections from spamming the logs and include IP address in network automation logs - **(Xpanel/RCP-BR)**.
- [Bug #4937] Setting stores memory allocation to 100% crashes front panel mirror.
- [Bug #4935] Xi command does not log message for invalid parameters.
- [Bug #4931/1] Refactor schedule commands to use automation handlers.
- [Bug #4943] Setting heartbeat frequency of zero crashes the unit.
- [Bug #4945] Add HAL support for reading FPGA dates and ids.
- [Bug #4947] Remove stale use of objects library.

V3.0a6 - 2009-06-24

- [Bug #4792/4] Add automation parsing library.
- [Bug #4868] Arming a fade appears to cause one previously armed cut to fail - **(Xpanel/RCP-BR)**.
- [Bug #4864] Refactor hash commands to use automation handlers.
- [Bug #4884] Soft Restart after a configuration import from the front panel halts the unit.
- [Bug #4879] Refactor the easytext automation Z commands.
- [Bug #4891] Refactor alarm automation commands.
- **Integrated LGK FPGA firmware (v2.01)**.
 - [Bug #4850] Oxa logo corruption sometimes seen when loading into a store.
- [Bug #4892] Refactor single character single automation commands.
- [Bug #4895/1] Remove HIDDEN, PUBLIC, LOCAL and extern on function declarations.
- [Bug #4896] Improve logging for Emergency To/From Air.
- [Bug #4888] Easysound cutting and fading transitions using j4 commands are ignored.
- [Bug #4894] Ensure all strings created are destroyed.
- [Bug #4711/1] Extend front panel to use all 8 voiceovers.
- [Bug #2908] VO fade down results in immediate stop of Easyplay at the start of the fade.
- [Bug #4855] Temporary media files show up in OxSox directory listing.

V3.0a5 - 2009-06-18

- [Bug #4671] Arming a DSK cut or fade via automation (p1) does not create a LAYER_FADER_POSITION tally - **(Xpanel/RCP-BR)**.
- [Bug #4758] Start Strap is named as Stop Strap when creating sequences for GPI Inputs.
- [Bug #4821/3] Refactor status (X) automation commands.
- [Bug #4092] Log an error code after any failure to adjust the store memory from the front panel.
- [Bug #4864] Refactor hash commands to use automation handlers.
- [Bug #4865] Change hal generic void* type to an incomplete struct type.
- [Bug #3723] Replace use of the "Empty" string with a constant variable.
- [Bug #4579] Remove the use of duplicated system features.
- [Bug #4813] Create a system features array for the input SDI options.
- [Bug #4849] Prevent network connections/disconnections from spamming the logs and include IP address in network automation logs - **(Xpanel/RCP-BR)**.
- [Bug #4792/3] Add automation parsing library.
- [Bug #4862] imstvoltagename object id 1.3.6.1.4.1.3872.23.7.3.1.3 does not respond correctly.
- [Bug #4869] Refactor preview Y commands to use automation handlers.
- [Bug #4880] Stores data transferred by DMA is getting corrupted.
- [Bug #4507/2] Always convert errno into string equivalent when logging errors.
- [Bug #4870] A single keyer cut/fade up/down command is often actioned twice.

V3.0a4 - 2009-06-10

- [Bug #4835] Build fails to copy Full Flash Image and Bootloader Image.
- [Bug #4821/2] Refactor status (X) automation commands.
- [Bug #4792/2] Add automation parsing library.
- **Integrated LGK FPGA firmware (v2.00).**
 - [Bug #4572] Add AB Mix support to firmware.
 - [Bug #4573] Add 3G level B dual link transmitter support.
- [Bug #4802 WIP] Refactor DVE automation handlers.
- [Bug #4836] Refactor GPI automation commands.
- [Bug #4845] 'imstmain' hangs if the BR-RCP is restarted - (**Xpanel/RCP-BR**).
- [Bug #4792/1] Add automation parsing library.

V3.0a3 - 2009-06-05

- [Bug #4767] Refactor store automation handlers.
- [Bug #4768/1] Current mixfile not displayed correctly.
- [Bug #4677] Refactor initialisation code in imstdisk.
- [Bug #4771] Add printf style type checking to any functions containing printf format strings.
- [Bug #4779] Upgrade the distro to v1.30
 - [Bug #4769] Add ntpdate.
 - [Bug #4655] Release script to update bugzilla version number.
 - [Bug #4763] Readline library doesn't link properly.
- [Bug #4776] Re-write imstreg to make it more maintainable.
- [Bug #4432/1] Refactor forward to Intuition code.
- [Bug #4784] Refactor easyplay automation commands.
- [Bug #4755] Problems with cleaning up system resources on run level change (message queue and file descriptors).
- [Bug #4734] Slot number should be sent to imstmain as part of Densite message.
- [Bug #4737] When in production test mode Densite messages are still sent to imstmain which is not running.
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- [Bug #4765] Densite protocol doesn't initialise properly after soft reset.
- [Bug #4777] THUMBNAIL_CONFIG messages has MODE set ON when thumbnail is not activated.
-
- [Bug #4789] Refactor EAS and datasource automation handlers.
- [Bug #4792] Add automation parsing library.
- [Bug #4766] Number of message queues ID increases by 2 after soft restart.
-
- [Bug #4795] Refactor animation automation handlers.
- [Bug #4751] Refactor keyer automation handlers.
- [Bug #4803] Refactor video AB mixer automation handlers.
- [Bug #4796] Remove unused conditional compiles.
- [Bug #4817] Refactor clock automation handlers.
- [Bug #4820] Move designated initialisers from h files into c files.
- [Bug #4822] Ensure the core driver returns sensible results for "Is supported"/"get number of" requests.
- [Bug #4821/1] Refactor status (X) automation commands.
- [Bug #4741] XPanel communication eventually causes crash - (**Xpanel/RCP-BR**).

V3.0a2 - 2009-05-22

- [Bug #4751] Refactor keyer automation handlers.
- [Bug #4270] Refactor the front panel function names.
- [Bug #4590/1] Add checks to the Xv embedded audio type command.
- [Bug #4667] Invalid Intuition release modes accepted by automation.
- [Bug #4647] Animation and file commands do not ensure a store is associated with the keyer.
- [Bug #4742] Serial RS232/422 mode selection wrong.
- [Bug #4714] Add serial stats to web interface like IS750.
- [Bug #4689] Card loses Densite communication when coming out of production test mode.
- [Bug #4756] Card fails to start if an SD only licensed LGK.
- [Bug #4720] Log appropriate message for unsupported Densite commands, and when parameters are out-of-range for supported Densite commands.
- [Bug #4760] Add shuffle and gain presets to diagnostics archive.
- [Bug #4423] devicecaps.caps file is 0B after running "Creating Diagnostics File" script.
- [Bug #4678/2] Put log information back into diagnostics file.

- [Bug #4762] Webpage doesn't allow media downloads for mixfiles, sounds or metadata presets.

V3.0a1 - 2009-05-14

- [Bug #4702] The alarm severity and report level set are not tested to be within range.
- [Bug #4636] Default preview output selection should be 'Preview o/p' not 'Program o/p'.
- [Bug #4637] XH command does not check the input parameters against the system features.
- [Bug #4554] Extend TIMECODE_SOURCE Densite command to return drop frame and direction parameters.
- [Bug #4642] Intuition keyer assign read from config file not compared to system features.
- [Bug #4654] Emergency to Air should not be an option for units without stores.
- [Bug #4090/4] Calibrate input timing.
- [Bug #4658] Invalid Intuition keyer assign values accepted by #b command.
- [Bug #4662] Intuition Keyer Input does not check against valid ranges.
- [Bug #4668] Ensure log error calls are correctly formed.
- [Bug #4649] Densite command GET_THUMBNAIL_HEADER doesn't work.
- [Bug #4142] Add THUMBNAIL_CONFIG and THUMBNAIL_HEADER Densite commands.
- [Bug #4656] Potential minor memory leak in systemfeatures.
- [Bug #4670] Upgrade to distro 1.28.
 - [Bug #4639] Add valgrind package to distribution.
 - [Bug #4612] Add psmisc package to distribution.
 - [Bug #4648] Add strace package to distribution.
 - [Bug #4664] Add boost to the distribution.
- [Bug #4675] Make all GPI references zero based.
- [Bug #4681] LGK crashes on startup.
- [Bug #4683] Main board revision creates driver error.
- [Bug #2656] Responses and tallies are not received for commands forwarded onto Intuition.
- [Bug #4666/1] Serial protocol not checked against system features.
- [Bug #4663] Command to set GPI inputs does not check the available number of GPIs.
- [Bug #4142] Add THUMBNAIL_CONFIG and THUMBNAIL_HEADER Densite commands.
- [Bug #4693] Cannot delete first character typed in imsttest.
- [Bug #4690] Upgrade to distro version 1.29.
 - [Bug #4313] Restarts triggered from software do not always work.
- [Bug #4696] U-boot fails to upgrade correctly.
- [Bug #4695] Correct LGK-3901-SD description in densiteoptiongenerator application.
- [Bug #4678] Put log information back into diagnostics file.
- [Bug #4632] Reformat release notes so that most recent additions appear at the top.
- [Bug #4679] Make webpage downloads available in another format.
- [Bug #4685] Remove /config on LGK.
- [Bug #4688] Refactor Y611 code.
- [Bug #4728] Make all options depend on LGK-3901-SD or DSK-3901-SD.

