

Teradyne, Inc

Release Notes: Spectrum Release 5.1

November 2009

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Introduction

Spectrum 5.1 is a general-purpose release for the Spectrum open-architecture manufacturing test platform. Spectrum open-architecture test systems are based on popular industry standards: VXI, PC, Windows NT®, and LabWindows/CVI®.

The improvements and corrections made to version 5.0 are documented in *System Problem Reports Corrected in 5.1*.

Test Program Compatibility

Test programs created under Spectrum 5.0 and earlier releases can be opened directly with Spectrum 5.1.

NOTE: Jobs saved under Spectrum 5.1 cannot be opened under Spectrum 5.0. Teradyne recommends that you make a **backup of your Spectrum 5.0, and earlier, jobs** before installing Spectrum 5.1.

Running Multiple Spectrum Releases

If Spectrum 5.0 is already installed you can continue to use it after installing Spectrum 5.1. The Spectrum 5.1 installation will update the NI-VXI driver to version 3.6.0 which is compatible with Spectrum 5.0.

If you choose to reinstall or install Spectrum 5.0, only use the Spectrum 5.0 installation contained on the Spectrum 5.1 DVD or eKnowledge website.

Although you can have multiple versions of Spectrum installed, you can have only the 5.1 version of Lightning software installed.

NEVER install Patches 5.0.0.20 or less after loading Spectrum 5.1, because these patches are intended for NI-VXI 3.3 and can corrupt the NI-VXI 3.6.0 that's installed with Spectrum 5.1. If you wish to patch Spectrum 5.0 after 5.1 has been installed, use Patch 5.0.0.21 or later. This is available on the Spectrum 5.1 DVD media and also on the Teradyne eKnowledge website.

See the *Spectrum 8800-Series System Administration Guide* for information on installing and uninstalling software.

DUT 95V Power Supplies

The maximum guaranteed voltage supported by the Spectrum DUT Power Supply is 95V. In some

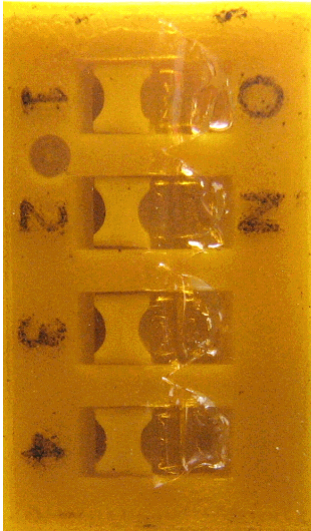
cases the DUT supply may actually support being programmed up to 10% above the maximum guaranteed voltage. Be aware though, that programming above the maximum guaranteed voltage of 95V could result in unreliable operation because the behavior of the supply operating in this range depends on electrical and environmental conditions that are not well specified or controlled by the supply manufacturer. Teradyne recommends that you use this maximum voltage information when you develop and write new test programs. This DUT Power Supply voltage change applies to software in 5.1 patch 1.

FrameScan SW Switch Setting

The FrameScan SW switch settings differ depending on whether you have a single FrameScan Mux board versus multiple FrameScan Mux boards.

- If there is a single FrameScan Mux board mounted in the fixture, all switches must be in the Off position as marked on the switch. This switch position is towards the numbers labeled on the switch.

OFF Position



If you are unsure, use an OHM meter to verify the Off setting.

- If more than one FrameScan Mux board mounted in the fixture, use SW1 to specify its address.

Note: Make sure that the dip switch is set correctly as incorrect settings results in extremely low or no measurements.

Spectrum 5.1 Features-At-A-Glance

The Spectrum 5.1 system software release features include the following:

- Test Expert Integration. Spectrum APG now supports Test Expert v9.0, the latest FABmaster upgrade from Siemens. If you are upgrading to Test Expert, obtain licenses from Teradyne Customer support using the cs1@teradyne.com email address.

****Very Important****

When installing Test Expert v9.0, use the *Test Expert 9.0 Installation Guide* dated

12-Nov-09 or later available on the Teradyne eKnowledge website and carefully follow the instructions in the *Setup PDX.INI* section for smooth operation of Test Expert.

- Users can now control whether a Cancel will cause the Trailer sections in chained sub-programs to be executed. Previously they were not executed.
- The NI-VXI 3.6.0 software to support the NI-VXI-II card.

Test Expert v9.0 Integration

This release of Spectrum software integrates Test Expert software from Siemens. Test Expert enables you to display or prepare design data within the Spectrum Project Application and is the latest FABmaster upgrade. Some of the major benefits are:

- BOM converter - import BOM files directly rather than editing device.asc files
- Library Processor - choose whether component information comes from the BOM file, libraries or CAD files
- Efficient user interface - access files , utilities and options via icons or menus
- No dongle - a major benefit for computers with no parallel port
- Uses the latest CAD translators

Installing Spectrum Software

This section contains installation considerations for this release.

