2574R Firmware Changes
v4.2.3 4/4/2001

This document describes the firmware changes implemented in 4.2.3 of the 2574R. It does not include firmware changes implemented in earlier versions. The component versions contained in this release are as follows –

Main	4.2.3
Measurement	2.1
Line	2.3
Tube	2.2

This firmware may be uploaded into any 2574R presently having v3.0 or higher firmware.

This firmware requires that an attached 1500 chassis have version 2.4 or higher firmware installed.

General Note : Main firmware from 4.2.2 onwards is compiled using a different version of *Wind River - Diab* C++ compiler (now v4.2a), no changes have been noted because of this.

The changes listed below are in no specific order.

1. If no checks were selected in an INTERACTIVE WAIT test step then INRUSH results were displayed and checked rather than none as selected.
   SEVERITY : medium, no customer has reported.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

2. If all ballasts are skipped which were otherwise to be tested by the master unit in a multiple unit environment, and one (or more) of the slave units still had ballasts to test, then several test step types did not perform correctly.
   SEVERITY : medium.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

3. If a tube being tested in the master unit strikes within a certain (small) time window while performing a WAIT STRIKE test step, then the step could be held continuously.
   SEVERITY : medium.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

4. An IF step did not operate correctly in a multiple unit environment.
   SEVERITY : medium, no customer has reported.

COMPATIBILITY : no issues.
MANUAL : no changes required.

5. An IF step did not previously have the ability to conditionally jump to the first test step, if programmed to do so then the test was terminated without any final results being issued.
   SEVERITY : medium, no customer has reported.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

6. If an INTERACTIVE WAIT step was performed with no checks selected then the display window showed “PASS” during the step. This may be misleading as no checks are actually being performed, in this situation the display has been changed to “WAIT”.
   SEVERITY : none, cosmetic only.
   COMPATIBILITY : no issues.
   MANUAL : a note in the manual is required.

7. Certain ballasts have multiple line input wiring for differing voltages (e.g. separate 115V and 230V wires). This situation can now be accounted for by :
   a) Using two (or more) line multiplexer switches in a 1500 to select the ballast line input wiring.
   b) *If using controlled line sources* : Configure the same line source for two different source letters (e.g. set the same line source type and address for both A and B).
   c) Selecting either line source A or B (for example) in the test sequence will correctly set the line source and also select the ballast input wiring configuration.
   SEVERITY : none, enhancement only.
   COMPATIBILITY : no issues.
   MANUAL : a note in the manual is required.

8. Previously, if a low shorted ballast limit for either peak or rms line current was configured then this was still active during calibration. The calibration line current level may exceed the set limit and thus a consistent error message is displayed during these calibration steps. Shorted ballast detection is now disabled during calibration.
   SEVERITY : minor, under these specific circumstances the calibration status was difficult to read on the display.
   COMPATIBILITY : no issues.
   MANUAL : no change.

2574R Firmware Changes
v4.2.1 3/7/2001

This document describes the firmware changes implemented in 4.2.1 of the 2574R. It does not include firmware changes implemented in earlier versions. The component versions contained in this release are as follows –

Main	4.2.1
Measurement	2.1
Line	2.3
Tube	2.2

This firmware may be uploaded into any 2574R presently having v3.0 or higher firmware.

This firmware requires that an attached 1500 chassis have version 2.4 or higher firmware installed.

The changes listed below are in no specific order.

1. If no checks were selected in an INTERACTIVE WAIT test step then INRUSH results were displayed and checked rather than none as selected.
   SEVERITY : medium, no customer has reported.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

2. If all ballasts are skipped which were otherwise to be tested by the master unit in a multiple unit environment, and one (or more) of the slave units still had ballasts to test, then several test step types did not perform correctly.
   SEVERITY : medium.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

3. If a tube being tested in the master unit strikes within a certain (small) time window while performing a WAIT STRIKE test step, then the step could be held continuously.
   SEVERITY : medium.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

4. An IF step did not operate correctly in a multiple unit environment.
   SEVERITY : medium, no customer has reported.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

5. An IF step did not previously have the ability to conditionally jump to the first test step, if programmed to do so then the test was terminated without any final results being issued.
   SEVERITY : medium, no customer has reported.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

6. If an INTERACTIVE WAIT step was performed with no checks selected then the display window showed “PASS” during the step. This may be misleading as no checks are actually being performed, in this situation the display has been changed to “WAIT”.
   SEVERITY : none, cosmetic only.
   COMPATIBILITY : no issues.
   MANUAL : a note in the manual is required.