V2.1rc1 - 2009-04-30

- [Bug #4604] densiteoptiongenerator application should have a way to bulk generate options keys for a card.
- [Bug #4607] Add automation heartbeat (YD).
- [Bug #4606] Densite front panel must show capitalised characters.
- [Bug #4609] Front Panel function being passed wrong argument.
- [Bug #4555] Add Densite command for setting the reference timing.
- [Bug #4616] Fix compiler warning showing that samples is used uninitialised in get_input_timing.
- [Bug #4623] Datasource expansion and clock code requires clean-up.
- [Bug #4554] Extend TIMECODE_SOURCE Densite command to return drop frame and direction parameters.
- [Bug #4622] Improve the timecode status format on the front panel.
- [Bug #4566] LGK register map naming is inconsistent.
- [Bug #4625] Configuration tool has Presmaster and RCP classic as protocol options.
- [Bug #4626] Add STORE_KEYER_CONFIG Densite commands.
- [Bug #4528] Time datasource update stops running after a while.
- [Bug #4629] Remove two unused message types.
- [Bug #4631] Load mode should be re-read from the configuration file after changing the store-keyer configuration.
- [Bug #4633] Verify preview output selected in configuration file against system features.
- **[Bug #4634] Upgrade to distro 1.27.**
- [Bug #4569] Front panel dumpmenu output has some mistakes.

V2.1b13 - 2009-04-27

- [Bug #4562] Make the store-keyer configuration command external (Xi).
- [Bug #4571] Correct the range checking of the UF command.
- [Bug #4574] densiteoptiongenerator application mentions 'licences' instead of 'options'.
- [Bug #4567] Display software version on top line of web page.
- [Bug #4569] Front panel dumpmenu output has some mistakes.
- [Bug #4584] Some Set Preview XH options are missing within auto2text.
- [Bug #4585] Add 3G standards to Xs auto2text message.
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- [Bug #4279] File transfers using OxSox are extremely slow.
- [Bug #4580] Add FACTORY_DEFAULT Densite command.
- [Bug #4589] BREAK command should hold the TX line down for 300mS.
- [Bug #4581] Front panel: Left-justify menu entries and remove '+' and '-' characters.
- [Bug #4440] iControl has issues with Soft Restart.
- [Bug #4594] Densite front panel slot should be processed in decimal, not hex.
- [Bug #4591] ~~Z4 command will not update images in an Easytext template.~~

V2.1b12 - 2009-04-22

- [Bug #4418/2] Change the alarm thresholds for input timing.
- [Bug #4547] Log message if an attempt is made to set invalid licences.
- [Bug #4109] Densite front panel persists after Restart System.
- [Bug #4479 WIP] Tidy up densite line discipline driver.
- [Bug #4549] densiteoptiongenerator application lists dependencies incorrectly.
- [Bug #4090/3] Calibrate input timing.
- [Bug #4553] halVideoImagestoreDriverGetInputTiming: Unable to perform IOCTL.
- [Bug #4338] Find slot number when LGK is hard cycled or licences added.
- [Bug #4556] System thinks EAS is running even when the template load fails.
- [Bug #4500] Images 99.5% not 100% keyed on.
- [Bug #4354] Correct values for 1.0V and 3.3V voltages based on 2.5V value.
- [Bug #4397/2] Add restore point information to MEM_BLOCK commands.
- [Bug #4440/2] iControl has issues with Soft Restart.
- [Bug #4183] Refactor to remove run-all from production tests internal menu structure.
- [Bug #4484/3] Refactor imstdensite API.

V2.1b11 - 2009-04-17

- [Bug #4224] Ability to change the alarm report method.
- [Bug #3704] Dynamic Audio Engine.
- [Bug #4363] Remove fixed size buffers in auto_cmd_handler.
- [Bug #4512] Add option to enable HD/3G standards.
- [Bug #3530] Add 'MixDown' support in the Configurator.
- [Bug #4165] LGK drivers not rebuilt during release.
- [Bug #4438] Unloading an image using the H command prevents the store config #G command from working.
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- [Bug #4520] Change Active Preview mode from "Enabled" to "Disabled" not working properly.
- [Bug #4243] Standard EAS Easytext templates should all exist in a read-only folder.
- [Bug #4502] Front panel mirror display should be consistent with hardware front panel when loading a file.
- [Bug #4533] Improve handling of cut/data switchpoint for the audio AB mixer.
- [Bug #4536] Allow config files to be erased from the front panel.
- [Bug #4440] iControl has issues with Soft Restart.
- [Bug #4527] LGK card could be affected by improper setup, causing Densite ETH2 FP frozen.

V2.1b10 - 2009-04-08

- [Bug #4504] Crash when R2 or Q command is use to delete a non-available file.
- [Bug #4509] Add CARD_OPTIONS Densite commands.
- [Bug #4397/1] Add restore point information to MEM_BLOCK commands
- [Bug #4507] Always convert errno into string equivalent when logging errors.
- [Bug #4439] Unsafe datasource usage problems
- [Bug #4493] Add LAYER_FADER/FTB_RATE Densite commands (rates removed from LAYER_FADER/FTB_POSITION commmands).
- [Bug #4515] Home partition does not expand on certain CF cards.
- [Bug #4314] OxSox DoPut temporary files should be prefixed with '.' (not suffixed with '.new')
- [Bug #4450] Show LEDs cycling coloured amber during software upgrades.
- [Bug #4496] Failed to open DTD.

- [Bug #4438] Unloading an image using the H command prevents the store config #G command from working.
- [Bug #4497] PCI minimum latency timer not correctly set.
- [Bug #4518] Log message for Z5 automation command is not displayed correctly.
- [Bug #3704 WIP] Dynamic Audio Engine.
- [Bug #4519 WIP] Add audio support to LGK.
- [Bug #4273] Allow media downloads via web page (including 'restore media archive' option)
- [Bug #4445] Densite FP got Frozen when browsing the Current Time or Time code status.
- [Bug #4290] Add HARDWARE_CONFIG Densite command.
- [Bug #4090/2] Calibrate input timing.
- [Bug #4490/3] Calibrate Input Timing for 1080p level B input signals.
- [Bug #4484/2] Refactor imstdensite API.

V2.1b9 - 2009-04-02

- [Bug #4490/2 WIP] Calibrate Input Timing for 1080p level B input signals (resolved breakage in v2.1b8).
- [Bug #4498] Fine tuning the raw data interleaving packet data size.

V2.1b8 - 2009-03-31

- **Integrated LGK FPGA firmware (v1.02).**
 - [Bug #4450 WIP] Show LEDs cycling coloured amber during software upgrades.
 - [Bug #4469] Output timing delayed by 2 lines when locking to SDI Level B S372.
 - [Bug #4491] Input timing for 1080p level B dual-link does not work.
- [Bug #3833/2] Add Software Update Process into release notes.
- [Bug #4487] Add TEST_PATTERN Densite commands.
- [Bug #4442] Have PVW channel cut down keyers when they are disarmed via basic arm/take.
- [Bug #4090] Calibrate input timing.
- [Bug #4490 WIP] Calibrate Input Timing for 1080p level B input signals.
- [Bug #4319 WIP] Review TODOs in software code base, remove them and log bugs appropriately.
- [Bug #4495] DEV_ID Densite response returns incorrect FIRMWARE_REV.
- [Bug #4471] Allow interleaving of raw data and Densite messages.
- [Bug #4142/3] Add THUMBNAIL_CONFIG and THUMBNAIL_HEADER Densite commands.
- [Bug #4463] #L command spams the message log.
- **[Bug #4499] Upgrade software to use distro 1.26**
 - [Bug #4478] Total system memory should vary depending on DIMM fitted.
 - [Bug #4449] Environment can be corrupted by power-off at bootloader stage.
- [Bug #4501] List option numbers in densiteoptiongenerator usage prompt.