Version Numbers

This release supports the following software versions:

- Spectrum 5.1
- Windows XP Professional, Service Pack 2 or later
- FABmaster V8G2
- Test Expert 9.0 (Make sure to get licenses from Teradyne Customer Support)
- D2B 3.2
- NI VXI 3.6.0
- ProcessWatch 4.5
- Lightning Version 5.1
- VICTORY 2.5

Note: The NI-VXI and Lightning versions installed on a system become very important when installing on a computer that already has Spectrum 5.0 loaded or when running both the 5.0 and 5.1 versions of Spectrum.

Keep in mind that both Spectrum 5.0 and 5.1 can run with NI-VXI 3.6.0 and Lightning 5.1. These are the versions installed with the Spectrum 5.1 DVD (PN 606-062-01) or eKnowledge download. Spectrum 5.1, however, cannot run with the NI-VXI 3.3.0 and Lightning 5.0 versions of software installed with the Spectrum 5.0 CD (PN 094-052-03). For this reason, if you restore Spectrum 5.0, use the Spectrum 5.0 installation included with the Spectrum 5.1 DVD or eKnowledge download.

Minimum Windows PC Requirements

The recommended minimum PC configuration for running the operating system and Spectrum software is:

- 700 MHz Pentium III or greater CPU

- 512 MB or greater Physical Memory (RAM)
- 20 GB or greater hard disk, formatted as NTFS
- 300 MB or greater of Virtual Memory (Page File Size)
- Video with at least 800 x 600 x 256 Colors with 16 MB RAM
- DVD Drive (**Note:** The complete install is also available from eKnowledge.)
- 15" or greater SVGA Color Monitor
- 3 PCI slots

Important Things To Remember

- Close all Windows applications, including the Windows Explorer.
- Log into the System Administrator account or use an account with administrator privileges.
- When running the Spectrum Setup, one component installation automatically follows another.
- During the installation, after a reboot, if the system displays a Found New Hardware Wizard for the NI-VXI devices before you complete the NI-VXI installation, cancel the wizard. After completing the NI-VXI installation and rebooting, complete the Found New Hard Wizard for the device.

Installation Scenarios

There are three installation scenarios for this release. Each scenario takes a different path through the installation process. The three scenarios are:

- Installing on a computer with no Spectrum software loaded.
- Installing on a computer with Spectrum 5.0 and NI-VXI 3.3.0 software loaded.
- Restoring Spectrum 5.0.

Note: Make sure to always use the Spectrum Media and Installation procedure to install NI-VXI 3.3.0.

Installing on a computer with no Spectrum software loaded

1. Insert the **Spectrum Software 5.1 Media** into the drive.
2. In the **Installation** screen, click **Install Spectrum Version 5.1**.
3. In the **Restrictions** screen, examine the information about versions, licenses, National Instruments and click **Install Spectrum Version 5.1**.
4. In the **Warning! New License** screen, read the information about Lightning and Spectrum licenses and click **Yes**.
5. In the **Warning! Compatibility** screen, read the information about 5.0 and 5.1 test programs and click **Yes**.
6. In the **Warning! Updating National Instruments** screen, read the information about and click **Yes**.
7. Continue with the instructions in the *Spectrum 8800-Series System Administration Guide*.

Installing on a computer with Spectrum 5.0 software loaded

1. Insert the **Spectrum Software 5.1 Media** into the drive.
2. In the **Installation** screen, click **Install Spectrum Version 5.1**.

3. In the **Restrictions** screen, examine the information about versions, licenses, National Instruments and click **Install Spectrum Version 5.1**.
4. In the **Warning! New License** screen, read the information about Lightning and Spectrum licenses and click **Yes**.
5. In the **Warning! Compatibility** screen, read the information about 5.0 and 5.1 test programs and click **Yes**.
6. In the **Warning! Updating National Instruments** screen, read about the compatible NI-VXI drivers and click **Yes**.
7. If the computer has a version of Lightning that is incompatible, but a version of NI-VXI that is compatible, the installation displays a message that the incompatible Lightning must be removed, follow the instructions about removing the software using Add and Remove Programs in the Control Panel. The Add and Remove Programs window is displayed after you click OK in the message. After removing the software, reboot the computer. After rebooting, run the installation again by navigating to launch.exe on the DVD. Only older version of NI software require the use of Add and Remove Programs to remove the software.
8. If the computer has versions of Lightning and NI-VXI that are both incompatible, the installation displays a message that the incompatible software must be removed, follow the instructions about removing the software using Add and Remove Programs in the Control Panel. The Add and Remove Programs window is displayed after you click OK in the message.