7. Certain ballasts have multiple line input wiring for differing voltages (e.g. separate 115V and 230V wires). This situation can now be accounted for by :
   a) Using two (or more) line multiplexer switches in a 1500 to select the ballast line input wiring.
   b) *If using controlled line sources* : Configure the same line source for two different source letters (e.g. set the same line source type and address for both A and B).
   c) Selecting either line source A or B (for example) in the test sequence will correctly set the line source and also select the ballast input wiring configuration.
   SEVERITY : none, enhancement only.
   COMPATIBILITY : no issues.
   MANUAL : a note in the manual is required.

2574R Firmware Changes
v4.0.3 11/15/2000

This document describes the firmware changes implemented in 4.0.3 of the 2574R. It does not include firmware changes implemented in earlier versions. The component versions contained in this release are as follows –

Main	4.0.3
Measurement	2.0
Line	2.3
Tube	2.2

This firmware may be uploaded into any 2574R presently having v3.0 or higher firmware.

This firmware requires that an attached 1500 chassis have version 2.4 or higher firmware installed.

The changes listed below are in no specific order.

1. When a 1554 load is displayed in any of the SELECT type load selection screens the load position (a, b, c, or d) is now included along with the 1500 number, and slot letter previously displayed. E.g. a load in 1500 chassis #1, slot C second 1554 position is now displayed as (#1Cb), it was displayed as (#1C).
   SEVERITY : none, user interface improvement only.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

2. If either test results or test result statistics were previously requested from the IEEE488 talk/listen interface without specifying a ballast number, then certain results were returned for ballasts and/or tubes which had not been configured. As an example, line current for unconfigured ballasts (e.g. ballasts 2, 3, and 4 when only a single ballast was configured) was previously included if line current was limit tested on a configured ballast. Note that the data returned was always zero, with zero test counts in the statistics.
   SEVERITY : minor, irrelevant data has been eliminated.
   COMPATIBILITY : no issues if users parsed the data responses to results and statistics data requests as suggested in the manual.
   MANUAL : no changes required.

3. The test results and test statistics query formats “TEST-RESULTS?” and “TEST-STATS?” previously did not work, they caused a command error response in the 2574R. These now function properly, returning the data for all tested ballasts.
   SEVERITY : minor, slight improvement in format.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

4. The test results and statistics query response would previously include a large number of space characters, causing it to become very lengthy in certain circumstances. All unnecessary spaces have been removed.
   SEVERITY : minor, slight improvement in format.
   COMPATIBILITY : no issues if users parsed the data responses to results and statistics data requests as suggested in the manual.
   MANUAL : no changes required.

5. A new option has been added to the test results and statistics query commands. If the command is issued with a X appended (e.g. TEST-STATS?=1/X or TEST-STATS?=X) then the response is delimited for direct import into a spreadsheet program such as Microsoft Excel. All data is tab delimited, with each data set (i.e. test result or statistic set) delimited by a new line character.
   SEVERITY : minor, slight improvement in format.
   COMPATIBILITY : no issues.
   MANUAL : add new option and its' description to manual.

6. Previously the 2574R would re-initialize all interfaces when changing the display contrast. This could cause long delays while performing this operation if the IEEE488 controller interface was being used with a slow device attached (e.g. Pacific Power AC Source).
   SEVERITY : minor, unnecessary delays have been eliminated.
   COMPATIBILITY : no issues.
   MANUAL : no changes required.

7. Previously the 2574R would always turn ON any configured TUBE type load switches, independent of the actual user selection for state. Now, if the user selects for a TUBE type load switch but with an OFF state then it acts the same as if the user had selected an OPEN load (note – an AUTO type load set for the OFF state always behaved identically to an OPEN selection).
   SEVERITY : none, 1520 loads were not officially supported in earlier versions.
   COMPATIBILITY : no issues, 1520 was not previously officially supported.
   MANUAL : no changes required.