V2.1b7 - 2009-03-26

- [Bug #4447/2] SERIAL_NUMBER message response contains '0x0D0A' instead of '0x0A'.
- [Bug #4103] Abstract imstsox system information so it can work with LGK.
- [Bug #4390] Make sure all drivers modules are loaded/unloaded with golgk.driver script.
- [Bug #4484] Refactor imstdensite API.
- [Bug #4464] Hitting Ctrl-C in PuTTY causes imstdensite process to get killed.

V2.1b6 - 2009-03-25

- [Bug #4412] Log messages seen for automation commands do not match the Densite commands sent.
- [Bug #4407] ETH_STATUS does not return the right status.
- [Bug #4047] EAS should use the same templates for 1080i and 1080p.
- [Bug #3833] Add Software Update Process into release notes.
- [Bug #4109] Densite front panel persists after Restart System.
- [Bug #4453] #J2 command returning wrong response in failure case.
- [Bug #4333] Add SELF_TEST_STATUS Densite commands - ACK fix.
- [Bug #4460] Some libraries built in one place, some in another place.
- [Bug #4428] Add makefile variables for inter-library dependencies.
- [Bug #4245] Store distro version numbers in a common place.
- [Bug #4296] Add eeprom buffering in the HAL via shared memory.
- [Bug #4462] Disable XV and X6 health commands.
- [Bug #4384] Ensure codebase goes through Doxygen without errors or warnings.
- [Bug #4465] Issues found with ALARM_CONFIG non-solicited Densite responses.

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- [Bug #4409] Add Densite command to retrieve the alarm status.
- [Bug #4477] Implement support for marked/spaced parity for raw data support.
- [Bug #3736/2] Console is intermittent.
- [Bug #4327] Detection of 1080p Level B dual-link video.
- [Bug #4212/2] Add SET_MAC Densite command.
- [Bug #4142/2-WIP] Add THUMBNAIL_CONFIG and THUMBNAIL_HEADER Densite commands.

V2.1b5 - 2009-03-19

- [Bug #4181/2] Add SELF_TEST_INFO Densite command.
- [Bug #4444] #J commands are not converted to text equivalent in the message log.
- [Bug #4152] Correct message logged for X8 GPI enquire command.
- [Bug #4447] SERIAL_NUMBER message response contains '0x0DOA' instead of '0x0A'.

V2.1b4 - 2009-03-18

- [Bug #4330] External reference standard mismatch incorrectly reported.
- [Bug #4289/2] Modify the Densite reference commands.
- [Bug #4409/2] Add Densite command to retrieve the alarm status.
- [Bug #4185] Add URS reference status to front panel.
- [Bug #4025] HAL function return values appear to be incorrect for failure cases.
- [Bug #4366/2] ATTENTION command not implemented correctly.
- [Bug #4425] Move system features library into shared.
- [Bug #4427] Move HAL into shared.
- [Bug #4168/2] Add non-interactive mode for production tests - progress on FP.
- [Bug #4370] Commands forwarded to Intuition are not translated correctly.
- [Bug #4419] FP Load Images should display 'No Images' if /home/images/ is empty.
- [Bug #4437] Naming conflict between defines used for Preview inputs and outputs.
- [Bug #4418] Change the alarm thresholds for input timing.
- [Bug #4367] LGK keep sending VIDEO_INPUT_STATUS to Destination 0x18.
- [Bug #4434] Front Panel Mirror application gives spam in logging, not responding to Attention command.
- [Bug #3951] Slow to generate diagnostics file, and so web page times out.
- [Bug #4323/2] VIDEO_INPUT_STATUS not returning the timing value correctly.
- [Bug #4142] Add THUMBNAIL_CONFIG and THUMBNAIL_HEADER Densite commands.
- [Bug #4420] After a FULL REINSTALLATION there are no images on the LGK.

V2.1b3 - 2009-03-11

- **Integrated LGK FPGA firmware (v1.01).**
 - [Bug #4415] Add receiver for legacy dual link 1080p level B.
 - [Bug #4327] Detection of 1080p Level B Video.
 - [Bug #4321] Horizontal masks need to be re-timed.
 - [Bug #4392] Cannot lock to URS from REF-1801 in Free Run mode.
 - [Bug #4394] Ability to detect presence/absence of the URS reference signal.
- [Bug #4356] Set the Densite option values to be 0.
- [Bug #4362] Show register contents for PowerPC CPU.
- [Bug #4014] Menu access should be released 30 seconds after last action.
- [Bug #4364] Stop DISPLAY_CLR from being re-sent after display has been cleared.
- [Bug #4319] Review TODOs in software code base, remove them and log bugs appropriately.
- [Bug #4368] Use of LGK hardware front panel prevents the controller from using the front panel.
- [Bug #4091] Ensure LGK /home partition isn't resized beyond the size of compact flash card that is licensed, even if physically present.
- [Bug #4366] ATTENTION command not implemented correctly.
- [Bug #4374] Range detection needs to be implemented for SET_LAYER_FADER_POSITION.
- [Bug #4371] RCP Classic support should be removed from the Serial FP menu.
- [Bug #4379] Remove references to unused GPI_IO_CONFIG Densite commands.
- [Bug #4087] No mechanism for in-field upgrades to /home is available.
- [Bug #4209] Configuration files with spaces in filename are not loadable.
- [Bug #4205] Correct the external reference locked status information.
- [Bug #4384] Ensure codebase goes through Doxygen without errors or warnings.
- [Bug #4385] Add the URS enable capability to the configuration file.
- [Bug #4387] Write config changes at most every 64 fields.
- [Bug #4346] Fix timecode validity bits.
- [Bug #4388] Selecting stores config 1S 2 3S 4S 5 causes IOCTL warning in messages log.

- [Bug #4333] Add SELF_TEST_STATUS Densite commands.
- [Bug #4164/2] Front panel crashes when stores config is changed so a keyer with an image loaded no longer has a store.
- [Bug #4380] Have the Configurator alarm defaults match the S06 document.
- [Bug #4353] Should respond to a SET_GPI command recieved with NACK.
- [Bug #4401] Allow port number to be specified on imsttest.
- [Bug #4402] Add bitmask library.
- [Bug #4224-WIP] Ability to change the alarm report method.
- [Bug #4225] Keep upgrade log after software update via webpage.
- [Bug #4411] Oxsox problem with ISINFOEX command (50) does not respond with the expected 104 bytes.
- [Bug #4332] Change web page title to show 'DSK-3901' or 'LGK-3901'.
- [Bug #4289] Modify the Densite reference commands.
- [Bug #4413] Reboot error imagestore_core is in use by imagestore_lgk.
- [Bug #4409] Add Densite command to retrieve the alarm status.
- [Bug #4398] Changing stores memory reports EAS is the most downstream keyer.

V2.1b2 - 2009-02-26

- **Integrated LGK FPGA firmware (v1.0).**
 - [Bug #3629] Fix timecode validity bits.
 - [Bug #3825] Implement Densite Thumbnails.
 - [Bug #4326] Input timing measurement not stable for HD and 3G standards.
- [Bug #3957] Value selections in front panel require up/down arrows to increment/decrement respectively.
- [Bug #4217] Log message reports invalid frames when easytext with clock loaded.
- [Bug #4331] Remove non-functional production mode on LGK.
- [Bug #4256] Webpage "View Licences" Should be more descriptive.
- [Bug #4336] Change the arrows on the hardware front panel to be appropriate.
- [Bug #4350] Need a Densite option key generator command line tool.
- [Bug #4351] Adjust format of the slot information on the front panel.
- [Bug #4274] LGK should act as DSK, rather than stop completely if the compact flash licence is smaller than the partition size.
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- [Bug #4239/2] Add Densite protocol option update mechanism.
- [Bug #4345] CARD_STATUS not reporting the LED status correctly.
- [Bug #4335] VIDEO_INPUT_STATUS should return "No Input Signal" instead of "Unknown" when a signal is missing.
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- [Bug #4323] VIDEO_INPUT_STATUS not returning the timing value correctly.
- [Bug #4360] Correct command IDs for GET_HARDWARE_CONFIG and HARDWARE_CONFIG.

V2.1b1 - 2009-02-23

- [Bug #4292] Make the alarms in the configuration tool and front panel consistent.
- [Bug #4268] Add alarm on/off entries into GPI Outputs menu.
- [Bug #4276] Serial number and MAC address must update without a restart.
- [Bug #4286] Remove MSB functionality.
- [Bug #4264] Unable to set time and date from front panel.
- [Bug #4283] Add SET_CARD_LABEL Densite command.
- [Bug #4302] Improve precision of value shown in 'Status > System Info > Disk Space Used'.
- [Bug #4266] Add MEDIA_NAME Densite commands.
- [Bug #4140] Add slot number to front panel.
- [Bug #4141] Add ability to configure the alarms from the front panel.
- [Bug #3917] Should have no stores manager when there are no stores - **(Requires Configurator v1.1b1 or higher)**.
- [Bug #3872] Refactor external reference selection.
- [Bug #4300] Prevent R4 and R5 commands from enumerating .new files.
- [Bug #4143] Add ALARM_CONFIG Densite commands.
- [Bug #4263] Make a set of generic health automation calls - **(Xpanel/RCP-BR)**.
- [Bug #4312] Remove LAYER_THUMBNAIL Densite commands.
- [Bug #4221] Prevent .new files from triggering media image tallies.
- [Bug #4305] Densite spamming messages log with DSK black keyer status.
- [Bug #4318] Remove RCP option from the validation file.
- [Bug #4303] Rename compact flash dependencies within the code.
- [Bug #4315] Name in device ID must be DSK-3901 or LGK-3901 (not -39x1).

