

Release Notes

Keysight PNA Series Network Analyzers

N5221A, N5222A, N5224A, N5225A, N5227A,
N5231A, N5232N, N5234A, N5235A, N5239A,
N5241A, N5242A, N5244A, N5245A, N5247A, N5249A,
N5264A

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A.10.65.16 Version Information

Compilation Date:	22 Apr 2021
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106516.exe

Issues Resolved

- Fix: N4433D Calibrates to 20Ghz only.
- Fix: Trigger commands are ignored when using receiver leveling

A.10.65.14 Version Information

Compilation Date:	21 Jan 2021
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106514.exe

Issues Resolved

- Differential IQ: Fix unlevelled errors in PNAX when performing phase control power sweeps
- Fix:"Marker Search" dialog shows wrong settings when Marker Number is changed

A.10.65.12 Version Information

Compilation Date:	10 Nov 2020
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106512.exe

Enhancements

- Power Sensors: Added support for power sensor U2065XA, U2052XA U2055XA U2061XA U2062XA U2064XA L2051XA L2052XA L2053XA L2054XA L2055XA L2061XA L2062XA L2063XA L2064XA L2065XA U8489A

Issues Resolved

- Gain Compression (GCA): Fix calibration with independent power sensors for input port and output port
- SMC: Fix crash when using embedded LO and turning on correction

A.10.65.11 Version Information

Compilation Date:	14 Aug 2020
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106511.exe

Issues Resolved

- Fix Touchstone file (.SnP) data, which was incorrect when an associated trace had the equation editor active. Equation processing is now disabled during the .snp file creation.

A.10.65.08 Version Information

Compilation Date:	01 Jun 2020
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106508.exe

Issues Resolved

- Fix crash when recalling Gain Compression with 2D sweeps
- Fix for not recognizing a specific power sensor model number
- CalAll: Fix for IMD/IMDX not generating calset when mechanical state matches Cal All state
- Fix for unguided thru response cal
- Fix for flattening interpolated Noise Figure calsets
- Add support for N4431D, N4432D, and N4433D ECal modules as tuners
- Fix issue when appending SParameter calibrations to Receiver cals
- Fix for bad error turns when using Independent Power Cal feature with IMD channel
- CalPod: Fix for intermittent failure of SCPI commands
- CalPod: Fix for OPC? Lockup when using CalPod app during long recorrection operations

A.10.65.06 Version Information

Compilation Date:	05 Feb 2020
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106506.exe

Issues Resolved

- NF: Fixed for bad calibration results when using fixed IF
- NF: Allow N469xD ECal modules to be used as tuners
- GCA: Fix for crash observed when using Compression Analysis tool
- Application Channels: Fix for when memory traces occasionally fail to update
- Fix for intermittent calibration failure when ECALs used for measurement
- Fix for using viClose() with HiSlip: No longer times out

A.10.65.04 Version Information

Compilation Date:	31 Oct 2019
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106504.exe

Issues Resolved

- Fixed: power calibration for N5264A
- Fixed: Power calibration out-of-tolerance fails to warn user when requested
- Fixed: Equation editor: Fix bugs in Y11, H12, and H21
- Fixed: Intermittent crashes on State Recall for states involving GCX channels and DC sources
- Additional FW Support for ECals: N4433D options 0DC and 003, N4432D options 0DC and 003, N4431D options 010,020,030 and 040
- Improved Group Delay computation
- CalAll Fixed: Port 1 Src2 independent power calibration - now allowed again
- Fixed: NF uncertainty calculator error when using N4690D Series ECal Module
- Improved SA Manual trigger in channel sweep mode

A.10.65.03 Version Information

Compilation Date:	03 May 2019
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106503.exe

Issues Resolved

- Fixed: Receiver Leveling power was off
- Fixed: deembedding was not working for phase when RF
- Fixed: Fix SourcePowerCorrection(x) arrays for IMD Tones when switches are different from CalAll channel
- Fixed: SA Markers: turning off band power markers was changing discrete mode to ON
- Fixed: NF cal sometimes displays "The error term data required for the selected caltype was not found" on completion.
- Fixed: SA Band power marker display averaging defect
- Fixed: NVNA fails on startup with latest PNA application.
- Fixed: power limit for Port 1 when both Port 1 and Port 1 Src2 are on
- Fixed ripple in calibrated NFX noise figure results using Cal Wizard (Smart Cal) with power meter cal
- Fixed: S2P files created with wrong data with some trace formats
- Fixed: iPulse: pulse profile behavior difference between A and B boxes
- Fixed: Offset when measuring NF using low gain stage
- Fixed: Power-meter-adapter deembedding not working in Cal All
- Fixed: Toggle correction on/off on application channel with fixturing gives wrong results

A.10.65.01 Version Information

Compilation Date:	15 Feb 2019
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106501.exe

Enhancements

- Adds support for the Maury Noise Tuner Application (Opt 027)
- Add support for U205xA/U206xA USB power sensors
- Add support for new NVNA Option 525 Dynamic X-Parameters

Issues Resolved

- Fixed: Power meter locks up occasionally on B-model PNA
- Fixed: Crash in power meter NF cal if steps not done in order.
- Noise figure: Fixed: Cal All generates error when specifying Vector noise cal method
- Interface control: Erasing some commands in one channel, erases other commands on other channels
- Fixed: Power meter noise cal with adapter removal fails to do adapter removal
- Fixed source power cal associated with turning on a calset
- Fixed typo in SYST:FIFO:DATA:COUNT

A.10.64.09 Version Information

Compilation Date:	11 Dec 2018
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106409.exe

Issues Resolved

- Fixed issues associated with fixturing and receiver leveling
- Fixed: Initialization of guided calibration failed
- Fix issue with Noise Figure Cal All when using multiple power sensors
- Fixed NF power meter calibration bug when running under CalAll
- Fixed: Noise figure: vector noise cal fails when using N4692D ECal modules
- Fixed Interface control: Erasing some commands in one channel, erases other commands on other channels.
- Fixed: Source power cal issue associated with turning on a calset
- Fixed: CALC:PAR:DEF:EXT crashes firmware when an external device is setup
- Fixed: Fixturing: Issue with S-parameters with correction on (and not of response type) and for single-ended fixtures
- Fixed: IF gain calibration correction when using the IF Mux Path to measure multiple R Channels on a 4 port box
- Fixed: IMSpectrum crashes with certain SCPI sequence
- Fixed: IMD correction not valid when calibration does not include explicit response tracking terms

A.10.64.06 Version Information

Compilation Date:	09 Oct 2018
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106406.exe

Issues Resolved

- Fixed Response Cal issue with alias name of receivers

A.10.64.05 Version Information

Compilation Date:	28 Aug 2018
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106405.exe

Issues Resolved

- [HotS22] Fix phase sweep
- Fixed: Can't change the unit of SMU's DC current meter from V to A.
- Fix for GCX enhanced response correction
- Fixed: Multiport calibrations ignore user-requested thru path selections.
- Fixed: FW crashed after deleting a parameter.