8. Previously the 2574R did not return the correct failure code from the digital outputs for a shorted ballast. The correct failure code is 2 in these conditions; a code of 0 was previously reported.
   SEVERITY : medium, this only affects customers who use the digital output failure code for fault identification purposes.
   COMPATIBILITY : no issues unless a user was reliant on a failed ballast with fault code 0 being a shorted ballast.
   MANUAL : no changes required.

9. Previously it was not easy to tell if there were selectable load codes not being shown on the SELECT type screens. This was particularly the case when the presently selected load code was the highest available, in this case the only code displayed is the selected load. The display has now been moved 1 character to the

right and an up arrow added (in the leftmost position) to the uppermost line when unseen codes are available with lower numbers, and a down arrow added (in the leftmost position) to the lowermost data line when unseen codes are available with higher numbers.
SEVERITY : none, user interface improvement only.
COMPATIBILITY : no issues.
MANUAL : example screen requires updating.

10. Previously, if a limit check selected to be of the TEST & STOP type failed the test (i.e. a critical failure), only a partial sets of results for that CHECK step was reported. This was because the test was immediately stopped when the failure was noted. It had been previously documented, and the intended operation was, that the test should be stopped after the entire CHECK step had been performed, so that a complete set of results for that step is reported.
SEVERITY : minor, the user was given the result for the failing data, but no other data was included to assist the user in determining further data regarding the failure of the ballast.
COMPATIBILITY : no issues.
MANUAL : no changes required.

11. Previously, 1500 chassis firmware upgrades had to be performed one chassis at a time. The "151X-DATA" command has now been updated to include a "151X-DATA=A" form, which redirects all IEEE488 talk/listen interface traffic to/from all active 1500 chassis interfaces at the same time.
SEVERITY : none, user interface improvement only.
COMPATIBILITY : new feature.
MANUAL : no changes required.

12. It was documented that if a digital input ABORT line for a specific ballast were asserted when the test was started then that ballast was skipped, the remaining (if any) ballasts were still tested. This was not fully functional; the ABORT inputs always aborted the test for that ballast, thus setting the ballast status to 'user abort'. Although this achieved basically the same thing, it was intended that the result status for the skipped ballast be 'not tested'. To correctly implement this feature a set of SKIP digital input usage selections has been added (one for each ballast independently). If this is asserted when the test is started, then the specific ballast is not tested and its' result status is set to 'not tested'.
Note -
i) When configured in this manner the input state is only checked at the start of the test, changes during the test have no affect.
ii) These digital inputs only affect ballasts being tested by the unit receiving the inputs.
iii) The operation of digital inputs configured for ABORT is unchanged from that previously.
SEVERITY : minor, only the final result status was incorrect for untested ballasts, using a separate configuration is a more logical method.
COMPATIBILITY : ABORT configuration operation is unchanged,

documented operation implemented using new configuration, compatibility issues only present if user using the digital input 'INVALID' configuration (this configuration's code has been altered), no users are known using this ability.
MANUAL : add details regarding SKIP configurations, clarify operation of ABORT configurations.

13. Previously all IEEE488 controller activity timeouts were preset to 1 second. Certain AC power sources require long timeout values (up to 1 second has been found) thus this was factory set to this value. To allow for future changes in this area, and to give the fastest possible response to any IEEE488 bus contentions, this has now been changed to be a variable value. This has no affect at all on a correctly operating IEEE488 controller bus, but yields a faster response to bus problems when detected on a fast IEEE488 device. This also allows the IEEE488 controller user pass-through commands to be used more flexibly. The IEEE488 controller pass-through commands (i.e. the commands on the IEEE488 talk/listen interface to command activity on the IEEE488 controller interface of the 2574R) now have the following format -

IEEE-IFC	Unchanged, causes an interface clear
IEEE-SDC=*addr*/*to*	Causes a device clear of device at *addr*
IEEE-WRT=*addr*/*to*/*data*	Writes *data* to device at *addr*
IEEE-RD=*addr*/*to*	Reads data from device at *addr*
IEEE-SPOLL=*addr*/*to*	Performs a serial poll of device at *addr* & returns the response byte as an integer value.