It is **important** to remove the Lightning software before removing the NI software.

After the Lightning software is removed, it is not necessary to reboot, you can wait until after the NI-VXI software is removed.

When removing the NI-VXI software make sure to select all NI products for removal. The NI-VXI software programs to remove are:

- NI Measurement & Automation Explorer 2.2.0
- NI-VISA 2.6.1f2
- NI-VXI 3.3
- NI-VISA Server 1.0.0f6

Reboot the computer after removing both Lightning and NI-VXI. After rebooting, run the installation again by navigating to launch.exe on the DVD.

9. If the system displays a Found New Hardware Wizard for NI-VXI devices, cancel the wizard. You will complete the wizard after installing NI-VXI drivers.
10. Repeat steps 2 through 6.
11. In the **Teradyne Software Licensing Agreement** screen, click **Read SLA**.
12. In the next **Teradyne Software Licensing Agreement** screen, click **I accept the terms of SLA**.
13. In the **Select components to install** screen, click **Next**.
14. Complete the NI-VXI installation.
15. After rebooting, complete the Found New Hardware Wizard.

16. If you have CC3 hardware, after clicking **Done** to the NI-VXI installation the `terILDLP_RevisionManager.exe` returns an Application Error. Click OK and continue. This error does not affect the operation of Lightning software or CC3 hardware, and can be safely ignored.
17. Continue with the remainder of the installation as described in the *Spectrum 8800-Series System Administration Guide*.

Restoring Spectrum 5.0 software

Note: If you wish to restore the Spectrum 5.0 software, it is very important that you reload the Spectrum 5.0 software using the Spectrum 5.1 DVD (PN 606-062-01) to allow Spectrum 5.0 or 5.1 software to run with the NI-VXI 3.6.0 software. Using the Spectrum 5.0 installation on 5.1 DVD ensures that the compatible version of NI-VXI 3.6.0 software is installed.

1. Insert the **Spectrum Software 5.1 DVD** into the drive.
2. In the **Spectrum 8800-Series Installation** screen, click **Install Spectrum Version 5.0**.
3. In the **Restrictions** screen, examine the information about versions, licenses, National Instruments and click **Install Spectrum Version 5.0**.
4. In the **Warning! New License** screen, read the information about Lightning and Spectrum licenses and click **Yes**.
5. In the **Warning! Compatibility** screen, read the information about 5.0 and 5.1 test programs and click **Yes**.
6. In the **Warning! Updating National Instruments** screen, read the information about incompatible NI-VXI drivers, read the directions and click **Yes**.
7. Continue with the instructions in the *Spectrum 8800-Series System Administration Guide*.

See the *Spectrum 8800-Series System Administration Guide* for step-by-step instructions on how to install the software. Contact Teradyne with any questions or problems you encounter while installing this software.

NEVER install Patches 5.0.0.20 or less after loading Spectrum 5.1, because these patches are intended for NI-VXI 3.3 and can corrupt the NI-VXI 3.6.0 that's installed with Spectrum 5.1. If you wish to patch Spectrum 5.0 after 5.1 has been installed, use Patch 5.0.0.21 or later. This is available on the Spectrum 5.1 DVD media and also on the Teradyne eKnowledge website.

License Software

Spectrum software requires a license. In addition, the Spectrum or the Lightning Software require you to obtain a new version of Spectrum license keys for version 5.1.

All customers are required to obtain a newer version of the Spectrum Licenses from Teradyne to enable Spectrum Software 5.1. Teradyne recommends obtaining these licenses before installing software to avoid system downtime.

If you install this software before or on July 7, 2010 and your PC is running the International (US) version of Windows XP, you will have at least a 30 day grace period to use the features in this release and to obtain permanent licenses.

The 5.1 software includes a Grace Period License in effect until July 7, 2010. This grace period is at least 30 days from the day and month that the 5.1 software was installed and allows you to use the Spectrum 5.1 software until you obtain a license key. During this grace period, the software warns you that the grace period will expire. The final Grace Period License expires on August 25,

2010.

Note: Grace period license can be installed only on PCs installed with the International (US) version of Windows XP.

Product Support (Miscellaneous Information)

Software Support Agreement

Teradyne offers a variety of Software Support Agreements. For more information, in the U.S. please call 1-800-TERADYNE (1-800-837-2396) otherwise call your local office, and a Software Support Sales Representative will be happy to assist you.

If you have a technical question, please call Teradyne's Technical Support Center at 1-800-TERADYNE (1-800-837-2396) and an application engineer will assist you.

Technical Support Center Contact Information

World Wide Web

Teradyne's home page on the World Wide Web is at www.Teradyne.com. If you have a valid SSA account with a secure login and password, you can also file problem reports, access on-line documentation, download the latest software updates, get information on training schedules, and submit questions to our Customer Support Staff.