A.10.64.03 Version Information

Compilation Date:	19 Apr 2018
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106403.exe

Issues Resolved

- Many merged fixes for SA
- Fixed: Crash in power sweep if leveling is on and power is off.
- Fixed: When set the port to be port 2, softkey didn't get correct parameters.
- New Feature added: Active Hot Parameters (Option 110 or 111)
- Fixed: Crash using aux trigger handshakes to control external sources while in segment sweep mode.
- Many more small fixes and small improvements

A.10.60.07 Version Information

Compilation Date:	05 Dec 2017
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106007.exe

Enhancements

- Merged multiple solutions from other branches of firmware
- Allow Ecal model numbers N4690D, N4691D, N4692D, N4693D, N4694D, and N4696D to act as noise tuners.

Issues Resolved

- SA: Fix crash at shutdown when the preference "de-activate on preset and recall" is off
- SA: Fixed possible infinite loop issue when outputting raw data
- CalAll: Fix for IMD channels: Power correction for Port 1 Src2 was dropped (issue introduced in A.10.60.06), correction restored.
- Cal Plane Manager: Add capability to zero selected S-parameters of an S4P file
- CalAll: Fix independent power cal of Port 1 Src 2 for case where source attenuator is used.
- CalAll: Fix phase jumps when source or receiver attenuator does not match cal channel.
- Fix Enhanced Response + Fixturing - do not elevate calibration to full N-port; leave as enhanced response.
- SA: Fixed crash at shutdown when the preference "de-activate on preset and recall" is off
- SA: Fixed possible infinite loop issue when outputting raw data
- SA: Band power marker refactor: faster, more accurate, a crash condition is removed
- SA: Repaired a couple of 'Failed to choose LO' warning conditions
- Many more small fixes and small improvements

A.10.60.06 Version Information

Compilation Date:	14 Sep 2017
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106006.exe

Enhancements

- Added independent power cal feature for CalAll

Issues Resolved

- Fixed corruption in phase reference calibration in A.10.60.03
- Fixed: "SYSTem:CONFigure 'native',0" throws error
- Fixed: SENSE:MIX:....:FREQ:....?" returns values from active mixer instead of scratch mixer
- Fixed: IMD on 2-Port PNA-X: IMD crashes in power sweep on 2-port with no second source
- Fixed: SMC+Phase: group delay jumps 3 ns when IF bandwidth is changed
- Fixed: FW crash during NF calibration when wrong ENR file name is overwritten during cal
- Fixed: Marker to SA crashes with certain trace parameters
- Fixed: Fix recall issue for DiffIQ with legacy states
- Fixed firmware crash when using 10.60.03 under some segment-related conditions

A.10.60.03 Version Information

Compilation Date:	27 May 2017
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A106003.exe

Known Issues

Warning: This release produces corrupted phase reference calibrations. Upgrade to A.10.60.06 if using phase reference calibration.

Enhancements

- SA app: Now supports arbitrary size Discrete Fourier Transforms
- SA app: New coherent mode for faster or more accurate measurements of repetitive test signals
- SA app: Band power marker accuracy is not reduced when the number of display points is reduced
- SA app: Band power markers can now be relative from a reference BP marker
- SA app: Band search new features: Occupied Band width and Auto Tune feature
- SA app: 2-Port fixturing de-embedding is now available
- SA app: Improved the graphical user interface
- Interface Control settings now work with any type of measurement channels

Issues Resolved

- Fixed: SMC+Phase: group delay jumps 3 ns when IF bandwidth is changed
- Fixed memory leak involving several CALC:X commands
- Fixed: Receiver leveling using B receiver is broken when calibration is applied
- Fixed: SA app does not always correct all traces
- Fixed: PNA crashes in swept IMD when preset power is turned off
- Fixed: SMC: cannot calculate fixed LO value over remote interface
- Fixed: Receiver Leveling Save/Recall of a non-completed receiver leveling trace crashes
- Fixed: Crashes when IMSpectrum Receiver Leveling is turned on with all 5 source ports in IMSpectrum
- Fixed: Sometimes crashes when setting the number of points in a power sweep

A.10.49.11 Version Information

Compilation Date:	17 Jan 2017
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104911.exe

Enhancements

- Now enable Source 2 modulator in banded MM when the test set ALC is off.

Issues Resolved

- Fixed: 2D legacy source power cal doesn't work with segment sweep; and 2D source power cal doesn't work in pulse mode
- Fixed: AUX Trigger out on sweep missing in point sweep mode
- Fixed: Equation editor not computing delay correctly with port extensions on
- Fixed: [Receiver Leveling] Periodically, when using 0 iterations, the data gets noisy and a source unlevelled error is generated
- Fixed: SA - End of Sweep output line on Handler I/O connector not present under some remote condition
- Fixed: Trigger delay changed after setting to specific value when click OK on the dialog box
- Fixed: In cal standard dialogs, entering more than one decimal point can cause crash.
- Fixed: Source power calibration fails in Chan A after sensor was used in Chan B.
- Fixed: SMC: using external SMU works fine; but turn on ELO and it stops sweeping
- Fixed: Wrong touchstone file written by cal plane manager. The order of S21 and S12 data was wrong.
- Clip frequencies to the ECAL limit if preference "Cal: ECal Extrapolation for IMD" is selected.
- Fixed: IMDX: Cal Wizard does not take LO cal power on the dialog, instead always uses channel LO power.
- Fixed: Fixed frequency power cal taking too many acquisitions
- [SMC] Fixed crash when changing the port configuration
- Fixed: SENS1:IMD:SWE:TYPE command doesn't work for IMDx.
- Fixed: When recalling a state that has receiver levelling the initial Power at the port is higher
- Fixed: Pulse4 as ADC indicator not working correctly in S-parameter mode but is ok in SA mode
- Fixed: [Noise Figure] 028 calibration is not compensating for thru adapter.