The *to* character is as follows (timeout values are approximate) -
0 (no timeout, use with caution), **1** (16us), **2** (32us), **3** (128us), **4** (256us), **5** (1ms), **6** (4ms), **7** (16ms), **8** (33ms), **9** (131ms), **:** (colon, 262ms), **;** (semi-colon, 1s), < (4s), = (17s), > (34s), **?** (134s).
SEVERITY : none, user interface improvement only.
COMPATIBILITY : no issues, these commands were not previously documented to users.
MANUAL : no changes required. These commands were not previously described in the manual. Subject to full Xitron QA testing approval, these commands may be released to users and included in the manual.

14. The capability of operating 2574R units as extensions to a "master" unit to enable testing of multiple ballasts at the same time, has been added. This is incorporated as the addition of a set of BALLAST SYSTEM UNIT operating modes which sets the system extension number for each unit (numbers 2 through 8 are available). Extension units are connected to the master via the IEEE488 controller interface of the master unit. All configuration and operating details are established from the master unit except for interface address, printer setup, HyPot setup, source setup, 1500 chassis setup, and light monitor configuration.
SEVERITY : medium, additional capability added.
COMPATIBILITY : no issues.
MANUAL : A complete description of the method used to test multiple ballasts using multiple 2574R units needs to be added to the manual.

15. Previously all output measurements were described on the 2574R front panel and within printouts by means of the tube section letter (i.e. TUBE A, TUBE B etc.). In the case where more than ballast is being tested, this was confusing. This has been changed to display the number of the ballast, followed by the letter for the sequential tube for that ballast (i.e. TUBE 1B denotes the second tube in ballast 1). Tube section results for which no configuration has been made (e.g. Section C when the 2574R is configured to test a single tube ballast) are now displayed as (for example) SECTION C.
    SEVERITY : minor, user interface is easier to understand.
    COMPATIBILITY : no issues.
    MANUAL : Description of screen information needs to be changed to reflect these changes.

16. Previously all ballast number information portrayed either on the 2574R front panel display, or in printouts, used the sequential ballast number within the specific unit (i.e. 1 through 4). This has now been changed to show the system ballast number in all cases.
    SEVERITY : none.
    COMPATIBILITY : no issues, for a single unit system there is no apparent change.
    MANUAL : Change description in the manual.

17. The syntax for the *ballast* portion of a READ definition has been extended to allow for up to 32 ballasts (previously only 4 were allowed for). Note – this is translated into the required unit # and ballast # internally in the 2574R at the time the READ command is received. If the configuration is altered then this might not be valid afterwards.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : Description of *ballast* format needs to be changed to reflect these changes.

18. The syntax for the *tube* portion of a READ definition has been extended to allow the user to specify a specific tube within a specific ballast, or for a specific section in a specific 2574R (in a multi-unit system). The previous (letter A through D) format still functions as previously. A new optional format has been added using a number denoting the ballast number (1 through 32) followed by a letter denoting the tube within that ballast (e.g. READ=VOLTS[TUBE/2B/RMS] returns the tube voltage for the second tube of ballast #2). A new optional format has been added using a letter denoting the section within the 2574R unit specified by the following number (e.g. READ=VOLTS[TUBE/B2/RMS] returns the tube voltage for the second tube of unit #2). Note – the ballast #/letter format is translated into the required unit # and section letter internally in the 2574R at the time the READ command is received. If the configuration is altered then this might not be valid afterwards.
    SEVERITY : none.
    COMPATIBILITY : no issues.

MANUAL : Description of *tube* format needs to be changed to reflect these changes.

19. All READ definition which had neither a ballast nor a tube format included, can now have a 2574R unit number specified. This takes the form of the letter U followed by the unit number (1 through 8). E.g. READ=DATE[U2] returns the date information from the second 2574R.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : Description of format needs to be added.

20. The BALLAST TYPE & WIRING menu has been changed as follows -
    i) The total number of ballasts in the system is now defined by the user by means of settings for the number of ballasts per unit, and the number of units.
    ii) If the user has specified that each 2574R is testing two single tube ballasts, then the user may select whether the second ballast is connected to section B or section C of the 2574R.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : Description of menu needs to be changed.

