Strand Lighting

ENHANCEMENTS SUMMARY

Galaxy Nova version C2

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Galaxy

Software Documentation :

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1. Introduction

This document details the changes/improvements provided by Galaxy Nova software version C2, relative to the previous C1 release. Version C2 software is only suitable for use on systems incorporating the Ref 1778 APC Master/Slave processor card.

This is one of several documents that relate to the installation and use of software for Galaxy Nova systems.

- Galaxy Nova : C2 Software configuration. Details the software distribution and compatibility. This document also contains important instructions for use when upgrading from previous versions of software.
- Galaxy Nova : C2 Hardware configuration. Details the various hardware switch settings and pcb link requirements required for use with Galaxy Nova software.
- Galaxy Nova : C2 Enhancement summary. [this document]. Details the operational changes and improvements.

Galaxy Nova software is released for use in accordance with the above documents and Engineering Change Note E12646.

Strand Lighting R&D Document 1X33799 details various options for upgrading Galaxy 3 hardware to provide additional features and facilities supported by Galaxy Nova.

2. Alpha keyboard

2.1. General

Re-selection of the current AKB MODE whilst in a sub mode of the current mode will return to the main menu for the current mode, rather than de-selecting the current mode. In other words, selecting a MODE will only de-select the mode if the top level menu is displayed. (i.e., pressing SETUP whilst displaying the configuration screen will return to the set-up menu, rather than de-selecting the set-up mode.)

The HOME push on the AKB can now be used to de-select the AKB mode. This provides a convenient way of ensuring both crates are "in sync" with respect to alpha keyboard mode selection after changeover/un-splitting.

2.2. Setup

2.2.1. System configuration.

Now allows selection of the number of desk #1 and desk #2 screens. Attempts to assign more than four VDUs will result in the message VDU LIMIT. By default, there is always be one screen assigned to desk #1. (The error message will self-clear after approximately three seconds.)

Care MUST be taken when changing the VDU configuration from an alpha-keyboard connected to desk #2, as it IS possible to set the number of desk #2 VDUs to zero - thus losing the edit screen !!!

At power up, the number of Advanced Video cards (AVIDS) fitted is automatically determined, and this value is used to determined whether a total of 2 or 4 screens is allowable. If, at power up, the system configuration requires more cards fitted than are found, a user error message AVID NOT FITTED will result. Subsequent instances of this message may be avoided by adjusting the screen selection from the system configuration screen.

Galaxy now allows selection of a second auxiliary screen. In version C1, the Aux2 field could be selected but was not supported, and attempts to select it could lead to inconsistent VDU operations. Fixes C1/020. SR#720,SR#743.

> Note : Once an Auxiliary screen has been selected, the data on it is NOT cleared if the screen is subsequently set to "Not Used".

The screen selection is now independent of hardware switch settings. SR#677.

The selection of 4 Desk #1 VDUs is now consistent with screen display. SR#800.

Configuration screen : now shows page X of Y.

Alteration to the Format Limit mode no longer requires a power down cycle. SR#702

Changes to the Format Limit mode will cancel Format Limit if it is already active.

The system options have been revised to allow selection of Remote Page Control. Remote page control allows the page push on the Strand "Designers" or Bytecraft "Felix" control to be routed to control either Desk #1, Desk #2, Aux #1 or Aux #2 screens. SR#255.

Memory details are now part of SYSTEM section, in order to allow additional options on the first page of the display.

DFD Screen error enable/disable now part of SCREENS section.

The "Powerup" mode is no longer first entry, thus reducing risk of accidentally changing the powerup mode on initial entry to the configuration screen.

It is no longer possible to alter the system configuration when memory is locked.

There are now three possible states for the Riggers/Designers operation. They are : DISABLED, ENABLED and ENABLED [NoRec]. The new mode allows all riggers/designers actions with the exception of the Record functions.

The setup display will now show NOT FITTED/ENABLED/DISABLED for a Custom Personality EEPROM. SR#801.

The selection of Date, and display of the currently fitted language has been moved to page 2 of the display, under a new section entitled "COUNTRY OPTIONS".