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- Fixed: Power meter option is disabled on noise figure cal wizard
- Fixed crash in receiver leveling that happens sometimes when user turns rxleveling off with the "update source power cal" checked
- Fixed: DiffIQ: Average not work for phase data.

A.10.49.10 Version Information

Compilation Date:	07 Oct 2016
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104910.exe

Enhancements

- Added Noise Source Temperature in Cal-All
- Support leveling in SA mode

Issues Resolved

- Fixed: HCOPIY command fails to pop VNA to the top of the windows stack.
- Fixed: Enh Resp Cal + Power does not correct the transmission parameter
- Fixed: Change to snp file broke ability to view balanced data
- Fixed: Changing the SMC channel to power sweep crashes
- Fixed: Attempting to save a min/max trace caused the trace to refresh
- Fixed issue with 67GHz Phase Reference in Cal-All
- Fixed issue with U3022AE10 cal; changed number of cal steps. Also fixed issue with U3042AE16 testset
- Fixed: [8510 Memory Mode] Data-Memory crashes.
- Fixed seemingly random order of cal steps in Cal-All
- Fixed: NFX not allowing CalPodAsECals to be used for S-parameter portion of the cal.
- Fixed: Unable to program two-stage mixer segmented sweeps where the frequency is outside of the range of the analyzer.
- Fixed bug where the frequency external source was not getting set during ramp sweep
- Fixed: Cal-All issue with SMC Channel importing more terms than requested
- Fixed issue where reflection measurements were bad when using a 4-port CalAll that did not exist when calibrating the channels individually.
- Fixed: No scroll bar on Cal Plane Manager de-embedding page
- Fixed: Ripple with multiport when computing transmission tracking path term
- Fixed: SENS:NOIS:PMAP causes crash
- Improvement to Cal-All window with respect to port/channel selection
- Fixed: External Device Control - Cannot control PSG and DC meter simultaneously
- Fixed: Can't set power correctly if the atten is high in power sweep mode
- Fixed: Diff IQ: power sweep with MXG creates unequal freq/power list data

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- Fixed: No scrollbars on combo-boxes in SmartCal/ECal when VNA has more than 4 ports enabled
- Fixed: Crash in ECal User Characterization Wizard when the first cal kit in mechanical kit list has a user-defined connector.
- Fixed: Can't see all iterations in GCA tests
- Fixed: TDR impedance/Time Domain has an offset at the beginning
- Fixed: SA: Init:Imm doesn't update the SA display even if the sources are moved
- Fixed: GCA: CALC1:GCD:DATA? crashes system
- Fixed: SA Cal does not work with source 2 port 2 configuration. SA with Cal-All sometimes crashes
- Fixed: DIFF IQ: Equation Editor equations cannot be recalled with DIQ channel. Fixed crash when attempting to open Offset and Limits dialog. Fixture softkey is no longer grayed out.

A.10.49.08 Version Information

Compilation Date:	23 Jun 2016
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104908.exe

Enhancements

- Add support for N755xA

Issues Resolved

- Fixed: Offset when using noise figure with newer noise board in single sweep
- Fixed: Can't set caltype to 1 port
- Fixed: [Millimeter] Crash in guided power cal in millimeter with overlapping segments that have duplicate frequencies
- Removed a crash condition in SA Source setup dialog
- Fixed: Crash sending SENS:CORR:COLL:GUID:ETERms:COMPut
- Fixed: Conf_sp2.exe crashes whenever run with OANOCACHE=1 set
- Fixed: SMC Crash changing parameter to AUX IN, when original parameter has a marker
- Fixed: Fix a bug with SA app and quick pulse setup (option 008)
- Fixed: STAT:QUES:LIM:COND? doesn't reset when a trace is deleted
- Fixed: DIQ: de-embedding fails on ports 3 and 4
- Fixed: large port counts can experience very long cal save times
- Fixed: calset content descriptor is sometimes empty
- Fixed: DC Meter in GCA: DC readings at compression trace doesn't show correct data at the first 2D sweep
- Fixed: End of sweep bit not detected if 'sweep continuous' command is issued
- Fixed: Saving an S4P file does not seem to grab the latest data
- Fixed: Point trigger in IMD (and IMDX) over remote UI does not work
- Fixed: NF: narrowband compensation does not work for fixed-frequency input/output cases (i.e. swept LO)
- Fixed: Swept IMD: Mkr to SA does not copy correct stimulus level, and SA Setup softkey disappears at second attempt of Mkr to SA
- Fixed: "85059A Databased" missing from Cal Kits
- Fixed: In some cases enabling fixturing and power compensation can crash
- Fixed: Large signal drop on PNA-L for IFBW/600 KHz
- Fixed: NFX does not support selecting the DC source on the x-axis
- Fixed: SA: noise-marker format is not working

A.10.49.04 Version Information

Compilation Date:	02 Mar 2016
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104904.exe

Enhancements

- Improved the speed of the DC source response

Issues Resolved

- Fixed: SMC [DCMeter] When the SMC measurement is calibrated, and the number of points are changed, the DC meter no longer updates.
- Fixed: Crash when recalling state with calset selected with different number of points (but out of range), and fixturing turned on
- Fixed: Multiple issues regarding pulse operation, one of which involves recalling of pulse state
- Fixed: Setting segment IFBW results in unpredictable behavior.
- Fixed: SMC defaults with a different x-axis in newer code vs. older code.
- Fixed: Issue with FastCW triggering

A.10.49.03 Version Information

Compilation Date:	04 Feb 2016
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104903.exe

Issues Resolved

- Fixed DSP Type 3 error in SA mode that could happen in some cases.
- Fixed SCPI error catch for SYST:COMM:VISA:RDEV:FIND? query so that system doesn't crash if no match is found
- [DCMeter] Fix bug where the cancel button on the DC meter load configuration dialog was clearing all the DC Meter settings
- Remove a crash condition with PNA-L and SA: Pulse Gen Config
- Fixed: CalManager.CharacterizeFixture() method saves improperly formatted S2P files