- [Bug #3825] Implement Densite Thumbnails.
- [Bug #4305] Densite spamming messages log with DSK black keyer status.
- [Bug #4320] System performance has worsened with introduction of non-solicited Densite responses.
- [Bug #4206] Add alarm for loss of backplane.
- [Bug #4102] Only enable SNMP trap features with SNMP capable devices.
- [Bug #4239] Add Densite protocol option update mechanism.
- [Bug #4324] Display menu tree on web interface.

V2.1a21 - 2009-02-11

- [Bug #4236] Missing auto2text for enquiring keyer configuration.
- [Bug #4241] Drivers need to support building for multiple platforms on each target.
- [Bug #4200] Add SET_SERIAL_NUMBER Densite command.
- [Bug #4201] Software update upload slow when LGK software is running.
- [Bug #4162] LAYER_FADER_POSITION and LAYER_FTB_POSITION should contain same information as SET (fixed the rate issue).
- [Bug #4252] 'Software Restart' and 'Hardware Restart' do not fit on front panel.
- [Bug #4251] Incorrect auto2text conversion for Local Logging enable/disable.
- [Bug #4250] Densite command SET_PREVIEW_OUTPUT does not support all possible output.
- [Bug #4164] Front panel crashes when stores config is changed so a keyer with an image loaded no longer has a store.
- [Bug #4247] Densite command GET_EXT_REF_STATUS does not return correct standard.
- [Bug #4248] Unlicensed GPI Output status options should not be accepted via the XB command.
- [Bug #4261] Inappropriate uses of string library particularly in datasource code.
- [Bug #4249] Intuition Keyer Assign options are missing from auto2text.
- [Bug #4260] Add VIDEO_STANDARD Densite command.
- [Bug #4208] Rearrange 'Setup' and 'Setup > System Setup' menu entries.
- [Bug #4244] Set Emergency To Air and Emergency From Air for GPI Inputs is not working.
- [Bug #4257] Production Store Test appears to pass when incomplete.
- [Bug #4239 WIP] Add Densite protocol option update mechanism - preliminary refactoring.
- [Bug #4234] Warn user that the DSK Animation Fill self test may be slow.
- [Bug #4262] Add IMAGE_NAME Densite commands.
- [Bug #4230] Modify SET_MAC key verification logic to match other Densite products.

V2.1a20 - 2009-02-05

- **Integrated latest firmware (bit file 2, beta 0).**
 - [Bug #4223] 3G output timing misaligned.
- **Distro upgraded to 1.25**
 - [Bug #4122] Log messages when changing licences (OpenSSH upgraded to 5.1p1).
- [Bug #4212] Add SET_MAC_ADDRESS Densite command.
- [Bug #4141] Add ability to configure the alarms from the front panel.
- [Bug #4204] 'File Ops - Erase Mixfile' is visible in the front panel when audio is disabled.
- [Bug #4207] Add external reference mismatch alarm.
- [Bug #4200] Add SET_SERIAL_NUMBER Densite command.
- [Bug #4232] Typo in GPI Out string 'DSK4-Key-On'.
- [Bug #4231] SET_SERIAL_NUMBER key must be calculated at runtime.
- [Bug #4214] Add SYSTEM_RESET Densite command.
- [Bug #4203] Move 'Setup - System Info' front panel menu items into 'Status'.
- [Bug #4233] Remove commented out temperature code.
- [Bug #2375] Ensure codebase goes through doxygen without errors or warnings.
- [Bug #4218] Images within Easytext files are not displayed.
- [Bug #4026] Implement m80 command to delete all datasources.
- [Bug #4237] #I command missing from table of automation commands.
- [Bug #4162 WIP] LAYER_FADER_POSITION and LAYER_FTB_POSITION should contain same information as SET.

V2.1a19 - 2009-02-02

- **Integrated latest firmware (bit file 1, beta 9).**
 - [Bug #3775/2] Add stores production test.
 - [Bug #4129/2] Add audio production tests.
 - [Bug #4186] Input router sends wrong key data to stores 2 and 3 resulting in rendering of black images.
- [Bug #3965] SD keyer masks need a factor of 2 change.
- [Bug #3936/2] Increase 128KB limitation for datasource memory to 1MB.

- [Bug #4141 WIP] Add ability to configure the alarms from the front panel.
- [Bug #4133 WIP] Resolve any syntax errors in Doxygen function header.
- [Bug #4202] Allow individual video input alarms to be set using the config tool.
- [Bug #4222] Improve warning messages for load commands that should fail when EAS is active.

V2.1a18 - 2009-01-30

- [Bug #4161] Correct the configuration options in Video > Preview.
- [Bug #3935] N command needs extending for the number of supported keyers.
- [Bug #4145] Configurator tool refers to input "A" instead of "PGM".
- [Bug #4171] Setting PGM Input to Test Pattern 2 in Configurator stops LGK from booting properly.
- [Bug #4007] Ensure physical monitor/clean-feed are present before returning XP/XH enquire.
- [Bug #4035] Naming of video input and preview output options in config tool incorrect.
- [Bug #3775] Add stores production test.
- [Bug #4126] Add GPI output status front panel menu.
- [Bug #4163] Remove emergency to air from configuration.
- [Bug #4168] Add non-interactive mode for production tests.
- [Bug #4156] Front panel crashes when using Status > Ref Status > Standard.
- [Bug #4179] Add START_SELF_TESTS Densite command.
- [Bug #4187] Software upgrades via webpage do not work from 2.1a16 to 2.1a17.
- [Bug #4176] WebPage backup media option does not back up media.
- [Bug #4151] The backplane name should be correct for the product.
- [Bug #4188] Some production tests incorrectly write to front-panel directly.
- [Bug #3929/2] RS232 RTS should be high.
- [Bug #4191] Add discontinuity check to timecode test application.
- [Bug #4192] Improve logging for UE command failure.
- [Bug #4158] Setting licences on the LGK is very slow (now typically 15 seconds).
- [Bug #4181] Add SELF_TEST_INFO Densite command.
- [Bug #4182] Add INPUT_MODE Densite commands.
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- [Bug #4169] Add TIMECODE_SOURCE Densite commands.
- [Bug #4167] ~~Make 1080i/50Hz the factory default.~~ Backed off change to fix bug #4189 - (1080i/59.94 is the factory default standard for now)
- [Bug #4189] Messages file spammed with configuration related messages.
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- [Bug #4197] Add SET_IP_CONFIG Densite command.
- [Bug #4198] Add SET_HOSTNAME Densite command.
- [Bug #4080] Analog Clock file does not work.
- [Bug #4129] Add audio production tests.
- [Bug #4200] Add SET_SERIAL_NUMBER Densite command.
- [Bug #3936/1] Increase 128KB limitation for datasource memory to 1MB.

V2.1a17 - 2009-01-27

- **Integrated latest firmware (bit file 1, beta 8).**
 - [Bug #3901] Input Status > Video Standard not reported correctly.
 - [Bug #4084] Virtex 5 SDI updates (auto-locking corrections and improved timing).
 - [Bug #4108] Preview output becomes green when DSK2 or DSK4 is faded to black.
 - [Bug #4131] Two failing inputs at 1080p/59.94.
- **Upgrade to v1.24 of the distribution.**
 - [Bug #4071] Bootloader should have initial serial number without quotes.
 - [Bug #3929/2] RS232 RTS should be high.
- [Bug #3857] Setting up the MDC and MDIO pins in the kernel causes PHY to stop working.
- [Bug #4159] 'C' command is incorrectly logged for 'Self Key' and 'Separate Key' selections.
- [Bug #4147] EAS and Emergency-to-Air should use the most downstream keyer with associated store.
- [Bug #4020] Add LGK to Doxygen command validity tables.
- [Bug #4114] FTP user 'miranda' copies files with incorrect permissions.
- [Bug #4167] Make 1080i/50Hz the factory default.
- [Bug #4169] Densite protocol support for timecode source selection (TIMECODE_SOURCE).
- [Bug #4169/2] Unsolicited messages with optional parameters missing after status change.
- [Bug #4144] Modules do not unload cleanly.