Selection of CC/GM transfer mode has been added to "SOFT OPTIONS".

Selection of Studio PB Mem+/Mem- transfer mode has been added to "SOFT OPTIONS".

2.2.2. System Clock

System Clock configuration screen now displays the current calibration offset (-31 to +31). The calibration is adjusted, as before, by entering + or - on the command line.

It is now possible to reset the clock calibration factor to +00 by entering 0 on the command line.

The colour of the current time on the System clock set-up screen has been changed from green to cyan, for consistency with other time/date displays.

2.2.3. Desk Layout

The desk layout screen now shows page X of Y.

2.2.4. Software Status

This screen now displays the current settings of the hardware option switches, as determined by the software at powerup. The switch data is shown in hexadecimal. For Master and Slave processors, the data is shown for SW2 on the Ref 1778. For the Ref 1747 Coprocessor, the data is shown (Left to Right) for SW0,SW1,SW2,SW3,SW4.

2.3. Text

Menu now highlights ENTER SYSTEM TEXT after ESCape from edit of system text. SR #709

2.4. Cue Edit

Default fade time selection 3sec/10sec is now documented on hardware switch settings. This default is applicable after memory re-initialisation.

2.5. Print

Interaction between memory range selection of print memory list and print channel track etc. has been removed. Requesting a "Channels used" print after a "Memory list" print no longer truncates the memory list request.

The "Channels Used" print request no longer corrupts the memory range of active Memory (level) data printing. Fixes B1/073 SR#666.

The "Channels Used" printout now correctly initialises the "used" count for all channels, and no longer accumulates channel count on subsequent print requests. Fixes C1/022 SR#728.

Print requests are ignored by the "standby" system, to prevent duplication of printout if system changeover occurs during printing. (the printer is automatically switched from one system to the other as part of the new changeover crate logic).

DFD "Dimmer status" prints now correctly outputs the text of dimmer (fault) status and corresponding channel number. Fixes B1/025. SR#539.

DFD "Dimmer status" printout now includes an additional field which indicates dimmers which have had fault logging disabled at the Galaxy.

DFD "Fault log" print will now print the complete fault log when there are more than 18 entries in the fault log. SR#781.

The printing of "Dimmer to Channel" and "Free Dimmers" is now faster, and does not degrade when there are a large number of entries in the internal master/slave (cross MCP) patch table.

2.6. Patch

Changing the "Channel to Dimmer" patch no longer corrupts the highest channel number variable. Corruption of this internal variable may, in some situations, have caused poor system response and possible corruption of MCP data. SR#768.

Removal of a dimmer:channel patch entry across the 384/385/769/1153 boundary (after a system reset) no longer results in the dimmer assignment appearing as :000. SR#805,SR#812.

The "Dimmer to Channel" patch screen update is now faster and no longer degrades when there are a large number of entries in the internal master/slave (cross MCP) patch table.

Reset System Patch will no longer cause a master APC restart when there are more than 80+ entries in the auto-mod store. SR#803.

The Dimmer to (Dimmer) Profile screen now shows the correct number of pages, based on the highest dimmer number in the patch, rather than the highest channel number. SR#798.

Resetting the Channel/Dimmer profiles no longer causes the Format Limit mode (if invoked) to be aborted. SR#836.

It is now possible to re-record the Galaxy Fault logging disable data after Memory Initialisation.

2.7. Dimmer Fault Detection

DFD Error messages now refer to RACK rather than CONCENTRATOR. This is to ensure greater consistency between error messages and status displays.

The possible corruption of the Galaxy display of Rack Phase Volts for phase 2, to 026 volts, which could occur on DFD/System changeover, has been removed. SR#827

Spurious DFD Concentrator OFF-LINE messages should no longer appear on system changeover. Fixes B1/045. SR#595.

The mux state is now shown as "*****" for those racks which have not communicated with the Galaxy. The DFD line status is shown for each rack which has communicated but is not currently "on-line", and therefore unable to correctly report the current mux state. Fixes B1/009. SR#495.

Clearing the DFD fault log now clears the log in both the "Active" and "Standby" systems (Dual Electronics installations only). SR#602.