Mail

Teradyne, Inc.
Assembly Test Division
700 Riverpark Drive
North Reading, MA 01864

Phone

1-800-TERADYNE (1-800-837-2396)

FAX

(978) 370-6260

E-mail

cs1@teradyne.com

Regional Seminars

Teradyne periodically sponsors regional and local seminars that cover system applications, recent technology developments, and the latest Teradyne software and hardware products. Contact your Teradyne representative for more information.

Appendix A

Miscellaneous Software Bug Fixes and Improvements

This section lists key enhancements and defects that have been resolved in this software release. For the latest listing of corrected defects, see the `fixedsprs.txt` file installed with the software.

The Spectrum 8800-Series 5.1 software patch includes changes for both the 5.1 System Software and the Lightning System Software.

PRD26525

Arithmetic operations now work correctly for large integers.

PRD26747

Test execution times have been speeded up, especially when sections are expanded, as when SOF is set.

PRD26960

Spectrum now handles error and diagnostic messages correctly in the case of a power supply over-current.

PRD26461

Loops that branch within steps can now run indefinitely without resource errors.

PRD 26248

Spectrum programs created using multipanel copy now properly interpret the offset channel map.

PRD26495

Corrected the instructions and measurement value of the ADC Zero Adjustment and Reference Adjustment Prism calibration routines.

PRD26502

DUT PS Adjust is now accessible to all users, and power supply Rescan results now apply to all users of the tester, not merely the current user.

PRD26503

DUT power supply current measurements are now maintained consistently.

PRD26456

Test Programs saved under all previous patch versions of 5.0 (including SP16) can now be opened and saved in a format that can be opened by all previous versions. It is recommended that SP16 users upgrade to SP18 as soon as possible.

PRD24738

Spectrum code has been enhanced to resolve several exception errors.

PRD26191

Forward Voltage tests with low stim current and high expect limits now return measured values with the correct sign.

PRD26290

Checkers has been enhanced with a low resistance test to improve detection on prism boards.

PRD26249

Making changes to an ILDP page in a multipanel board other than the first board in the panel now proceeds to execution without error.

PRD00026045

Spectrum software has been updated to limit reduction of Stim Voltage to 10 mV.

PRD26058

Spectrum now prints without crashing or generating an exception.

PRD26093

Boundary scan disables can now be imported even when there are no disable pages in the program.

PRD26104

Boundary scan now generates an error message and aborts the import if the topology database does not exist.

PRD26043

Channel Conversion to
CH_<CHANNEL NUMBER> format now works for D2B.

PRD26003

Corrected the problem which displayed the error message "attempting to reference non-existent node..." when running extended checkers with Spectrum patch level 8 and above.

PRD26004

The translation of the RUNTEST command has been improved so stable states other than IDLE can be used.

PRD25402

Renamed nets are no longer flagged as missing during Fixture Generation.

PRD25554

TerILDP_SVF_STAPL.exe STAPL compiler has been updated to allow literal values in the BOOL() and INT() functions."

PRD24900

The nail quantity for a net can now be set to 0.

PRD25764

Channels can be named using channel number when running D2B.

PRD25999

Create Vector Template works even when there is a Custom level in the system registry.

PRD25900

The DUT Power Supply Adjust routine no longer gives an "adjustment of PSx aborted at DAC = 2251" error caused by autoseettle timeouts.

PRD25763

In APG, ILDP Analysis channels are now assigned for ILDP tests when using D2B Alchemist.

PRD25898

Rerunning APG ILDP Analysis channels will give correct channel assignments for ILDP tests when using D2B Alchemist.

PRD25846

Import Program now properly loads vectors. Editing and saving newly imported vectors is no longer necessary to load vectors after an Import Program.

PRD24955

FrameScan test results are now shown in the output window when run at the page level.

PRD24956

Pin test results for FrameScan tests are now reported in tokenlog files.

PRD25437

Guards in a resistor test will now appear in resistor test output data.

PRD24498

A VPILDLP page which calls a Disable page which itself calls a Boundary Scan disable page will now execute without the error: "The vector set contains an invalid opcode".

PRD25716

Select the appropriate compliance voltage based on the Programmed current as well as the high limit.

PRD25438

Lists of tester and device pins will now be reported correctly even when specifying multiple %DEV blocks in TDR.FMT.

PRD25159

The Spectrum DUT power supply adjust routine has been modified to use the proper Prism connection sequence.

PRD25589

Allprint can now be enabled without corrupting the tokenlog data for a step that incorporates a Delay page.

PRD25628

A technician can no longer save program changes by switching into Operator mode. Programs can be saved only when save privileges have been granted.