A.10.49.02 Version Information

Compilation Date:	13 Jan 2016
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104902.exe

Enhancements

- Re-enable the ability to recall state files saved with latest XP firmware (A.09.90.xx)
- Added new comands for Pulse Profile start and stop:
SENSE:SWEep:PULSe:PROFile:START (and STOP); COM:
IPulseMeasControl3::PulseProfileStart (and STOP)
- FFT-SA Reworked/improved several issues with SA setup Source page and grid,

Issues Resolved

- Fixed FastCW issue in 10.47 firmware.
- Fixed: Mixer characterization wizard crashes when input is descending in high side LO
- Fixed: IM Spectrum fails when an external source is defined, and this source is set to NOCTL state.
- Fixed: Peak Right/Left on SA trace sometimes misses peaks
- Fixed: [CalAll] FW crash when one unchecks Enable checkbox and then presses Next button
- Fixed: SA: Pulsed S-parameter marker to SA doesn't remember to leave ALC in open loop
- Fixed: SA: Markers on SA trace sometimes not recalled correctly.
- Fixed: FFT-SA Gated measurements Repair a bug that didn't allow external trigger gate shorter than 5.13 microseconds
- Fixed: Power sensor cal factors are lost if the number of digits in the cal factor increases (for 'dumb' sensors)
- Fixed: AI1 and AI2 rear adc inputs did not work with point averaging
- Fixed: When quick pulse setup dialog is launched from SA dialog, the RBW setting was lost.
- Fixed: [FCA] Fixed defect where we wouldn't allow fixed input and output for a dual stage mixer.
- Fixed: NFx: using Cal All returns "Null" and cal does not complete.'
- Fixed: "AI1 and AI2 rear adc inputs did not work with point averaging

A.10.47.06 Version Information

Compilation Date:	02 Jun 2016
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104706.exe

Issues Resolved

- Fixed offset in Noise Figure when using single trigger
- Fix for R1, R3 settling time issues when port switching

A.10.47.03 Version Information

Compilation Date:	29 Sep 2015
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104703.exe

Known Issues

Note: In some cases, after performing a user calibration, the Delta Cal symbol may appear; this can be ignored and will be fixed in the next revision.

Enhancements

- Supports a new Noise Figure board assembly.
- Marker printout is no longer limited to 10 markers
- UXG sources now supported

Issues Resolved

- Fixed IMD crash
- Fixed Pulse crash
- Fixed "failure to launch" of AFR (opt 007)

A.10.45.03 Version Information

Compilation Date:	27 Aug 2015
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104503.exe

Enhancements

- Now supports the SA application on PNA-L models

A.10.43.00 Version Information

Compilation Date:	20 Jul 2015
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104300.exe

Known Issues

Note: For this and the previous version of firmware, the file path separators must use '\ ' instead of '/'. Future firmware will return to accepting either style.

Issues Resolved

- Multiple issues with the SA application have been fixed.
- Fixed enhanced response cal crash
- Fixed: Adding a DC meter trace to a swept IMD channel crashes the box
- Fixed: Incomplete trace updates due to error correction and eq editor interaction.
- File-Save As now properly releases USB drives so that they can be properly ejected.
- Fixed: IMDX did not apply power compensation through fixturing on LO port
- FCA fixes: crash when recalling state with DC source for an x-axis; cannot create more than one DC Meter in FCA
- Fixed: Saving data as GCA Sweep Data (*.csv) sometimes fails with a generic error.
- Fixed crash with point sweep (ping pong), and source cal on 2 different sweeps.
- Fixed bug in SMC cal wizard when used with phase reference and controlled LO
- Fixed Cal turns off when switching from normal to low-band high power.
- Fixed: PMAR: Moving from a dumb sensor to a smart sensor causes the wrong correction factors to be applied
- Fixed: VMC app crashed during step where cal mixer is characterized

A.10.40.14 Version Information

Compilation Date:	01 May 2015
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A104014.exe

Known Issues

Note for PNAs with the Uncertainty Option (015) AND that have no receiver attenuators: OpCheck may produce a false failure indicating the receiver attenuator test has failed. Since it has no attenuators, this "failure" can be ignored. It will be fixed in the next revision.

Enhancements

- First release that supports Spectrum Analysis (Option 090)

Issues Resolved

- Fixed CalPod OpCheck issues
- Fixed: IDIF IQ receiver leveling at output of DUT not working for high gain amplifiers.
- Fixed: Remote commands to set ADC sample rate assume args in MHz.

A.10.25.02 Version Information

Compilation Date:	26 Jan 2015
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A102502.exe

Enhancements

- First release that supports Differential IQ measurements (Option 089)
- Added narrowband compensation feature to noise figure measurements

Issues Resolved

- Fixed circular interpolation bug.
- Fixed: Invalid LO power cal when using SMC+ cal all at some LO frequencies.
- Fixed crash in COM method: SourcePowerCalibrator.get_CalPower
- Fix crash when saving GCA sweep data
- Fixed GCA/GCX: DC Meter reading was not included in the .csv file for the GCA Sweep Data
- Fixed: GCX Save Data (.csv) with a fixed output annotates the data file with a fixed frequency

A.10.20.03 Version Information

Compilation Date:	03 Nov 2014
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A102003.exe

Enhancements

- Added: Restricted NVNA option 511 (Limited to 50GHz)
- added various AFR enhancements.

Issues Resolved

- Fixed: Crash when operating on Pulse Setup dialog with a unit without option 021 or 022 pulse modulator.
- Fixed: Repeating Guided cal causes FW crash. Also: Guided cal leaks memory.
- Fixed: GCA: Firmware crashes when reading the DC Meter during the compression sweep.
- Fixed: SMC: Fixed the GUI for the mixer setup dialog for the Output Mode. This control only shows up for a 2 stage mixer.
- Fixed: SMC: FCA code was disallowing a valid use case for SMC measurements - specifically, where both LOs are sweeping.
- Fixed: Recalling of state files with IMSpectrum saved on Spam 4G when using newer Spam 5G
- Fixed: Crash sending SENS:SEGM:DEL:ALL
- Fixed: Anonymous DCOM still not working. Fix conf_sp2 to set the default authentication level for PNA server to "None"
- Fixed: DCMeter/DCSource: time of timeout value is often clipped to 0
- Fixed bug where CALC:DATA:SNP:PORT? would reset the averaging count.
- Fixed VMC calibration. The error term mapping was broken when generating the VMC error terms.
- Fixed: The order of the sliding load positions during cal was opposite of the documentation.
- Phase Reference Cal: fixed crash that would happen if the phase reference was connected good enough to pass the first connection test, but bad enough to fail the second connection test.
- Fixed assorted SMC and VMC issues.