It is now possible to set the maximum number of DFD concentrators (racks) to 0, thus "disabling" all polling of dimmer racks for fault messages. This avoids the need to access hardware configuration switches to temporarily disable DFD.

The DFD comms statistics counts are reset to 0 whenever the number of DFD concentrators (racks) is changed. This allows reset of the error count without completely restarting the Galaxy system.

Changing the number of DFD concentrators (racks) will also reset all racks to "non-existent" and reset the rack parameters, allowing a restart of DFD rack polling and refresh of data without having to power down the Galaxy system.

When the Galaxy system is set as the backup (standby) system, the line state for each (currently) on-line concentrator (rack) is set to "RESET". This is to ensure a clean and complete refresh of all information from the dimmer racks when the Galaxy becomes the active system again.

If a dimmer rack goes off-line whilst the user is displaying the Dimmer Setup screen, the corresponding rack data is immediately cleared from the display, as it is only meaningful to view/edit data for racks which are controllable, i.e. on-line. SR#782.

An RxT field has been added to comms status section of DFD Rack status display. This indicates the number of times a rack has failed to respond (gone off-line).

Additional interpretation of DFD Status display Comms Status fields is now provided. The four fields of comms status data correspond to some of the internal error statistics as follows :

- NAK : number of "negative acknowledge" messages received from the concentrator (rack). This generally indicates that the concentrator/ec90 rack received a message which was syntactically correct but not understood by the version of concentrator/rack software. Should NOT increment.

- RxM : number of times a partial message reply has been received from this concentrator (rack). A large number of RxM errors may indicate that the concentrator/rack is at fault. Normally 000. Galaxy Nova ver C2 software does not log RxM timeouts that arise due to dual system changeovers.

- Hdr : This field reports the number of Message (header) errors logged by the concentrator/EC90 rack. These may occur during changeover of dual systems, and can normally be ignored unless they are incrementing during normal operation. This error tally is held within the concentrator/EC90 rack and will only be reset to 000 on reset of the concentrator/EC90 rack.

- Random increments of Hdr errors may indicate data collisions due to faulty concentrator/EC90 rack.

- Msg : This field reports the number of message (inner) errors logged by the concentrator/EC90 rack. These may occur during changeover of dual systems, and may normally be ignored unless they are incrementing during normal operation. This error tally is held within the concentrator/EC90 rack and will only be reset to 000 on reset of the concentrator/EC90 rack.

- RxT : This is a new field and indicates the number of times a concentrator/rack which HAS been on-line has gone off-line.

The AKB Help screen now correctly displays the commands for Function Keys F1/F2 relevant to Dimmer Curve and Dimmer Response assignment. SR#819.

Failure of dimmer multiplex data now displays as "MUX FAILURE RACK xxx".
Failure of dimmer fans now displays as "FAN FAILURE RACK xxx".
Failure of dimmer phase volts now displays as "PHASE VOLTAGE FAILURE RACK xxx". The addition of the rack number allows easier identification of intermittent faults. SR#813

The Mux Fail/Fan Fail/Volts Fail errors are now added to the error log.

The Dimmer Status list no longer shows "FAULT DETECT FAIL" when both circuit breakers to an EC90 16MD/16MD+ module have been turned off. The correct "NO RESPONSE ..." message is now displayed. SR#822

The system now correctly logs faults for all legal dimmer/rack number combinations. SR#506, SR#818

The system now correctly masks fault logging for all dimmers which have [Galaxy] fault logging disabled using the dimmer setup screen (/D) option. SR#823

Dimmers for which fault reporting has been disabled [at the Galaxy] now show as "DATA UNAVAILABLE" on the dimmer status list, and a new field entitled "LOGGING" will show the dimmers as enabled/disabled.

It is now possible to re-record the Galaxy Fault logging disable data after Memory Initialisation. This is actioned from the PATCH/Re-Record System Data menu.

Users are reminded that the disable/enable function on the Galaxy is NOT the same as the fault reporting ON/OFF option which may be set using the EC90 Terminal program (or SV90) at an EC90 rack. In most installations, it is advisable to enable all dimmers for Fault reporting at the EC90 racks, and disable fault logging for selective dimmers at the Galaxy, as this method ensures that the absence of dimmer status data does not get unnecessarily hidden from the user.