PRD25080

A digital test can now use a disable vector that uses a boundary scan disable vector without the risk of causing a crash.

PRD24438

There is now a Custom drive level with low value of 0.00V and high value of 0.10V. This can be used for identifying hardwired FIB channels. In Nets View, hardwired FIB channels can be assigned to the Custom level via the drop-down Levels menu.

PRD24447

In order to identify hardwired virtual FIB channels for fixture generation, nets hardwired to virtual channels (numbered higher than 5120 and less than 9999) are now flagged with a warning instead of an error. The fixture generation process has been modified to generate a fixture wire specification in fixtwire.asc for hardwired virtual FIB channels (numbered greater than 5120 and less than 9999). Note that edits must be made to TESTERIF.FXG to enable this modification to work. See the Release Notes for more information.

PRD00025398

Branching can now be done from a page to another page or a different section in either a pre-test or post-test condition without losing tokenlog data.

PRD00025399

Pre-test repeat loops can now be used without losing tokenlog data.

PRD24183

Modified software to merge boundary scan disables after they are imported so that they no longer need to be enabled.

PRD24438

The user can specify "Custom" as a valid level from the Nets view to prevent errors from occurring after assigning channels to mini-FIB boards in APG.

PRD24447

Hardwired invalid channels now display a warning, rather than an error, at Channel Assignment, so that special high channel numbers can be used to specify pins on FIB cards.

PRD24737

Creating analog and digital models using the Spectrum Template Wizard no longer causes syntax errors.

PRD24775

Generating programs with the '\' Character in the channel name no longer corrupts output display messages.

PRD24761

Imported mixed signal tests now have all reference channels included.

PRD24770

The handling of Boundary Scan disables has been improved so that multiple scan chain disable pages can be merged into one general disable page.

PRD24771

Logic levels in Boundary Scan vector import dialog under Spectrum 5.0 can now be set without causing an error.

PRD24913

Modified terildp SVF STAPL.exe to prevent reading and writing of bad serial data with ACA compressed data.

PRD24957

Eliminated the terildp SVF STAPL.exe error: State instruction exceeded 30 states.

PRD25129

Using the Vector Template no longer generates files with missing text.

PRD25159

The Spectrum DUT power supply adjust routine has been modified to use the proper Prism connection sequence.

PRD25440

Boundary scan software has been modified to treat imported disables as pages when appropriate, rather than steps. It also creates a disable step and section when needed.

PRD25441

Boundary scan import now checks for duplicate pages, in addition to steps, which allow the user to have multiple pages in one disable step and overwrite just one instead of them all.

PRD25442

When importing a Boundary Scan disable page that already exists in the Boundary Scan section, the user can now specify whether to overwrite the disable page, merge with the existing page, or cancel the import.

PRD25443

In the Boundary Scan software, when importing a disable page named "DISABLE", it will be imported into the Disable section, and merged into an existing page if needed.

PRD25444

Boundary Scan import code will now treat pages and steps named "disable" in a case-insensitive way. Other page and step names continue to be treated as case-insensitive.

PRD25445

When a boundary scan merge fails after a successful import, the step or page is deleted rather than being left in the Boundary Scan section.

PRD25446

Boundary scan disables are now imported based on test type and not name. All resulting pages are now of type disable, rather than some being BICT.

PRD25447

Attempting to rename a test program to the same name will no longer cause a Spectrum crash.

PRD24038

A job's path name containing a "." can now be safely renamed. In addition, during any rename, all the corresponding program files are now renamed.

PRD25453

Use of the Delay page no longer clears continuous stims.

PRD23166

Online help topics "About D2B Alchemist" and "CAD File Preparation" have been updated with additional usage information.

PRD23973

Added a new online help topic "Illegal Characters".

PRD25055

The DUT power supply software will turn off if an over-current occurs during a Delay page.

PRD25056

If a DUT power supply over-current occurs, the page currently being executed will fail and the status bar will display FAIL.

PRD24738

Modified printer output code to prevent Spectrum from crashing when printing to a non-generic printer driver fails.

PRD24757

When the system encounters an invalid tester pin, an invalid tester pin message is displayed in the status bar and output windows.

PRD25022

Modified code to allow user to import vector pages that have analog stim and an analog measure pin.

PRD24756

Whenever a page cannot be saved because of an invalid channel number in the Vector Editor and all worksheets that use channel numbers, an error message is displayed in the Output Window.

PRD 24562

DUT Power supply information will not be added to the registry if no test hardware is found.

PRD 24580

The software has been modified so that a DUT Power Supply Over-current error will report to the user that a power failure has occurred, the power supplies will be shut down and test program execution will be cancelled.