PNA N52xxA Network Analyzers Release Notes

- Merged several remaining changes from the older XP firmware (9.90.xx) to this Windows 7 version. This includes items involving IMD, IMDX, Fixturing, FOM, SMC, Markers, CALC:PAR:CAT, and CALC:X:AXIS
- Finally, began the changeover from the Agilent brand to our new Keysight brand. Please note that directories have not yet changed and will remain under the Agilent directory for many more months

A.10.20.02 Version Information

Compilation Date:	16 Jun 2014
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A102002.exe

Issues Resolved

- Fixed: Under some conditions, PNA crashes when changing # of points.
- Fixed: SMC with DC Source custom x-axis annotation will corrupt state file.
- Fixed bug in the guidedpowercal test.
- Fixed Cal All setting of power level on source only port.
- Fixed crash with multiple calibrated applications using LO port when the source got deactivated
- FW crash on adding External Source.
- Fixed: Disk-based ECal User Characterizations not being automatically stored.
- Fixed: Noise figure cal crashes when selecting a user defined cal kit.
- Fixed recall state crash with equation editor and response calcs
- Fixed bug where the default SCPI parameters had a "," in them when using DC meters on an SMC channel
- Fixed crash with using "Power compensation" with a response calibration.
- Fix save/recall crash that occurred in some rare instances
- Fixed: long delay in startup if PNA was on a network but not connected to Internet.
- Fixed: iTMSA: match-correction is not applied to receiver readings in true-mode.
- Fixed fixturing in GCX
- Fixed phase reference cal with cal all, when the cal all frequencies were greater than the phase reference cal frequencies.
- Fixed bug where the phase reference cal was getting imported in Cal All even though the user hadn't set that selection.
- Fixed: AFR: save fixture file could mistakenly truncate last zero of string
- Fixed crash in Sweep Type dialog.
- Fixed: Sweep type of a 2-stage converter channel cannot be changed to CW or Power Sweep from the remote interface
- Fixed: PNA material handler /OUTPUT1 doesn't work
- Fixed: Equation editor does not allow multiport parameters
- and many more!

A.10.20.01 Version Information

Compilation Date:	07 Apr 2014
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A102001.exe

Enhancements

- Add support for N5249A
- Increase UI support for large number of windows and traces

Issues Resolved

- Merge several bug fixes to Windows 7 from XP versions 9.90.08 through 9.90.11.

A.10.00.00 Version Information

Compilation Date:	05 Dec 2013
Requirements/Restrictions:	None
Operating System:	Windows 7
Application Type:	32-bit
File Name:	PNA_A100000.exe

Initial Windows 7 release. This firmware is most similar to A.09.90.08 but is for Windows 7 only.

A.09.90.21 Version Information

Compilation Date:	06 Aug 2017
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099021.exe

FINAL FIRMWARE VERSION FOR WINDOWS XP

Issues Resolved

- Fixed: On PNAL, Cal is invalid sometimes due to ratioed/unratioed flag and ramp sweep
- FreqRef adj: Fix case where the EEPROM is uninitialized (gave invalid DAC value).
- Fixed: SMC Segments: Crash when calibration is performed with segments turned off and interpolation.
- Fixed two crashes with IMSpectrum and port compensation

A.09.90.19 Version Information

Compilation Date:	23 Oct 2015
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099019.exe

Issues Resolved

- Fixed: Noise figure: deembedding an adapter for power sensor cal is relying on mathematical offset of source attenuator instead of actual values
- Fixed failure of adapter characterization: "Unable to connect" error.
- Fixed: Power offset was not applied correctly.
- Fixed: Noise Figure: TRL cal based NF gives bad noise cal
- Fixed: Bad trace updates when correction on and equation editor active
- Fixed: DC meter's X axis info is wrong

A.09.90.17 Version Information

Compilation Date:	16 Apr 2015
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099017.exe

Issues Resolved

- Fixed: DC meter's X axis info is wrong.
- Fixed: FOM ignores the preference "Cal: For frequency offset, use primary frequencies" when using receiver leveling
- Fixed: Recall pulse profile occasionally causes a crash
- Fix some circular interpolation issues
- Fixed: Pulse: Receiver gate width keeps increasing in NB pulse profile every time Pulse Setup dialog is opened
- Add new method ICalAcquisitionManager::RemoveCalWindowOnDestruction.
- Fixed: error with large number of NFX channels in cal all
- Fixed: Change Save of Mixer Trace Data in .csv File so result is identical to Manual File Save As...
- Fixed: IM Spectrum SCPI Start frequency command was behaving strangely
- Fixed: CW Frequency value not saved properly to CSV, CTI, S2P files, and records stimulus as U units instead of seconds
- Fixed: IMD/IMDX number of points was getting get out of sync
- Fixed: PNA crashes when de-embedding is enabled on port 2 with swept IMD set up between port 1 and 4
- Fixed compatibility bug where CALC:MIX:XAXIS didn't previously require a selected measurement
- Added optional argument to the CALC:PAR:CAT? and CALC:PAR:CAT:EXT? methods:
- NORMal - show trace title results for standard channels and defined parameters for application channels
- DISPLAY - show trace title results regardless of the channel type
- DEFINE - show the defined parameter regardless of the channel type
- Fixed: The correction was turned off in IMDX channel when switching the sweep type from linear to power
- Add IMeasurement.XAxis and CALC:X:AXIS command to allow setting and getting of DC X Axis
- Fixed issue with Cal All combo of: IMD, external combiner, and input is Port 3
- Fixed: Crash when adding segment to segment table in Swept IMD.
- Fixed: SMC with DC Source custom x-axis annotation will corrupt any state file

- Fixed: May crash if you change number of points with marker coupling on

A.09.90.13 Version Information

Compilation Date:	12 Jul 2014
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099013.exe