Dimmers which have had fault reporting disabled at the EC90 *prior to starting the Galaxy* will now show as "DFD DISABLED" on the Galaxy Dimmer Status list. This message was previously "FAULTS DISABLED", and could be confusing, as the faults may well still exist. A limitation in the current releases of EC90 software means that this status is not dynamically updated if the dimmer is subsequently enabled for fault reporting using the EC90/SV90 programs at the EC90.

Recording an EC90 Backup State without entry of time data no longer allows the EC90 to respond with a time of 3:15. If no time data is entered, the EC90 Backup time will not be altered. SR#689.

The Mux Fail state/time is now shown in the same order on the main screen display as is required by the command line for editing. Fixes B1/076, SR#669.

Recording an EC90 Mux Fail State without entry of time no longer allows the EC90 to respond with a time of 3:15. If no time data is entered, the EC90 Mux Fail Wait time will not be altered. SR#837.

The EC90 Mux Fail Wait of "Forever" is now shown as "*****" on the Galaxy, rather than 00:00. In order to *change* a finite time back to "Forever", you must enter a time of 00:00 at the Galaxy command line.

Commands which may take some time to be actioned by the EC90 racks now generate a "DFD COMMAND IN PROGRESS" message. These include Record EC90 Backup state, GOTO EC90 Backup state and Re-enable Galaxy Mux Control, and the message reflects the time the EC90 dimmer racks take to respond to the command. SR#830,SR#505.

Attempting to send a command to an EC90 rack which was previously ON-LINE and is now OFF-LINE, will generate the message "RACK OFF-LINE xxx" where xxx is the rack/concentrator number. SR#497.

2.8. Motion

The "Allocation : Channels to Fixtures" screen no longer displays garbage characters on first line when it is selected after display of a DFD fault log screen. SR#700, SR#712.

3. Desk / Panel Operations

3.1. General

Desk communication is now disabled during system changeover. Following changeover, there is a short delay before desk communications resume. The VDU title block will remain in the "Standby" state [Dark Blue] until communications resume, at which time the title block will return to indicate the "Active" system state [Cyan].

3.2. Memory and Output

The desk memory lock keyswitch now operates on a latest action takes precedence between desks. Thus it is now possible to unlock memory even after a remote desk has locked it, provided you have the key!

It is no longer possible to clear the memory (system initialise) until the memory has been unlocked. SR#759.

The (optional) desk riggers lock keyswitch now operates on a latest action takes precedence between desks. Thus it is now possible to re-enable riggers/designers even after it has been disabled on a remote desk, provided you have the key!

It is now possible to regain control after the "other" desk has been switched off with the master faders at an inconvenient (low) value. Press and hold CLEAR on the MemOp panel whilst bringing the master fader(s) down to zero. This will force the internal values of the master faders from the "other" desk back to full. As the master faders from the two desks operate on a lowest action takes precedence, control will be regained smoothly. If the "other" desk is then reconnected/powered up, the master level may reduce in level if the master faders are not at full.

Existing Split fade times and/or Split delay times no longer corrupt if memory wait time or link is altered from panel. SR#764.

A method of ensuring that rapid "double entry" of format/format limit requests do not disrupt the format action has been added. SR#831.

3.3. Channel Control

Use of SOLO no longer corrupts internal memory location on release of SOLO mode. SR#802.

The way in which INDependent operates has been significantly revised and improved in order to work with the changes to the playbacks (to improve memory access timings).

Now, when a channel is set to IND, the IND assignment is not cancelled by clearing the channel selection on the channel control. Instead, the IND assignment must be toggled ON/OFF by re-selecting the channels and pressing IND.

When a CC Clear is performed, any channels which are in IND on this CC, will be assigned (parked) to the CC "master" controller. This displays on the VDU as a reverse video ":", thus identifying the channel controller which has set the channel independent. This also occurs when the CC is routed from Stage to Preset, as IND is not supported in preset stores.