V2.1a16 - 2009-01-23

- [Bug #4104] Refactor tag library and add text based tag editor.

- [Bug #3989] 'GET_CARD_STATUS' does not return the right status.
- [Bug #4013] Card LED should be Flashing yellow when it gains menu access.
- [Bug #4111] Report meaningful board revisions to the user.
- [Bug #3845] Improve warning message when gpi.xml is missing.
- [Bug #3914] Log message if no video standards are supported.
- [Bug #4127] Remove input masks from configurator tool.
- [Bug #4116 WIP] Enable Densite protocol non-solicited responses.
- [Bug #4113] Move Production tests into HAL.
- [Bug #4012] Installer fails after several updates.
- [Bug #3754] Ensure the relevent video keyer configuration elements are read from the configuration.
- [Bug #4089] Log file shows 'main: Densit□□□□ initialising...'
- [Bug #4074] Add 64 bit support to tag file format.
- [Bug #4132] Make all function headers consistent in style - (non-functional change).
- [Bug #4091] Ensure that LGK honours the size of CF that is licensed.
- [Bug #4105] Keyer fader angle does not persist correctly (Configurator tool).
- [Bug #3956] Factory Reset not working.
- [Bug #4139] Add Version information tab to the front panel.
- [Bug #3878] Restart System and other soft reboot functions are unreliable.
- [Bug #4052] No selection arrows displayed in System Setup > Serial Comms.
- [Bug #4146] Densite protocol translator need to support RAW data mechanism.
- [Bug #3747] Add URS Genlock Support.
- [Bug #3933] Add MAC address to front panel.
- [Bug #4153] Correct the values accepted by the Y3 command.
- [Bug #3929] RS232 RTS should be high.
- [Bug #3966 WIP] Implement Densite protocol for LGK. Send a NACK if the length of a command is incorrect.
- [Bug #4147 WIP] EAS and Emergency-to-Air should use the most downstream keyer with associated store.
- [Bug #4160] Cannot open tag files.
- [Bug #4150] Make Densite URS command map onto Oxtel Xz automation command.
- [Bug #4157] Remove debugging messages on console from Densite API.

V2.1a15 - 2009-01-16

- **Integrated latest firmware (bit file 1, beta 7).**
 - [Bug #3885] PVW output does not have embedded audio.
 - [Bug #3985] Ancillary Time Code can not pass on PVW out.
 - [Bug #3930] Add ability to route test pattern to program and preview via the front panel.
 - [Bug #3997] Embedded Audio on PGM Out should follow the 'Program Input' selected.
 - [Bug #4022] Reference standard should report external reference standard instead of system standard.
 - [Bug #4027] Possible errors after configuration.
 - [Bug #4034] Add firmware support for input timing measurement.
- [Bug #3895] Soft reboot must reset bootcount.
- [Bug #4048] Production tests fail to run.
- [Bug #3893] Add automation command for program and preview input selection (UF).
- [Bug #4040/2] Implement INTRA_MONITORING commands for MSB output.
- [Bug #4061] Rename rear panel codes to include 'R' for bypass relay.
- [Bug #3988] Program Input should be fixed to 'PGM In'.
- [Bug #3928] Add ability to upgrade bootloader firmware.
- [Bug #3811] 1080i RGB OXI animations files cause imstdisk to crash.
- [Bug #3994] GET_REF_INPUT_STATUS does not return the proper response.
- [Bug #3891] Remove audio type information from Input Status menu when audio is disabled.
- [Bug #4075] Ensure all code uses only a single tag library.
- [Bug #4077] 'Options > Standard' crashes front panel when 1080p standards are licensed.
- [Bug #3849/2] zaplicences causes the EEPROM to be wiped.
- [Bug #4073] OxSox thumbnailing broken with IMM, XPanel and XPloer - (**Xpanel/RCP-BR**).
- [Bug #4082] Add 'SUBT' software licence for setting system sub-type between DSK and LGK.
- [Bug #3930/2] Add ability to route test pattern to program and preview via the front panel.
- [Bug #4085] hda1 and hda3 compatibility links are incorrect/missing.
- [Bug #4069] Ensure blanking source selection is correct.
- [Bug #3784] Add 'PRVW' software licence for Preview input/output selection.
- [Bug #4034/2] Add driver support for input timing measurement.
- [Bug #4081] Environment tool should properly use redundant partition.
- [Bug #4078] Add 'CFSZ' licence for upgrade to 8GB compact flash card.
- [Bug #3986] Ensure basic arm/take commands are correct for LGK - (**Xpanel/RCP-BR**).

- [Bug #4054] Easytext not working properly, shows wrong color and transparency.

V2.1a14 - 2009-01-12

- [Bug #3884] Remove unsupported input masks functionality.
- [Bug #3968] LGK crashes on first store load.
- [Bug #3847] Stores generate kernel OOPS on first store load.
- [Bug #4032] Product code should state the version number.
- [Bug #4024] Device ID should be 0x0064 for LGK, and 0x0065 for DSK.
- [Bug #3937] Add store fills/keys to the preview output selection.
- [Bug #4045] Dump system features debug into a log file.
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- [Bug #4042] Hotplugging an LGK causes the card never to be detected.
- [Bug #4050] Backplane type should be passed back as an enumeration.
- [Bug #4051] Diagnostics archive file scan double-lists files.
- [Bug #4040] Implement INTRA_MONITORING commands for MSB support.
- [Bug #4008] MSB driver support.
- [Bug #3849] zaplicences causes the EEPROM to be wiped.
- ~~[Bug #3702] Prefer 1080p @ 59.94Hz as the default video standard.~~
- [Bug #3681/2] Prevent LGK from calling video bypass enable functions on system restart.
- [Bug #4053] Software reset gives some error messages in logging.
- [Bug #4056] Make driver error codes more representative of errors.
- [Bug #4057] Add copy scripts to code base.
- [Bug #3993] Incorrect response received for GET_VIDEO_INPUT_STATUS command.
- [Bug #3926] Densite FP display not functional for LGK after it is inserted.

V2.1a13 - 2009-01-18

- **Integrated latest firmware (bit file 1, beta 6).**
 - [Bug #3939] PVW output may have some strobe effects.
- [Bug #3971] Add support for multi-word reads/writes via the HAL.
- [Bug #3876 WIP] Extend SNMP/Alarms for Imagestore and LGK.
- [Bug #3841] Easytext does not work on the LGK.
- [Bug #3970] In-loop-out message should be seen when logging is 'Verbose'.
- [Bug #3975] Card Image should be generated with file extension '.img'.
- [Bug #3978] Split main and blit into separate folders.
- [Bug #3977] Rename imstVideoInputReferenceOffset to imstVideoInputTimingOffset.
- [Bug #3976] Generate alarm when the difference between any two input ref timings are greater than one line.
- [Bug #3983] Refactor blit to make it more consistent with the other Imagestore apps.
- [Bug #3962] xml_get_data_size throws an error if the xml node self closes.
- [Bug #3947] Incorrect SN shown in the logging.
- [Bug #3954] Include part image of u-boot with release.
- [Bug #3999] Ensure colour fields are managed via system features.
- [Bug #3984] Animation shows jagged edge.
- [Bug #4000] Emergency-To-Air config setting should not rely on EAS being supported.
- [Bug #4003] Refactor interrupt handling in imstblit.
- [Bug #4004] Break down InterruptHandler.c in blit.
- [Bug #4005] Merge output.c into video.c.
- [Bug #3930 WIP] Add ability to route test pattern to program and preview via the front panel.
- [Bug #3750] Log invalid commands when required system features are not present.
- [Bug #4001] Remove code duplication from system features.
- [Bug #4010] Add information banner to login prompt.
- [Bug #3966 WIP] Implement Densite protocol for LGK.
- [Bug #3964] Front panel will not work when pressing button on LGK.
- ~~[Bug #3926] Densite FP display not functional for LGK after it is inserted.~~
- [Bug #3990] Densite Commands cannot be executed successfully after LGK board reseated.
- [Bug #3992] GET_REF_SOURCE message does not return REF_SOURCE.
- [Bug #3993] Incorrect response received for GET_VIDEO_INPUT_STATUS command.
- [Bug #3987] GET_SERIAL_NUMBER command (0x0103) returns incorrect serial number.
- [Bug #3998] GET_LAYER_FADER_POSITION and GET_LAYER_FTB_POSITION not working properly.
- [Bug #3995] REF_SOURCE message incorrectly returned as part of the response to GET_PREVIEW_INPUT/GET_PREVIEW_OUTPUT.
- [Bug #4021] Move all audio calculations into main.
- [Bug #4018] Enquiring the standard of 1080p/59.94 or 1080p/50 references causes front panel to crash.