Issues Resolved

- Fixed: In swept power IMD, trace data to csv file was saved with the default CW frequency of 1 GHz
- Fixed a number of different crashes and issues with external sources and DC sources.
- Fixed bug in Cal-All that made impossible to set the power level for LO ports in Cal-All
- Fixed bug where the Visa address cache wouldn't get cleared properly if the VISA address was a mixer case VISA address
- Fixed: Intermittent crash with equation editor and response cal.
- Fixed: E16 test set has asymmetric thru measurements after cal
- Fixed VXI-11
- Fixed: iTMSA: match-correction is not applied to receiver readings in ture-mode.
- Fixed: The selected x-axis gets reset in GCA when the user changes the smart sweep type
- Fixed fixturing for GCX - it wase using the wrong frequency range for the input/output frequencies.
- Fixed: Applying phase cal breaks SMC calibration.
- Added CALC:MARK:BUCKET
- Fixed CALC:PAR:CAT? to return the display measurement tag for measurement classes

A.09.90.12 Version Information

Compilation Date:	25 Apr 2014
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099012.exe

Enhancements

- Allow higher multipliers for mixers.
- Increase max number of windows from 64 to 128. Increase max number of traces in Active Trace UI from 64 to 512

Issues Resolved

- Fixed: Equation editor defect involving NFX and also multiport.
- Fixed: Material handler /OUTPUT1 doesn't work.
- Fixed: Sweep type of a 2-stage converter channel cannot be changed to CW or Power Sweep from the remote interface.
- Fixed issue with power offset in iTMSA mode.
- Fixed: Assorted issues with VISA addressing and external devices.

A.09.90.11 Version Information

Compilation Date:	21 Mar 2014
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099011.exe

Enhancements

- Added more precision to DC offset and scale.

Issues Resolved

- Fixed: iTMSA can crash broadband system.
- Fixed crash with direct connection mm head.
- Fixed: Phase-reference calibration fails (source unlevel and receiver overload) with 30dB source attenuation.
- Fixed Noise Figure issue: Cannot apply option 028 and 029 calibrations sequentially.
- Fixed: Pressing +/- key causes cal dialog box to close, thus losing the cal data.

A.09.90.10 Version Information

Compilation Date:	21 Feb 2014
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099010.exe

Issues Resolved

- SMC LO cal broke in 9.90.08 with addition of multiple sensor capability; it has now been fixed.
- Fixed COM method ComPhaseReferenceCalibration::get_IncludePort()
- Fixed: DC Source (internal) was broken. The value of AO1/AO2 was being set to 0.
- SYST:ACT:CHANnel was modified to return a 0 if no active channel, rather than an error.
- Fixed mnemonic so that the long form works properly for SYST:CORRection.
- Fixed 2 external source control bugs that made the power calibration not work with external sources that are BNC triggered.
- Fixed GCA crash when using a non-default end of sweep condition and smart sweep.
- Fixed: Turning on point averaging in SMC+Phase mode crashes the box.
- Fixed a crash on recall of a particular cti file (buffer overrun.)
- Fixed the use of SOCKETs for generic sources, when using a port other than 5025 is used.
- Fixed: In SMC, remote ability to determine if power cal result passed the tolerance limit was not working.

A.09.90.09 Version Information

Compilation Date:	25 Jan 2014
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099009.exe

Enhancements

- Change SetLevelingMethod. Now the leveling method will set the choosing level to the configured port number
- Modify cal all to allow remote setting of power cal level for ports other than the main power cal port
- Extend the power range of the millimeter power cal to a low of -50dBm
- Made s2p file recall much faster for arbitrary segments

Issues Resolved

- Fixed: Lockup when applying fixturing when number of testports is more than 16 and number of cal ports is less than the number of total ports.
- Fixed: Source Power Cal routine does not allow the receiver calibration to append
- Fixed: Noise Fig: marker readout wrong when format is temperature and smoothing is on
- Fixed defect with recall of FCA calibration
- Fixed: Recalling some states with too many calibrations is too slow
- Fixed: Buffer overflow when viewing the calset dialog under some conditions
- Fixed: 2 port single source PNA-X cannot set port 1 ref switch in cal all. Fix mechanical devices dialog so it uses the right test for the existence of this switch.

A.09.90.08 Version Information

Compilation Date:	06 Dec 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099008.exe

Enhancements

- Added commands: "CALC:PAR:SEL ,FAST" and "CALC:PAR:MNUM:[SEL] ,FAST" The change is that the "FAST" version of these commands do not change the "active measurement" instead, they just set the tag. This is significantly faster, and removes CALC:PAR:SEL as a bottleneck for speed benchmarks. See Help for more info.
- Added support for the U848x Series of USB power sensors
- For SMC+Phase cal, you can now use the phase reference calset with the "Independent power calcs for input and output ports. (no thru)" option

Issues Resolved

- Fixed FCA calibration bug in millimeter: "SMC Calibration Sorted Array Error"
- Fixed: Power error after calibration when using offsets
- Fixed security bug with fixturing
- Fixed: SCPI command SENS:CORR:COLL:CKIT:SElect can cause crash.
- Fixed: 4-port deembedding failed when ports mappings are not default.
- Fixed multiple SMC/FCA issues
- Fixed correction of phase control with the case of S31 = S13.
- Fixed issue with unguided cal. If it was already in progress, "SENS:CORR:COLL:CKIT:PORT:SElect" command needs to re-init the cal
- Fixed iTMSA issue: Firmware crashes when forward-only true mode is selected with 4-port guided power cal and R3,1 traces on screen

A.09.90.07 Version Information

Compilation Date:	28 Oct 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099007.exe

Issues Resolved

- Fixed: Ext. DC Source: does not take a command in Sweep tab under Edit Commands
- Fixed: SMC segment sweep - doesn't apply fixture correctly
- Fixed: Fixturing with large # ports gets very sluggish, and with enough ports locks up the PNA app
- Fixed: Crash if adding app trace to empty window
- Fixed: When finishing Noise Figure cal, error occurs stating noise tuner could not be found
- Fixed: SOUR1:POW:ALC:REC:FTYP SOUR 'Port1 Src2' does not work
- Fixed typo: Short form of command was not working: Changed MNEM "DURAtion" to MNEM "DURation"
- Fixed: Turning on fixturing crashes a 2 port guided power cal when there is an "R2,2" trace