Thus it is now possible to set channels IND and continue to use the Channel control for setting the levels of other channels. Previously this required the use of a Group Masters panel to hold the required channels IND.

If IND is selected on the Channel Control prior to selection of a channel number, the CC will be placed into a mode that allows subsequent channel selections to set level AND assign the channel INDependent, until the next CLR action. The CC IND mode (in contrast to the Channel is IND) is indicated by flashing of the IND mimic.

In some situations whilst using AUTODUMP, it may be desirable NOT to constantly save the "ON" store levels to disc on every use of the CC ON push. This can be disabled by a hardware option switch, which is now documented in the document "Galaxy Nova : C2 software configuration" SR#591.

Rapid use of the ON push no longer intermittently misses a single channel out of a large group. SR#351, SR#588.

RETURN no longer intermittently misses a single channel out of a large group. SR#295.

Use of AM-REP now clears Channel Selection on exit. SR#721.

3.4. Group Masters

Transfers to the Group Masters can now (optionally) collect channels which are INDependent on the corresponding Channel Control, setting the Group Masters controller to IND automatically. The CC/GM IND transfer mode is ENABLED/DISABLED from the alphakeyboard setup screen.

3.5. Motion Control

It is now possible to restrict playback of position data to particular motion attribute, when using the memory playback facilities of the motion panel. This allows, for example, recall of the colour data from a memory, without moving all the luminaires to the positions they occupied when the original motion memory was recorded.

3.6. Preset Masters

VDU Preset Interrogate /Preset display (memory) data is no longer corrupted on transfers of "+0" or "-0" to the preset masters. SR#614.

Transfers of "+0" or "-0" will also no longer result in the preset panel display clearing the previously displayed data.

VDU Preset Interrogate /Preset display (memory) data is no longer corrupted after use of the Channel control to modify channel level, when Preset (CC) display update is enabled. SR#717

It is now possible to initiate playback of a motion cue (position movement or colour change) from the Preset Master panel. Press and hold the blank (previously spare) function push (located to the right of the BUMP push). Press any of the white memory TRANSFER pushes. This will initiate a motion cue GO on the memory number last CUT to the corresponding preset masters (A-L or M-V). This will also initiate any EFFECTS recorded to start on playback action. Since the Galaxy programmable effects may be used to pre-load the preset masters, this new facility also provides a powerful method of reloading (paging) the use of the preset masters - without reaching across to other panels.

In order to ensure consistent access to the above facility, the memory number data associated with a Preset Masters Preset store is now only updated on a memory CUT action. Modification to the preset lighting state (using +MEM/-MEM) will now NOT update the base memory number (as displayed by the VDU), however such actions continue to update the panel displays, to show that the original lighting state has been amended.

3.7. Studio Playback

Studio + and Studio - memory transfers no longer corrupt channel levels on channels not in the transfer memory. Fixes C1/027. SR#736.

It is now possible to DISABLE Studio+/Studio- (or Preset+/Preset-) memory transfers from updating the Studio (Preset) memory number display. This allows memories to be combined and the re-record function operates on the original "base" memory number rather than on the most recently transfered memory. This only operates when the Playback is NOT in SEQuence mode - ie when in SEQuence, Studio+/Studio- (or Preset) transfers continue to update the display and sequence through the recorded memory numbers. The ENABLE/DISABLE is set from the alphakeyboard System Setup screen. Cut/Wipe actions continue to update the memory number display in all situations.

All transfer actions are now faster. A direct "cut" of a memory to the studio store can now approach 4 cuts/second, and is comparable to direct "cut" to the Preset store of a Studio PB. SR#808.

Selection of Manual whilst the faders are set to time = 0, prior to activation of a fade, no longer results in the second part of a split move fade completing immediately. Fixes C1/024. SR#731.

Studio PB direct cut actions will show on the bottom line of the VDU, subject to hardware option switch selection. This was in fact available on version C1, but was not documented in the hardware configuration notes, as it conflicted with selection of the remote page routing. Fixes C1/019. SR#718.