- [Bug #4019] Implement Densite protocol support for MSB_OUTPUT commands.
- [Bug #3996] SET_PREVIEW_OUTPUT command does not take effect.
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- [Bug #4030] Move files in HAL into subdirectories for each function.
- [Bug #4029] Writing to registers using imstreg does not work correctly.
- [Bug #4037] System info enquire crashes the front panel.

V2.1a12 - 2008-12-17

- **Integrated latest firmware (bit file 1, beta 5).**
 - [Bug #3922] Key mask fix.
 - [Bug #3826] Correct store offsets and masks.
 - [Bug #3969] DDR2 store clock should be running at 150MHz - (not 125MHz).
 - [Bug #3744] Move field sync interrupt.
- **[Bug #3980] Upgrade to v1.23 of the distribution.**
 - [Bug #3799] Change product name for LGK from LGK19x1 to LGK39x1.
 - [Bug #3960] Add setterm to distribution.
- [Bug #3883] Front panel menu items should use "PGM In" instead of "A".
- [Bug #3799] Change product name for LGK from LGK19x1 to LGK39x1.
- [Bug #3828] Remove code for a IS750 to emulate a LGK.
- [Bug #3921] Remove Presmaster protocol selection where not applicable.
- [Bug #3699 WIP] Add standard Densite front panel entries to root menu.
- [Bug #3940] Store 2 key is always store 2 fill.
- [Bug #3932] Green flashes on animations set to 'No Key' which contain fill and key data.
- [Bug #3658] Allow more than one connection on the front panel mirror.
- [Bug #3876 WIP] Extend SNMP/Alarms for Imagestore and LGK.
- [Bug #3786] Keyer type linear is really full keying.
- [Bug #3966 WIP] Implement Densite protocol for LGK.
 - Commands: ACK, NACK, GET_DEV_ID, GET_MEM_BLOCK, SET_MEM_BLOCK, GET_COMM_TEST, REFRESH_GPI, GET_INTRA_MONITORING, DISPLAY_PLUS, DISPLAY_MINUS, DISPLAY_SELECT, DISPLAY_ESC, CLOSE_MENU, GET_CARD_STATUS, CARD_STATUS, GET_SERIAL_NUMBER, SERIAL_NUMBER, GET_IP_CONFIG, IP_CONFIG, GET_REF_SOURCE, REF_SOURCE, GET_VIDEO_INPUT_STATUS, VIDEO_INPUT_STATUS, GET_REF_INPUT_STATUS, REF_INPUT_STATUS, GET_HOSTNAME, HOSTNAME, GET_PREVIEW_INPUT, PREVIEW_INPUT, SET_PREVIEW_INPUT, GET_PREVIEW_OUTPUT, PREVIEW_OUTPUT, SET_PREVIEW_OUTPUT, GET_LAYER_FADER_POSITION, LAYER_FADER_POSITION, SET_LAYER_FADER_POSITION, GET_LAYER_FTB_POSITION, LAYER_FTB_POSITION, SET_LAYER_FTB_POSITION, TAKE.
- [Bug #3925] Front-panel should display either 'LGK' or 'DSK', not 'LGKD'.

V2.1a11 - 2008-12-08

- [Bug #3473] Add SMNP/alarm support for Imagestore attributes.
- [Bug #3670] Ensure a store is always associated with the final keyer whenever EAS is licensed.
- [Bug #3624] Refactor GPI events code.
- [Bug #3804] DTD fails to open for LGK.
- [Bug #3818] imstreg baseline address for FPGAs.
- [Bug #3802] Viewing last config file causes a crash.
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- [Bug #3869] Change card image file extension to .img (from .bin)
- [Bug #3868] Change keyer config to stores config and remove system value persists option.
- [Bug #3861] Make software start by default on boot.
- [Bug #3851] Licence codes reversed on web page.
- [Bug #3882] Program Input or Preview Input selection does not work.
- [Bug #3838] Software update on the LGK doesn't work.
- [Bug #3862] Need a reboot after partition resizer makes changes.
- [Bug #3903] User "miranda" no permission to "/home/params" directory.
- [Bug #3905] Fails to meet 3G timing specs.
- [Bug #3699 WIP] Add standard Densite front panel entries to root menu.
- [Bug #3898 WIP] Move audio hardware access into HAL.
- [Bug #3736] Console is intermittent.
- **[Bug #3915] Upgrade software to use distro v1.22.**
- [Bug #3881] /home/log/messages does not get updated.

V2.1a10 - 2008-11-25

- [Bug #3812] Rename _MAX and _MIN functions.
- [Bug #3749 WIP] Front panel needs tidying up.
- [Bug #3778] Refactor serial production tests.
- [Bug #3766] CGT and other keying values wrong on LGK.
- [Bug #3794] Config should not allow DVE2 to be monitored without dual channel DVE support.
- [Bug #3795] Could not set controlling tty.
- [Bug #3803] Do not install .keep files.
- [Bug #3798] Remove at24c module check for LGK.
- [Bug #3465/3] Move all licence and hardware logic into system features.
- [Bug #3809] Refactor use of software licences (X1 command, front panel licences, Configurator tool licences).
- [Bug #3643] Cannot save GPI file.
- [Bug #3805] Add serial support for the LGK.
- [Bug #3624 WIP] Refactor GPI events code.
- [Bug #3820] LGK serial production test needs to test 232 and 422 modes.
- [Bug #3218] Store allocation percentages must depend on number of stores.
- [Bug #3682] Check the Intuition keyer options against the available DSKs.
- [Bug #3850] Front panel mirror page of web interface refers to IS750.
- [Bug #3831] Modify front panel menu dump to show only enabled items.
- [Bug #3854] PHY address incorrectly set.
- [Bug #3858] Release script should copy u-boot image to release folder.

V2.1a9 - 2008-11-13

- **Integrated latest firmware (bit file 1, beta 1).**
 - [Bug #3765] 'Fade to Black' fades to green.
 - Added support for DMA transfers.
 - Added support for SD and 3G stores.
 - Added support for SD keying.
- **Integrated latest firmware (bit file 1, beta 2).**
 - [Bug #3774] External masks removed when keyer type changed to linear.
 - Fix for stores picture shift.
- [Bug #3722] LGK MAC addresses all the same.
- [Bug #3792] Automation command enquire causes a crash.
- [Bug #3749 WIP] Front panel needs tidying up.
- [Bug #3807] Build should fail if loopback devices can't be mounted.
- [Bug #3743] Cannot select Program Input options on IS750 LOGO.
- [Bug #3808] Add SD firmware which is the same as HD firmware for the time being.
- [Bug #3745] Animations jitter during DMA store load.

V2.1a8 - 2008-11-11

- [Bug #3752] 1080p video standard data is wrong.
- [Bug #3650] Some audio mix options shown on front panel when AB mixer is missing.
- [Bug #3656] Update Production tests for LGK.
- [Bug #3738] Routing may cause error flood on IS750 LOGO.
- ~~[Bug #3743] Cannot select Program Input options on IS750 LOGO.~~
- [Bug #3465/2] Move all licence and hardware logic into system features.
- [Bug #3771] Add Network Production test.
- [Bug #3681] Prevent LGK from calling video bypass enable functions.
- [Bug #3770] Remove clean feed and monitor feed options based on hardware and licences.
- [Bug #3758] Create per-channel input options when no AB mixer is present.
- [Bug #3785] Fix front panel menu dump.
- [Bug #3740] Assertions fail on fade to/from black.

V2.1a7 - 2008-11-04

- **Integrated latest firmware (bit file 1, beta 0).**
 - [Bug #3742] Video genlock issues.
- [Bug #3649/2] Include command string with 'Incorrect STX' warning message.

V2.1a6 - 2008-11-04

- [Bug #3565/2] Refactor configuration code.
- [Bug #3661] Keyer fader config settings ignored when external fill and key selected.
- [Bug #3677] Setting non-existent test pattern 2 causes driver error.