21. Settings for user control of the line turn on staggering when in the Test Sequence mode have been added to the LINE INRUSH menu.
    i) The user may enable or disable staggering the application of power in an INRUSH step for ballasts tested within the same 2574R.
    ii) The user may enable or disable staggering the application of power in an INRUSH step for ballasts tested within different 2574R's.
    iii) Previously the stagger delay was a fixed 25 milliseconds, this has now been made user defined as either 20 or 100 milliseconds.
    SEVERITY : none.
    COMPATIBILITY : the default results in the same function as previously.
    MANUAL : Description of menu needs to be changed.

22. Previously the displays regarding the status and versions of the internal DSP's, and the status of connected extension 2574R's was only available for a short period of time following application of power to the 2574R. These data can now be also accessed via selections in the Base Configuration->Configure menu.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : Description of menu needs to be changed.

23. The commands issued to a source have been altered to allow for an extended range of sources to be controlled. Previously the 2574R issued commands that were a shortened form of the standard SCPI commands, the full format is now used.
    SEVERITY : none.

COMPATIBILITY : no issues known.
MANUAL : no changes required.

24. Previously if there were no tests to be performed in a test sequence because of either skipping ballasts or because of failed ballasts, then the remainder of the test sequence was completely skipped. This led to timing issues in some test situations, and was incompatible with testing in a multiple unit system. This has been changed such that each remaining test step is still performed, with the same timing, but no actual testing of the affected ballasts is performed, and power is not applied to the affected ballasts.
    SEVERITY : minor.
    COMPATIBILITY : this may affect users who were reliant on the test time for no tested ballasts being extremely short.
    MANUAL : Description of the 2574R operation under these conditions needs to be changed.

25. The format used for the main firmware version has been changed to the three number system (i.e. major, sub-major and minor revisions).
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : no changes required.

26. Several commands are now “broadcast” to all extension units when received by the IEEE488 interface of the master unit. These include -

    SET-DC-ZERO (all units will now calibrate their DC zeroes).
    All firmware updates (i.e. firmware is updated in all 2574R’s at the same time).
    *RST (all 2574R’s are reset).
    CLR-STATS (the statistics in all 2574R’s is cleared).
    LINE=1 or LINE=0 when in General Purpose mode.

    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : no changes required.

27. A note is required in the operating manual that power must be applied to all extension units either at the same time as, or before, power is applied to the master unit.
    SEVERITY : medium, if power is applied after that of the master, then the extension unit will not be recognized. If power is cycled on an extension unit which was previously recognized, then improper operation may occur. In this circumstance, the user should either cycle the power on the master unit, or use the REFRESH key (F1) in the extension unit status display.
    COMPATIBILITY : no issues.
    MANUAL : Add the note described above.

28. Extension units now have their date and time set to that of the master unit when they are first recognized.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : no changes required.

29. A FAIL-ALL command has been added. This command causes all ballasts to be immediately failed. This is only valid when running a test sequence.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : Add command format and description to manual.

30. A FAIL=n command has been added. This command causes the ballast number specified to be immediately failed. This is only valid when running a test sequence.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : Add command format and description to manual.

31. The use of AUTO for switched resistive loads and also for automatic loading state control within the same menu was very confusing. RESISTOR is now used on the front panel and in printouts to indicate a switched resistive load, AUTO has been maintained to denote automatically selected loading state.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : Change description in the manual.

32. A new loading type option has been added to all loading menus. The option ISOLATE has been added. For each tube section for which this has been selected, the 2574R will control an attached (if any) 1520 switch configured as being wired in this manner for the specified tube section such that the ballast inputs to the 2574R are isolated. In this manner a ballast may have all (or some) of its' output wires completely isolated from any system or 2574R loading.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : Add description to the manual.