A.09.90.06 Version Information

Compilation Date:	30 Sep 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099006.exe

Enhancements

- Changed: Increased maximum number of groups from 2M to 10M in response to a customer request

Issues Resolved

- Fixed: VMC embedded-LO not working
- Removed order dependency for Unguided Cal commands "SENS:CORR:COLL:METH" and "SENS:CORR:COLL:CKIT:SEL"
- Fixed: In multiport calcs involving certain sets of user-selected thru paths, transmission tracking wasn't being computed for all paths.
- Fixed: DC Source Control dialog does not accept value smaller than 0.001
- Fixed: Attempting to perform CalPod operation from softkey when no network adapters are enabled locks-up the PNA app
- Fixed: Metrology option application which could have unknown thru electrical delay issue
- Fixed: Swept IMD/IMDX with 2nd order exceeding ECal/analyzer's frequency range doesn't let you perform a cal
- Fixed: TMSA not working on 50 and 67 GHz units
- Fixed: CALC:MIX:XAX only working on measurement 1

A.09.90.05 Version Information

Compilation Date:	30 Aug 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099005.exe

Issues Resolved

- Fixed IMDx measurement (Mixer IIP2) that was wrong
- Fixed: ELO tuning interval not settable programmatically
- Fixed: Initial power setting of Cal All and Smart Cal might overpower a power meter
- Fixed: Crash with multiple reference receiver parameters on the same sweep on PNA-L.
- Fixed: SMC crash when asking for aux receiver
- Fixed: Crash when using cal all via scpi on ports 1 and 3 without setting the cal all ports explicitly
- Fixed: AuxTriggerOutput 1uS default output is only 0.39 uS with newer DSP boards
- Fixed: Fix IMDXX issue with SENS:CORR:CSET:FLATten
- Fixed: Port Extension in true-mode does not work correctly with single-ended S-parameters

A.09.90.03 Version Information

Compilation Date:	01 Aug 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099003.exe

Enhancements

- Now detects new Flash File system (needed later for Win 7 swaps)
- Added new scope value of "channel" to store all channel traces. For: 'Save Data As' and MMEM:STORE:DATA

Issues Resolved

- No longer crashes if Rcvr Char files are mismatched
- Remove hard coded power DAC in Main sources of the PNA and PNA-X
- Fixed: Cal All power cal resulted in error when boost amplifier is used
- Fixed: PNA-X swept IMDx - Mixer IIP2 measurement was wrong
- Fixed: Remote pulse command had unexpected side effect with IF Gate.
- Fixed: SENS:NOIS:SNP:SAVE ignored format settings
- Fixed: GCA measurement crashed if CompAI1 or AI2 was measured
- Fixed: Phase Reference Cal was broken for 2.92 non-insertable ECal and other less common connector types
- Fixed: Phase Reference Cal: Attenuator causes the power level to get set incorrectly
- Fixed: Phase Reference Cal: Fixed the back button in the configure unknown mixer dialog
- Fixed: Scc22 menu selection does not work in BAL-BAL

A.09.90.02 Version Information

Compilation Date:	02 Jul 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099002.exe

Enhancements

- Improved support for setting up src cal data for the LO in Power spectrum converter sweep

Issues Resolved

- Removed unnecessary sweeps from match Corrected Reference Receiver measurements
- Fixed: PNA's "Refresh Cal" capability as used by PLTS
- Fixed an issue when performing cal with more than 4 ports with 4-port ECal and connecting different ports of the ECal to same PNA port during cal
- Fixed: Issue with GCX where one cannot apply the source power cal to LO
- Fixed: LO2 was using LO1 frequencies in GCX

A.09.90.01 Version Information

Compilation Date:	13 Jun 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A099001.exe

Enhancements

- SMC Phase Reference Cal from 10 MHz
- A CalPod module can be used as 1-port ECal module to calibrate channels for all measurement classes
- Support for External SMU Device
- Minor Equation editor enhancements

Issues Resolved

- Fixed external triggering when in FIFO mode
- Fixed: Waveguide Cal crash if using isolation
- Fixed: Segment table and Cal turning off when it should not
- Fixed: Receiver leveling sweep didn't level the R1 measurement.
- Fixed: Crash when switching traces in two different IMD channels
- Fixed: NF crashes in banded mode
- Fixed: Segment table and Cal turning off when it should not
- Fixed: Receiver leveling sweep didn't level the R1 measurement

A.09.85.08 Version Information

Compilation Date:	03 Apr 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A098508.exe

Enhancements

- Performance improvement on Saving state files (was taking too long)

Issues Resolved

- Fixed Defined Thru ECal issue when using auto orientation
- Fixed two receiver leveling issues
- Fixed: SMC+Phase: Segmented sweep references center point of entire sweep instead of center point of each segment
- Fixed: NFX: dual-stage setup with external LO sources gives noise figure of -1 dB.
- Fixed: State file for VMC/SMC will not allow user to change freq when recalled on a higher freq box
- Fixed: SMC+Phase: adding an analog input trace causes a crash
- Fixed: Error was improperly being generated when a noise calibration was performed on a unit with no attenuators.

A.09.85.07 Version Information

Compilation Date:	04 Mar 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A098507.exe

Issues Resolved

- Fixed: WB Pulse 1MHz or wider IFBW doesn't let you change pulse delay
- Fixed: Millimeter + SMC with LO power sweep crashes when running calibration
- Fixed: Bad vector NF cal when using mechanical standards
- Fixed: Crash in Guided Cal in Multiport Mode
- Fixed: Cal All in NF channel has more S21 error than channel cal
- Fixed: Port confusion when performing source power cal in multiport.
- Fixed: TRL System Z0 normalization not correct
- Fixed: Problems with 16-port calibrations and U3045AM12 testset
- Fixed: NFx: Crash with swept LO2
- Fixed: Cal All causes a source-unleveled error to appear during noise figure calibration

A.09.85.06 Version Information

Compilation Date:	31 Jan 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A098506.exe