PRD24612

Improved handling of DUT power supplies to eliminate situations where the power supplies are not available.

PRD24572

Modified code so test programs that contain vector tests are now able to run from Mapped Network Drives.

PRD23443

Hccfib bridge relays are now cleared after cvi, resistor, tv, sv and other pages.

PRD 24338

An AHC error 13 no longer occurs when an analog test follows a mixed signal test when running in operator mode.

PRD23913

Enhanced software to notify the user with a Warning in the output window when they do not have permission to open a RESULTS User Array.

PRD24695

Modified the terILDLP_SVF_STAPL.exe application's compiler to correctly compile the BOOL() and INT() functions. Also added support to the terILDLP_SVF_STAPL.exe application for the Frequency command and modified the Scan functions to use the BOOL() function as scan data.

PRD24429

Improved error message displayed by ILDP when entering invalid serial baud rates. Valid baud rates are now displayed for the user's information.

PRD24534

Fix memory leaks in ILDP Worksheet to eliminate random Access Violations while setting up ILDP ports.

PRD24971

The terILDLP_SVF_STAPL compiler has been improved to read the ~ (Bitwise invert) and ! (Logical Invert) characters.

PRD24650

The power supply page no longer fails if it follows a mixed signal page.

PRD24204

The number of measurements that a program can save has been increased so PWP no longer ignores measurements that number higher than 1024.

PRD24575

Spectrum vector test code now checks and handles the use of N/A as an empty channel indicator.

PRD24980

Update the expect pins member of vFail with the expect pins for the current burst.

PRD24274

The reference channel on a Meas V pin in a vector page now correctly shorts to ground.

PRD24049

Resolved a channel assignment problem with long net names using D2B.

PRD23856

Modified code to prevent the condition where a failing digital test would pass if preceded by a digital test which used static stims with an active expect on the last pattern.

PRD23913

Resolved a problem with ILDP programs displaying exception errors when run from an account other than the Windows administrator group.

PRD24234

Modified code so that _Word contains a signature value after a digital test.

PRD24039

Modified the flag settings so the user is not prompted to save when a user integer variable is modified.

PRD24471

Altera JAM/STAPL files are now recognized as STAPL format.

PRD24443

The selected channel name is now highlighted in the Channel Map editor.

PRD24143

Resolved a problem with inaccurate voltage measurements when using stim R=0ohms in a mixed signal test.

PRD23985

Resolved a problem with discharge test failures when the discharge test is preceded by a mixed signal test.

PRD24088

Added a Power Supply Specification Override Option in the Setup->Power Supplies Tab to allow programming down to 10% of the nominal voltage.

PRD24028

Resolved a problem with the Electronic Signature for a Lattice ISP1032E device, which caused hexing.exe to crash.

PRD23737

Addressed an error condition that occurs when printing a failure report containing strings with %.

PRD23976

Replaced error messages generated when a D0_6 program which has digital tests using stim and measure assigned to same channel are executed under the 5.0 software.

PRD23755

Added PABackplane Functions to the Spectrum Front Panel.

PRD23891

Resolved a problem where a Stim V pin marked as 9999 caused a crash under Spectrum 5.0.

PRD23941

Resolved an incorrect license check which was occurring when a customer didn't have the

Spectrum Functional license and the Spectrum software thought it was required.

PRD22190

Resolved a performance issue caused by the original fix to PRD22190.

PRD17580

Resolved a problem with FET devices not being translated properly from a Z18XX program.

PRD22190

Resolved a problem with voltage and current accuracy not meeting printed specifications.

PRD22587

Resolved a problem where the terILDV_SVF_STAPL.exe task stores absolute file paths. The path is now stored relative to the program path.

PRD22602

Resolved a problem with D2B/Spectrum integration where power nets renamed in D2B were not being read and understood properly by Spectrum.

PRD22632

PRD22653

Resolved a problem when importing a Boundary Scan disable vector SVF file.

PRD22652

Added support for user array feature to the Group Setup Dialog GUI.

PRD23030

Added support for the user to choose, on the Section Order tab of APG, to have drive level tests placed in the POWER_ON section.

PRD23061

Added a warning message when channel offset is not a multiple of 32 when working with Multiboard programs.

PRD23066

Resolved a problem with the Z18XX program importer generating errors on import when there should have been none.

PRD23167

Resolved a problem to ensure the FABmaster/D2B button, when pressed, would start up the FABmaster/D2B application.

PRD23471

Improved the speed of Boundry Scan Tests on Spectrum 5.0.

PRD23508

Resolved a problem where the personality plate check mark was not being displayed properly following a 18xx program translation.

PRD23656

Resolved a problem where the Delay page was failing in operator mode if preceded by a mixed signal test.