- [Bug #3678] Arm-take config file missing.
- [Bug #3679] Front-panel on LGK shouldn't show options that require USB.
- [Bug #3680] Software restart doesn't work on LGK, script rename.
- [Bug #3666] Return of Y6 tally dependent on presence of DVE hardware.
- [Bug #3668] Ensure datasource commands are logged when level is 'Media/Keying'.
- [Bug #3688] Remove monitor, clean feed and dve options from frontpanel on LGK, refactoring.
- [Bug #3691] Remove code for only one fill and key.
- [Bug #3675] Correct possible configuration start-up states of the video frame delays.
- [Bug #3465] Move all licence and hardware logic into system features structure.
- [Bug #2656] Responses and tallies are not received for commands forwarded onto Intuition.
- [Bug #3539] X6 command should not include PSU voltages in calculation of 'Video Voltage Check'.
- [Bug #3701] Change default serial / automation level level for the config tool.
- [Bug #3710] Log file flooded with failures about input mask failure.
- [Bug #3711] Store sizes are always default.
- [Bug #3713] Animations are flickery and field-swapped.
- [Bug #3708] Prevent O tally from being sent to Presmaster unless explicitly requested - **(Xpanel/RCP-BR)**.
- [Bug #3709] > Empty < not always sent for empty keyers.
- [Bug #3728] Interrupts are getting lost.
- [Bug #3716] Add EEPROM production test for LGK, IS750 refactoring, dist upgrade.
- [Bug #3727] Add GPIO production test for LGK, IS750 refactoring.
- [Bug #1090] Validate in-loop-out animation start and stop values to prevent field-swapping.
- [Bug #3724] Errors do always abort commands in hal.
- [Bug #3733] Add a CF card production test for LGK.
- [Bug #3737] Audio delay of delay banks 5 to 8 shown as zero on the front panel.
- [Bug #3649] Include command string with 'Incorrect STX' warning message.
- [Bug #3714] Animations are jittery during store load.

V2.1a5 - 2008-10-14

- [Bug #3567] Add asserts in appropriate places.
- [Bug #3644] Apply RT patch to 2.6.26 kernel
- [Bug #3639] Make the X6 return values consistent with v1.14.1 (penultimate parameter).
- [Bug #3636] Fix serial ports at different baud rates
- [Bug #3645] Cannot ping unit after upgrading software to v2.1a4.

V2.1a4 - 2008-10-09

- [Bug #3565/1] Refactor configuration code.
- [Bug #3566] Allow asserts to be controlled by a state file.
- [Bug #3568] Add DSK product to LGK.
- [Bug #3157] Help command in imsttest.
- [Bug #3578] Interrupts don't work with 2.6.26.
- [Bug #3579] Remove driver warnings on load and unload.
- [Bug #3601] Fix endianness issues on licensing.
- [Bug #3602] Setting serial number on LGK is broken.
- [Bug #3605] Allow LGK to run without errors.
- [Bug #3606] Interrupt spread shows 23 line offset between fields.
- [Bug #3611] Make set inputs and keyers work.
- [Bug #3612] Allow config system to work on LGK.
- [Bug #3613] Revamp LGK web page.
- [Bug #3618] Implement stores support.
- [Bug #3621] Add support for I2C SPDs.
- [Bug #3622] Program stores memory type from SPD.
- [Bug #3623] Fix voltage reporting for 3V3.
- [Bug #3625] Add GPIO support.
- [Bug #3628] Enable DMA for stores.
- [Bug #3626] Add support for reading board revision register via I2C.
- [Bug #3630] Add backplane and board detection for P256.
- [Bug #3593] Remove Uc command from sources.
- [Bug #3635] Need a densite protocol service app - front panel enabled.

V2.1a3 - 2008-09-24

- [Bug #3563] Add support for layers without stores.
- [Bug #3564] Cannot communicate with filesystem disk process.

V2.1a2 - 2008-09-22

- [Bug #3483] Correct log_error calls that contain incorrect parameters.
- [Bug #3491] Allow creation of card images without being root.
- [Bug #3493] Rework go scripts to better support multiple platforms.
- [Bug #3494] Allow imstint to run without errors.
- [Bug #3496] Support the LGK input and monitor routers.
- [Bug #3497] Write test app for colourfields.
- [Bug #3498] Fix standard setting.
- [Bug #3500] Make keyers work.
- [Bug #3501] Make testapps non-standard specific.
- [Bug #2614] Make imstreg an XML-based application.
- **[Bug #3503] Add iconv files to LGK distro.**
- [Bug #3514] Add timecode support.
- [Bug #3517] Add ability to read clock status.
- [Bug #3527 WIP] Add Virtex5 System monitor support.
- [Bug #3528] Add health support to the HAL.
- [Bug #3535] Reduce amount of memory copied between main and blit.
- [Bug #3536] Remove method pointers in state structure.
- [Bug #3538] Unify the system features (hardware and license detection).
- [Bug #3544] Refactor layering code to accomodate multiple architectures.
- [Bug #3548] Remove input fader code not included in the compiled code.

V2.1a1 - 2008-09-01

- No changes.

V2.0rc1 - 2008-08-19

- [Bug #3410] Change clean feed label 'AB Mixer o/p' to 'PGM AB Mix'.
- [Bug #3412] Correct capitals on front panel.
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V2.0b20 - 2008-08-15

- [Bug #3392] Correct Input Enquire XX response.

V2.0b19 - 2008-08-14

- No changes.

V2.0b18 - 2008-08-11.

- [Bug #3354] Remove keyer settings from the Configuration Tool which are stored within media files.
- [Bug #3365] A/B_DATA_XP gain type not sensitive to shuffles.
- [Bug #3366] Change "Set config" automation command to be public.

V2.0b17 - 2008-08-07

- [Bug #3310] Ensure that audio mute settings can persist and match automation.
- [Bug #3287] Check "input mask" parameters in configuration file when using external fill/key.
- [Bug #3294] Help string required in Configuration Tool to show that load-live (Keyer Input Operation) takes precedence over store load (Keyer Store Operations).
- [Bug #3336] Add ranges to image position that depend on the standard.
- [Bug #3309] Set initial external fill and key mask values and flag.
- [Bug #3339] Add log messages when code can exit silently.
- [Bug #3343] Clean Select and Monitor Select options should distinguish between physical SDI inputs and input selections.

V2.0b16 - 2008-08-04

- [Bug #3280] Various configuration/validation issues.
- [Bug #3270] Correct the fade rate default in the validation and configuration.
- [Bug #3274] Correct audio fader rate default in the validation and configuration.

- [Bug #3327] Remove 'mixer wipe softness' from the Configuration Tool.
- [Bug #3329] First version of LGK firmware.
- [Bug #3284] AB mixer inputs incorrectly read in from configuration.
- [Bug #3186/2] Correction to automation prompt for Output Level via Gain Type (j1 3) seen in Configuration Tool.
- [Bug #3289] Ensure timecode is set when read from configuration file.
- [Bug #3286] Ensure clip is less than or equal to gain when read from configuration file.
- [Bug #3291] Ensure VO duck and preset are set when read from configuration file.

V2.0b15 - 2008-07-28

- [Bug #3167] Store manager needs implementing.
- [Bug #3211] Minimal config settings (from v1.14.x) should default to 'System value persists' in Configuration Tool.
- [Bug #3270] Correct the fade rate default in the validation and configuration.
- [Bug #3275] Improve help strings for audio gain values (dB) in the Configuration Tool.

V2.0b14 - 2008-07-23

- [Bug #3253] Overflow error and FE errors when connected IS750 to Presmaster.

V2.0b13 - 2008-07-22

- [Bug #2837] Add RB automation command to return the time of an Easyplay file (SMPTE format).
- [Bug #3207] Configuration menu should be in Setup menu.

V2.0b12 - 2008-07-18

- [Bug #3228] Audio in Silence position and VO faded up after system startup.

V2.0b11 - 2008-07-18

- [Bug #3201] Move webserver files into /var.
- [Bug #3065/2] Remove conf.xml and related functionality.
- [Bug #3217] Setting CGT to 123 causes imstblit to crash.
- [Bug #3206] Keyer input operations don't work from configuration.

V2.0b10 - 2008-07-16

- [Bug #3001/3] Add audio options to the Configuration Tool (Configuration Support).
- [Bug #3191] imstdisk crashes if state.xml file is zero bytes.
- [Bug #3186] Include automation command prompts in Configuration Tool help strings.

V2.0b9 - 2008-07-14

- [Bug #3124/2] Front panel should show both Lines/Samples and Lines/uS formats for Timing Report and Set Reference.
- [Bug #3091] Have configuration load media at start up.
- [Bug #3159] Imagestore can crash if DTD validation fails.
- [Bug #3161] Imagestore crashes on startup.
- [Bug #2968] Invalidate unsupported AB mixer transition types.
- [Bug #3067] Perform default value validation within configuration handling.
- [Bug #3065] Remove conf.xml and related functionality.
- [Bug #3165] Message logs have missing or incorrect parameters for some Preview Select and Clean Select options.

V2.0b8 - 2008-07-11

- [Bug #3070] Add 'Configuration > Last Config' option.
- [Bug #3145] Licenses XML causes capabilities file to break.
- [Bug #3143] "Keep Current" Should be in square braces on FP.
- [Bug #3124] Front panel should show both Lines/Samples and Lines/uS formats for Set Reference.
- [Bug #3001/2] Restructuring of audio options within the Configuration Tool (validation file).