Issues Resolved

- Phase Reference Cal: Fixed connection steps when using a non-insertable ecal from remote API
- Fixed: Mkr to IM Spectrum from calibrated Swept IMD causes crash
- Fixed: SParameter calibration unknown thru estimated delay value is incorrect with some segment sweeps
- Fixed: Unable to perform a CW calibration at 10MHz with 67Ghz PNA and 67GHz ecal
- Fixed: Option 028 cal fails if source port isn't port 1
- Fixed: In Fixed Input IMDX, you can't change x-axis annotation
- Fixed: Error prevented guided power cal with double-digit port #s.
- Added more points in Receiver Adj for low freq PNA-L models (newer models only)
- Fixed: Issue with PSG's slow performance in ext trigger
- Fixed: Issue with independent port power per segment on a noise figure channel. This affect Service testing and TME

A.09.85.05 Version Information

Compilation Date:	19 Dec 2012
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A098505.exe

Issues Resolved

- Fixed a couple of bugs related to mm mode involving iTMSA and 4-Port cals
- Fixed nonfunctioning unguided-style ECal Cal via SCPI where the user selects CKIT 99
- Fixed issue where user was unable to perform a source power cal in Multiport mode
- Fixed issue where Preference for noise turner switch is not reset when run in Noise50 hardware (it is left in wrong state)
- Fixed: SCPI commands for specifying cal kit TRL reference plane and TRL reference Z0 don't work. Implemented fix so that those changes now get saved properly to the cal kit definitions on disk.
- Fixed: If user preset is enabled at PNA startup, accessing Cal Wizard causes crash
- Op Check: Fixed number of attenuator sections on some models. Test was checking non-existent section (but it normally passed anyway). Fixed Preference dependant bug.
- Fixed: X-axis was incorrect for wideband pulse measurement
- Fixed: Saving noise figure memory trace gives wrong data

A.09.85.03 Version Information

Compilation Date:	27 Nov 2012
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A098503.exe

Issues Resolved

- Fixed preferences dialog bug
- Fixed crash when saving a calibrated GCA measurement that was recalled in hold mode
- GCA/GCX: Save 2D calibrated data as csv would show the wrong input power
- Fixed bug that would stop Cal-All from calibrating a noise figure channel using the power meter with an insertable DUT and insertable ECal
- Fixed crash in MMEM:TRAN? when used against a non-existent file
- Fixed crash if SENS:CORR:COLL:GUID:STEPS? was called before SENS:CORR:GUID:INIT
- Fixed bugs with commands SENS:CORR:COLL:GUID:METH, and SENS:NOIS:SNP?, and SENS:NOIS:SNP:SAVE (and any COM equivalents)
- Modified GetSnpData() to return data in the same format as WriteSnpData. Changed COM command from WriteSnpFile to WriteSnpData
- Fixed bug where the frequency wouldn't get swept on a generic external source
- Added additional support in Receiver Leveling for selecting the right caltype when a calset includes more than 1 caltype
- IMDX: Fixed output receiver leveling when using embedded LO
- IMDX: Lowered the power during embedded LO when in safe mode
- Fixed bug affecting 1 port calibration in CXL
- Fixed bug where a calibration with FOM ON would always show a C-Delta
- Fixed ecal characterization when using a large number of points
- Fixed crash when creating and destroying reference marker with save/recall
- Added support for the U2021XA and U2022XA USB power sensors
- Fixed: PMAR with 848x sensors was incorrectly using the calfactor table. Also fixed save/load of cal factors for PMAR power sensors
- Fixed: Guided power cal using multiple power sensors would produce an error
- Phase Ref Cal now works with attenuator levels other than 0; also has improved annotations on the connect phase reference step
- Banded: Fix high frequency large point error in 1Thz banded system
- Banded: Fixes to the banded millimeter source power calibration to allow no testset with mixer mode
- Banded: Allow N5260A test sets to work on model numbers N5222A, N5224A, N5225A

- Banded: Fixes for 2 port PNA/PNA-X
- Banded: Fixed bad data after abort on N5260A testset

A.09.80.20 Version Information

Compilation Date:	25 Mar 2013
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A098020.exe

Issues Resolved

- Changed number of points in Receiver Adjustment on low freq PNA-Ls
- Fixed Defined Thru ECal issue when using auto orientation
- Updated System Verification
- Fix for H29 options: Don't make noise power and match measurements during thru step (due to signal leakage)

A.09.80.16 Version Information

Compilation Date:	28 Nov 2012
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A098016.exe

Enhancements

- Made SysVer more flexible with regard to the the Uncert. DLL.
- Add extra dwell time for Noise50 when RF gain changes
- Increase default number of pull states in noise channel from 4 to 5 on hi-frequency boxes

Issues Resolved

- Fixed Cal issue with N5231A/32A/39A. These now need a Global Delta Match for certain types of Cal.
- Fixed recall issue for Option 028 instruments
- Fixed crash when aborting cals
- Fixed power meter noise cal at freq of 43.5GHz
- Fixed multiple Cal issues and Rcvr issues
- Fix Cal-All bug on two-port boxes where the bypass switch for the 2nd source was wrong
- Fixed crash on LO cal in NFX
- Remove 8 and 24 MHz noise bandwidths from inclusion in power meter noise cal on Noise50
- Fixed 2-port dual reflectometer issue in new PNA-L models (now needs Global Delta Match Cal)
- The .16 version fixed an NVNA configuration issue

A.09.80.03 Version Information

Compilation Date:	14 Sep 2012
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A098003.exe

Enhancements

- Supports Cal All
- Supports SMC + Phase Reference Cal

Issues Resolved

- Fixed assorted bugs with TRL calkits
- Fixed assorted bugs with receiver leveling
- Fixed port re-mapping multiport feature
- Fixed disk memory based ecal user characterization so that they are available immediately after being created
- Fixed bug that affected use of pulse on N522xA models
- Fixed duplicate 020 listing in the option list
- Fixed VMC mixer characterization feature from SCPI on 2 port PNA-X
- Fixed crash with embedded LO when point count is 1
- Fixed crash when using pulse on a 4-Port PNA-X where source 2 was used for Port 2
- Fixed crash when markers are coupled and no markers are present
- Multiple other bugs fixed

A.09.60.04 Version Information

Compilation Date:	27 Jun 2012
Requirements/Restrictions:	None
Operating System:	Windows XP
Application Type:	32-bit
File Name:	PNA_A096004.exe

Enhancements

- Initial release for new PNA-L series (N5231A/32A/34A/35A/39A)