Checkers

Resolved a problem where reverting from patch 1 or 2 was causing database version errors during Checker program expansion.

System Power Supplies

Added new functionality for the Calibration and Verification of system power supplies. This feature is described in the System Maintenance manual.

95V Power Supply

Resolved a problem where the 95V Power Supply was intermittently failing calibration. This applies to software in 5.1 patch 1.

Power Supply Rescan

Resolved a problem where the Power Supply re-scan operation would cause power supplies to intermittently disappear.

ILDPIexamples Directory

Changed installation of patch 3 and above so the ILDPIexamples directory will no longer be removed. If patch 1 or 2 was applied, customer needs to re-install Spectrum 5.0 base software then go directly to patch 3 or above to preserve the directory.

DeltaScan

Resolved a significant memory leak problem in DeltaScan.

Analog Measurements

Resolved a problem where analog measurements may fail erroneously if preceded by a mixed mode digital test.

Vector Disable Page

Resolved a problem that caused Spectrum to occasionally be unable to locate the Vector Disable Page.

DUT PS

Use DUT PS Adjust when a power supply board is added or replaced. DUT PS Adjust affects the accuracy of the supplies.

Rescan

Use Rescan when a power supply has tripped out and is no longer accessible. Rescan does not affect the accuracy of the supplies.

Node Resistance Test - Checkers

Addressed intermittent failures during the checkers Node Resistance Test by increasing the limit from 1ohm to 3ohms.

Appendix B

Known Problems and Workarounds

This section describes know problems and procedures to avoid them.

PRD00022220 (WCKca13762)

IEEE 1532 Player gives errors reading Lattice files

The Spectrum 88xx IEEE 1532 Player, which is provided with the v3 Lightning software, generates errors reading BSDL and data files provided by Lattice.

Workaround

In order to avoid these errors, manually edit the BSDL file and the data file as follows:

To edit the BSDL file:

1. Move the attribute ISC_PIN_BEHAVIOR so that it follows the attribute ISC_STATUS.
 - 1 Add an attribute called ISC_SECURITY. A sample is shown below:

```
attribute ISC_SECURITY of ispLSI2032VE_XXLT44 : entity is
    "ISC_DISABLE_READ *,"&
    "ISC_DISABLE_PROGRAM *,"&
    "ISC_DISABLE_ERASE *,"&
    "ISC_DISABLE_KEY *,"&
```

To edit the data file (*.isc):

1. Delete the CRC specification. A sample is shown below:

```
data_CRC (
    B86A2BC2
```

- 1 Delete the numeric data that displays at the end of the file.

PRD00022571

Spectrum/D2B projects cannot be copied and moved

The INI file created by Spectrum for communication of file names to D2B has hardcoded file paths in it. If a test project is copied and moved to another location/PC, these hardcoded paths may not be correct and will cause Spectrum to not work properly.

Workaround

If you have an APG error with a project and want to send the project to a support person, the support person may get an error of failure to open the project.

Spectrum/D2B project paths are stored in projectName\D2B\projectName.APG.INI file. The support person may need to edit the paths to point to the directory in which they stored the project.

For example:

```
PROJPATH=C:\tpd\production\line1\testboard1
```

may need to change to

```
PROJPATH=D:\tpd\support\testcases\testboard1
```

Note: This does not affect moving of Spectrum runtime files, only the APG environment.

PRD00022570

.TOP and .BOT files not being mapped properly from Spectrum to D2B

The configuration file created by Spectrum for D2B incorrectly names the top and bottom fixture files as .TOP and .BOT with no root filename.

Spectrum/D2B creates generic fixture files similar to an excellon drill file. These files are called .top

and .bot, and are located in the "projectName\D2B\Alchemist\BOARD - cadFileName\Teradyne Spectrum" directory.

PRD00022587

terILDV_SVF_STAPL.exe stores absolute file paths

terILDV_SVF_STAPL.exe specifies JTAG_DATAFILE in an absolute path instead of in a relative path. This causes problems when the program path is changed.

The problems are:

- 1 The page won't run.
- 2 The error message is badly formatted.

For example:

With a program path of "E:\tpd\example Spectrum ISP usage\" and svf file of "E:\tpd\example Spectrum ISP usage\ISP\SVF\UUU1.svf", terILDV_SVF_STAPL.exe creates 3 Spectrum variables and initializes them to:

```
JTAG_COMMAND = "-aSVF"  
JTAG_DATAFILE = "E:\\tpd\\example Spectrum ISP  
usage\\ISP\\SVF\\UUU1.svf" JTAG_PORT_CNTL = 4102
```

When the program is saved and the path is changed to "E:\tpd\moved example Spectrum ISP usage\", the following error occurs when the page is run:

```
"Could not change to the 'E:\          pd\xample Spectrum ISP usage\SPVF\  
directory"
```

However, if a relative file spec is used for the svf file name by manually changing:
JTAG_DATAFILE = "ISP\SVF\UUU1.svf", the page runs without an error.