33. In several menus having individual selections having a large number of options, and also in selections for 4-digit numerical quantities, the F3 key is now used as a CLEAR key. If pressed while the cursor is positioned in any of these types of selections then the selection is returned to its' minimum value. If pressed while the cursor is in a 4-giti numerical quantity then the cursor is also returned to the polarity symbol for that quantity or the first digit (as applicable). Where the F3 key is otherwise used then this change is not made, the previous usage of the F3 key is maintained.
    SEVERITY : none.

COMPATIBILITY : no issues.
MANUAL : Add description to the manual.

34. Added a SKIP=0 and SKIP=n/n/n/… command. The SKIP=n/n/n… command causes each ballast number specified to be skipped in all future test procedures. The list may be cleared by specifying SKIP=0 or by a *RST command or by power cycling the master 2574R unit.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : Add description to the manual.

35. Added a STATS? command. This command causes the 2574R to perform a "binary" (actually using ASCII characters to represent binary) dump of the complete test results statistics database. This data (approximately 650K characters in length) may be stored and then sent to a unit at any time. In this manner the test statistics may be returned to a known situation. This is particularly useful when changing between ballast types, the latest statistics results may be retrieved and stored immediately prior to changing the ballast type and test procedure, and then it can be restored by the user when the unit is returned to that procedure and configuration.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : Add description to the manual.

36. Added TEST and RETEST commands. The TEST command performs exactly the same operation as the present START command (which has been retained). The RETEST command also initiates a test procedure, but disables the update of test statistics for this sequence only. These are available on the front panel Test Summary display screen as F3 (RETEST) and F4 (TEST). All front panel usage of the F4 key denoted previously as START have been renamed as TEST.
    SEVERITY : none.
    COMPATIBILITY : possibility that some customers may need retraining to recognize the TEST key rather than the START key..
    MANUAL : Add RETEST description to the manuals, change description for the START key to the TEST key..

37. Added a minimum strike detection hold period selection to the resistive load strike detection configuration menu. This sets that strike will only be detected is the specified strike voltage level is exceeded for the selected minimum period of time.
    SEVERITY : none.
    COMPATIBILITY : The default setting (following firmware upgrade to v4.0.2 from earlier revisions) is a setting of 0ms, which is compatible with the previous operation.
    MANUAL : Add description to the manual.

38. Previously if the “Test Sequence Details” selection was visible in the Base Configuration display screen, and the user opens any of the test limits editing screens, and the user presses the F4 key while the cursor is in the first position of a limit edit screen, then the F4 key appeared to be ineffective. This incorrect action has been corrected.
    SEVERITY : minor, if the user pressed the F4 key a few times then it would eventually function as expected.
    COMPATIBILITY : no issues.
    MANUAL : No changes required.

39. Automatic selection of loading for ballast 2 and above did not previously always function as expected. This was particularly prevalent when testing ballasts with output frequencies below 50KHz and having a short (a few milliseconds) width strike voltage attempts. Often the 2574R would not react to the strike voltage, although the measured peak voltage would correctly display it as being above the configured minimum level. This was caused by a timing error during configuration of strike detection, in practice this was also possible for ballast #1 but this has been rarely seen.
    SEVERITY : minor, no customer has reported having detected this error.
    COMPATIBILITY : no issues.
    MANUAL : No changes required.

40. If a STARTUP profile timescale was selected which was longer than the selected SEQUENCE profile timescale, and no printout occurred at the end of the test sequence, and automatic loading selection was performed, and no strike was detected on one (or more) tubes during the test sequence, then occasionally the SEQUENCE profile would restart and the STARTUP profile would be cleared at the end of the test sequence. This incorrect operation has been corrected.
    SEVERITY : minor, no customer has ever reported having detected this error.
    COMPATIBILITY : no issues.
    MANUAL : No changes required.

41. Additional capability has been added to enable the PC based (LabView) 2574R configuration utility to access and adjust the various added and/or changed configuration settings and selections available in this version.
    SEVERITY : none.
    COMPATIBILITY : no issues.
    MANUAL : No changes required.

42. Previously, the digital output selection TESTING FLAGS did not function as expected for a passing ballast, the digital output failed to unassert at the end of the test. This has been corrected in this release.
    SEVERITY : medium, no customers known to be using this feature.
    COMPATIBILITY : no issues, previously this capability did not function.
    MANUAL : No changes required.