- [Bug #2568] Add ability to browse data source names and their values.
- [Bug #3154] Debug doesn't work in Makefiles.
- [Bug #3151] Loading digital clocks on any DSK causes crashing and looks to be unstable.
- [Bug #3105] Enable parameters to be hidden in the configuration tool.

V2.0b7 - 2008-07-09

- [Bug #3112] Long datasource names do not work correctly.

V2.0b6 - 2008-07-09

- [Bug #3084] Ensure audio input type is displayed as "N/A" if input is unlocked.
- [Bug #3096] Add IP address to validation file.
- [Bug #3077] Web-based FP mirror can not show "Keep Current" menu properly.
- [Bug #3093] FP Mirror through webserver "fails to receive" and doesn't display any info.
- [Bug #2568] Add ability to browse data source names and their values.
- [Bug #3086] Restructure Input Status menu to clear up menus.
- [Bug #3112] Long datasource names do not work correctly.

V2.0b5 - 2008-07-07

- [Bug #3045] Prompt the user to export a configuration when changing standards via the front panel.
- [Bug #3081] Logging level not working.
- [Bug #3083] Many state values are being written to the wrong container.

V2.0b4 - 2008-07-04

- [Bug #3036] OxSox thumbnailing is broken.
- [Bug #3037] Show 'Set Reference' and 'Input Timing' in lines and samples.
- [Bug #3041] Imagestore attempts to display invalid store raster.
- [Bug #2889] Preview DSK incorrectly follows Program DSK.
- [Bug #3046] Preview keyer defaults are not cut up.
- [Bug #2985] Add device and miscellaneous options to the Configuration Tool.
- [Bug #3047] Reordering of 'System Settings' items within the Configuration Tool.
- [Bug #3003] Enhancements to 'Import Config' menu in FP.
- [Bug #3068] Preview/Cleanfeed/Monitor modes not check for validity - (causes message spamming).

V2.0b3 - 2008-07-01

- [Bug #3026] Add support for standard-specific parameters in the Configuration Tool.
- [Bug #3027] Add support for viewing licences within the Configuration Tool.
- [Bug #3025] Unsafe use of strcpy in string library.
- [Bug #2995] #l command is incorrect and should be removed.
- [Bug #3033] Ensure configuration is validated against DTD when loaded.
- [Bug #3032] Insert mask and reference offset parameters for all standards for the Configuration Tool.

V2.0b2 - 2008-07-01

- [Bug #2843/2] Correct input parameters for XX command (Get Input Status).
- [Bug #3017] Memory leak in imstmain.
- [Bug #2695] Front Panel mirror closes connection.
- [Bug #2912] GPI related Operations are broken.
- [Bug #2660] FP may not show Store memory assignment accurately.

V2.0b1 - 2008-06-27

- [Bug #2966] Add video options to the Configuration Tool (validation file).
- [Bug #2951] Generate mixfile from configuration.
- [Bug #2971] Need ID attribute adding for lists.
- [Bug #2905] Remove unimplemented command (\$a) from configuration.
- [Bug #2984] #k should be rejected when dve is not present.
- [Bug #2985] Add device and miscellaneous options to the Configuration Tool (validation file).
- [Bug #2873] Toggle standards between different frame rates gives no messages to restart unit.

- [Bug #2866] Modify mixfile selection to include 'AUTO-GENERATE'.
- [Bug #2843] Correct input parameters for XX command (Get Input Status).
- [Bug #2799] Errors reported in log file after the web-based FP launched.
- [Bug #3001] Add audio options to the Configuration Tool (validation file).
- pBug #2999] Bad message in log file: Unable to find container unmanaged 0.
- [Bug #3003] Change "Load Config" to "Import Config" in FP.
- [Bug #2968] Invalidate unsupported AB mixer transition types.
- [Bug #2904] AB mixer input selection feature is broken.
- [Bug #3006] Newly imported config is lost if setting is change post import.
- [Bug #2966] Add video options to the Configuration Tool (configuration and state).
- [Bug #3007] Keyer FTB is black by default.
- [Bug #3009] Previous state not recovered for unmanaged section.

V2.0a17 - 2008-06-20

- [Bug #2820] Create new Imagestore Configuration system.
- [Bug #2933] Function for store memory is badly named.

V2.0a16 - 2008-06-12

- [Bug #2919] Add stores and standard support to config validation file.

V2.0a15 - 2008-06-11

- No changes.

V2.0a14 - 2008-06-09

- [Bug #2859] Increase 4GB OxSox file transfer limit during reading.
- [Bug #2820 WIP] Create new Imagestore Configuration system.

V2.0a13 - 2008-06-04

- [Bug #2880] Add new XML wrapper functions to work on memory buffers.
- [Bug #2868] Cannot login to unit after first install.
- [Bug #2886] Add support for 1080p to common codebase.

V2.0a12 - 2008-05-30

- [Bug #2519] Deferred commands not actioned if requested across midnight boundary.
- [Bug #2824] Execution of scheduled commands not logged.
- [Bug #2615/2] Added missing commands to auto2text for XPanel automation support - **(Xpanel/RCP-BR)**.
- [Bug #2820 WIP] Create new Imagestore Configuration system.
- [Bug #2655/2] Moved software update process to the start of the release notes.
- [Bug #2814] Increase 4GB OxSox file transfer limit.
- [Bug #1922] Audio - New automation command to enquire Output Gain Level.
- [Bug #2838] OxSox GetFileStat2 command takes too long (200ms) to return.

V2.0a11 - 2008-05-15

- [Bug #2770] Set audio mix mode causes invalid passive tally.
- [Bug #2744] Backed off previous changes - (Presmaster expects Yb to be supported). Some refactoring of Yb command handler, but no functional changes relative to v2.0a9.
- [Bug #2803] Changes files on head so that imstmain builds on ppc.
- [Bug #2732] Endian issues in the Imagestore applications. Part 6.
- [Bug #2811] Move xml wrappers into shared.
- [Bug #2807] Messages file spammed with 'N0' null command messages when Keyer Operations is selected on front panel.
- [Bug #2820] Create new Imagestore Configuration system.

V2.0a10 - 2008-04-30

- [Bug #2711] Added j7a1 command to enable unsolicited j7a audio input tallies (an extended version of the j70 tally for all four channels).

- [Bug #2765] Correct use of defines in stores code.
- [Bug #2732] Endian issues in the Imagestore applications. Part 4, 5.
- [Bug #2777] Remove need for sudo access to build Imagestore release.
- [Bug #2766] X4 command does not support enquire (just set).
- [Bug #2768] Software: Increase frame delays to 16 frames.
- [Bug #2767] N command does not return the AB mix transition type.
- [Bug #2744] Remove unused Yb (Set Passive Delay) handler.
- [Bug #2789] Imstinit crashes during installer.
- [Bug #2782] Add front panel option to send out a wake-up packet on user request.
- [Bug #2662] Remove unused licence codes.
- [Bug #2745] Refactor out Zf (stop animation).
- [Bug #2794] Move platform specific code to its own archive on the head.
- [Bug #2597] Invalid final parameters for S1 automation command are not rejected.

V2.0a9 - 2008-04-17

- [Bug #2732] Endian issues in the Imagestore applications. Part 2, 3.
- [Bug #2735] Benchmark applications required.
- [Bug #2682] Ensure that video and audio tallies are only sent (in bulk) to the port that just registered for them (via Y61, Y81, Ya1).
- [Bug #2664] Feature request for per-layer datasources (m2 and m3 commands).
- [Bug #2734] Ingest of animations which are currently on-air causes jittery graphics. Fixes OxSox media transfers, not ftp.
- [Bug #2641] Inaccurate com port numbering in logging.
- [Bug #2749] Automation containing a "%" causes a crash when verbose logging is on /.
- [Bug #2682] Ensure that video and audio tallies are only sent (in bulk) to the port that just registered for them (via Y61, Y81, Ya1). Part 2.
- [Bug #2712] Lack of unsolicited tally for Image Clip/Gain/Transparency (F) + Image Position (G) - (Xpanel/RCP-BR).
- [Bug #2750] Add Y6 and Y8 tally enquire.
- [Bug #2758] Rename internal MD to MD processors, and add flags section to automation.
- [Bug #2753] Horizontal reference adjustment not working.
- [Bug #2761] Program description can continually change after update.

V2.0a8 - 2008-04-07

- Release V2.0a8 is the first release containing any changes specifically for the LGK/DSK.
- [Bug #2721] Software doesn't support audio C and D inputs.
- [Bug #2615] Add XPanel automation support - (Xpanel/RCP-BR).
- [Bug #2724] Add video frame delay support.
- [Bug #2737] Make CAT552 identifiable.
- [Bug #2738] Implement module status.
- [Bug #2732] Endian issues in the Imagestore applications. Part 1.
- [Bug #2743] Move number of metadata banks into HAL.