Studio PB "+" mimics are now more consistent. Any Memory CUT on the MemOp panel, Playback fade action or CC 'Stage/Studio' action will set the STUDIO "+" mimic on the panel to indicate that the lighting state has been changed since the memory was cut to the Studio using the panel, and therefore it may be advisable to re-record the lighting state. This mimic action may be disabled using the hardware option switches. CC actions to preset stores will NOT set the Studio "+" mimic, and CC actions to the preset store of a Studio PB will set the PRESET "+" mimic for that playback. SR#795.

Studio PB Cut/Wipe actions will clear the "+" mimic, unless there is one or more Playback controllers or Channel Controls in INDependent mode, in which case the "+" remains to indicate that the lighting may not match the displayed memory number.

3.8. Theatre Playback

The response time for fade actions has been improved (reduced).SR#793.

3.9. Effects

Improvements to the Effects Slave software ensure correct deallocation of internal memory during Effects Edit and deletion of effects. This removes problems experienced by some users in starting some effects after editing an effect, or after deletion and subsequent creation of effects. SR#810,SR#729.

Effects Slave memory now correctly de-allocates after system memory initialisation (CLR MEM 0 thru 999.9), preventing the occurrence of EFFECTS SPACE LIMIT on subsequent (multiple) downloads of data from disc.SR#747.

4. Riggers/Designers

Riggers and Designers Control memory actions now recognise "USE A-MOD" if it has been selected on the console (Memory and Output panel).

It is now possible to disable record actions from a Designers control. The message "REMOTE RECORD IGNORED" will be output whenever a remote record command is received and the Riggers/Designers mode is ENABLE [NoRec], or the mode is ENABLE but the memory is currently locked.

Command actions from a riggers control will now show on the bottom line of a "Designers" auxiliary screen, with the prefix [Remote #1]. Commands from a Designers control will show with the prefix [Remote #2].

Remote record commands no longer show erroneous "?0.5" characters on the auxiliary screen "Designers" VDU command line. SR#711.

7. System Internals

The maximum number of (DFD) concentrators (racks) is now held within the check-summed data on the clock chip RAM.

Riggers/Designers actions are now stacked directly by Coprocessor-Processor and reduce the loading on the Executive Processor.

The COP debug monitor is now operative.

General improvements (reduction) to memory access times. This provides a noticeable reduction in the time taken to perform many memory related functions. In particular, Studio Playback direct CUT actions, Playback fade actions, Preset Masters gang load, Memory interrogate, Channel Track, Print Memories are all faster. SR#808.

The cycle level test for COP cycle completion has been revised and now allows detection of a Coprocessor's failure to process cycle, as well as cycle process time-outs. The error reporting (to the debug terminal) has been revised to show Data == 0 for COP never responded to cycle request, and Data == 1 for COP failed to complete cycle within allocated time.

The channel control controller ID is now saved as part of the IND setting, in XIND.

The memory handler now correctly creates the memory header when the *default* fade time has been set to less than 10 seconds (as recorded on "Memory 0). Memories created in this manner will now correctly load into a Galaxy Memory Backup, Gemini or Galaxy 2 console. Discs created with earlier versions of Galaxy Nova software (ver C1) should be checked, and any memories with fade times less than 10 seconds that do not load (the time attribute) correctly into the Memory Backup should be re-recorded. Before re-recording the discs, re-edit the fade times using Cue Edit on the main Galaxy console. SR#758,SR#796.

A facility has been added to allow the first time initialisation of the Clock chip ram to known valid values. This will also be required when upgrading systems to use version C2 software.

A facility has been added to allow retention of Custom Personality Data when upgrading from previous software releases.

There have been major improvements to the calculation of page numbers for channel based displays. Channels will now be correctly added to the page count (and VDU format) even when they are not currently being displayed. Channels accessed by the remote controls will now be correctly added to the current VDU format. SR#839.

8. Other

The French language strings have been completely revised in accordance with updates provided by SL France. A number of translation errors and inconsistencies of style have been removed. No corrections to the German Strings provided in the C1 release have been received (despite the fact that not all the new strings for version C1 were translated into German) and so a number of text strings in the German Language release will continue to appear in English.

9. Limitations

Strand Lighting Ltd reserves the right to change or improve the performance of Galaxy software without notice.