Appendix C User Documentation

Spectrum Help

Spectrum software includes online Help. It is a complement to the Spectrum documentation and provides descriptions, definitions, and explanations about the work you do with Spectrum.

You can access Spectrum Help:

- 1 From the Spectrum program group on the Start menu.
- 2 Within the Spectrum Project Application from the Help menu.
- 3 From within dialog boxes that contain the Help button.

Spectrum User Documentation

The user documentation updated for 5.1 includes the following manuals. Other documents in the Spectrum documentation set were not changed. If you are an SSA customer, these manuals can also be accessed on eKnowledge.

- *Spectrum 8800-Series System Administration Guide*
 - *Spectrum 8800-Series Automatic Program and Fixture Generation Guide*
 - *Spectrum 8800-Series Test Development Reference Manual*
 - *Spectrum 8800-Series System Administration Guide*

- *Teradyne Licensing 2.0 Guide*
- *Spectrum 8800-Series Maintenance Reference*
- *TestStation SE Theory and Maintenance Manual*
- *TestStation SE Technical Product Description*
- *Spectrum 8800-Series Technical Product Description*
- *TestStation SE Fixturing Guide*
- *Spectrum 8900-Series Fixturing Guide*

Spectrum 5.1 Software		
034-100-00	FABmaster V8G2 Installation Instructions	Fabmaster Installation.pdf
609-476-00	Spectrum 8800-Series Test Development Reference Manual	TDR.pdf
M00-121-00	Spectrum 8800-Series Model Library Reference	ModLib.pdf
602-900-00	Spectrum 8800-Series Automatic Program and Fixture Generation Guide	APG.pdf
M00-129-00	Spectrum 8800-Series ILDP and Lightning Guide	ILDLP.pdf
M00-167-00	Spectrum 8800-Series Getting Started	GetStart.pdf
607-088-00	Spectrum 8800-Series System Administration Guide	88SysAd.pdf
M00-177-01	Spectrum 8800-Series Client Application Tools	ClientApp.pdf
M00-073-00	Spectrum/VICTORY Test Integration Process	Spec_Vict.pdf
M00-142-00	Spectrum 8800-Series Board Interface Module User's Guide	BIM.pdf
609-457-00	Spectrum 8800-Series Fixturing Guide	SPFixBook.pdf
M00-040-01	ProcessWatch Parametrics User Guide	PWP.pdf

Spectrum 8800 Hardware		
Part Number	Manual Name	PDF File Name
034-362-03	dc7900 3.0 GHz PC Configuration Manual	pcdc7900.pdf
034-152-00	Spectrum 8800-Series 8831/8832 Hardware Reference	883xHDWR.pdf
M00-064-00	8855/8852/8851 Hardware Reference	885XHDWR.pdf
M00-071-00	Guided Probe Hardware Installation	SPGProbebook.pdf

M00-146-00	Spectrum 8800-Series Test Head Power Supply Alignment	88pwralgn.pdf
607-700-00	Teradyne Licensing 2.0 Guide	TeradyneLicenseGuide.pdf
609-456-00	Spectrum 8800-Series Maintenance Reference	88Main.pdf
M00-113-00	Spectrum 8800/8950-Series Operator's Guide	88OperGd.pdf
M00-175-00	Spectrum 8912/8911/8952/8951 Site Preparation Guide	89SiteBook.pdf
M00-105-00	Spectrum 8800-Series Site Preparation Guide	SPSiteBook.pdf
M00-111-00	Spectrum 8800-Series 8855XP/8852XP/8855E/8852E Hardware Reference	88xpHDWR.pdf
M00-084-00	Spectrum 8911 and 8912 Hardware Reference	881112HW.pdf
609-414-00	Spectrum 8800-Series Technical Product Description	88TechSpec.pdf
M00-072-00	Spectrum 8800-Series M910 Integration	M910.pdf

TestStation SE		
M00-204-00	TestStation SE Operator's Guide	TSSE_Operator.pdf
M00-206-00	TestStation SE Operator's Guide	TSSE_Operator_Chinese.pdf
034-154-00	TestStation SE Site Preparation Guide	TSSEsiteprep.pdf
034-155-00	TestStation SE Installation Manual	TSSEinstall.pdf
609-410-00	TestStation SE Theory and Maintenance Manual	TSSEtheorymaint.pdf
609-411-00	TestStation SE Technical Product Description	TSSE_TechSpec.pdf
609-458-00	TestStation SE Fixturing Guide	TestStationSE-Fixturing.pdf