

Keysight E8257D/E8267D/E8663D/E8257N PSG Signal Generator Firmware Release Descriptions through C.06.31

NOTE Features depend on installed hardware and software options in the Keysight E8257D/E8267D/E8663D/E8257N PSG signal generator.

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[Comparison to HP / Agilent /
Keysight
E8247C/E8257C/E8267C
PSG Signal Generators](#)

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[Firmware C.05.33 released July 22, 2009](#) (For use with Option H42 only)

[Firmware C.05.31 released June 30, 2009](#)

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[Firmware C.04.85 released February 28, 2007](#)

[Firmware C.04.81 released January 24, 2007](#) (For use with Option HDS or H16 only)

[Firmware C.04.71 released August 4, 2006](#)

[Firmware C.04.56 released March 21, 2006](#)

[Firmware C.04.55 released March 6, 2006](#)

[Firmware C.04.53 released February 2, 2006](#) (For use in E8257D only)

[Firmware C.04.32 released August 28, 2006](#) (For use with Options HSM and H43 only)

[Firmware C.04.31 released October 18, 2005](#) (For use with Options HSM and H43 only)

[Firmware C.04.30 released August 3, 2005](#) (For use with Options HSM and H43 only)

[Firmware C.04.23 released July 20, 2005](#)

[Firmware C.04.22 released June 30, 2005](#)

[Firmware C.04.19 released June 15, 2005](#)

[Firmware C.04.17 released June 2, 2005](#) (Not for use with Option 007 Analog Ramp Sweep)

[Firmware C.04.11 released February 22, 2005](#)

[Firmware C.04.03 released September 27, 2004](#)

[Firmware C.04.02 released August 13, 2004](#)

[Firmware C.04.01 released July 29, 2004](#)

Firmware C.06.31

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.31 Defects

Model	Option	Description
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All	All	Added support for additional replacement parts on Lowband Output board.
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Firmware C.06.31 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.30

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.30 Defects

Model	Option	Description
All	All	Added support for new replacement parts on the CPU, Lowband Filter, Lowband Output, and Reference boards.

Firmware C.06.30 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.28

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.28 Defects

Model	Option	Description
E8267D	015 or 016	Fixed issue with board E8251-60657 when option 015 or 016 is present
All	All	Modified Self-Test 903 to eliminate false failures
All	All	Added support for new Sampler Board E8251-60846

Firmware C.06.28 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.27

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.27 Enhancements

Model	Option	Description
All	All	Added support for new Amplifier Filter PCA

Firmware C.06.27 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software

Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.26

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.26 Enhancements

Model	Option	Description
E8267D	All	Added support for new Signal Studio Subscription Licenses
All	U06	Added support for basic code compatibility with Anritsu MG369x Signal Generators
All	UNS and U06	Allow pulse widths as low as 30ns above 31.8 GHz for option UNS (HNS)

Firmware C.06.26 Issues Resolved

Model	Option	Description
E8257N	All	Fixed issue with setting maximum power levels for serial prefixes greater than 5506
All	007	Fixed issue with power search failing in low band

Firmware C.06.26 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.25

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.25 Issues Resolved

Model	Option	Description
E8267D	All	Added missing SCPI to correct for IQ Mixer Level
All	007	Fixed issue with frequency drift during power sweep
All	All	Fixed issue with unlevelled power when user flatness were turn on

Firmware C.06.25 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.24

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.24 Issues Resolved

Model	Option	Description
All	All	Fixed preset settings in 83732B compatibility mode
All	All	Added missing SCPI command to lock instrument's IO

Firmware C.06.24 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.23

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.23 Issues Resolved

Model	Option	Description
E8267D	All	Fixed system error 310 when selecting rectangular filter in Custom Arb Waveform
All	All	Fixed an incorrectly displayed size of IDE drive memory card
All	All	Fixed a black screen on repeated remote connections
All	All	Fixed a power search failure when turning ON output power
All	All	In 83732B compatibility mode - external FM input now supports 2V and sets sensitivity correctly
All	All	In 83732B compatibility mode - TRIG:SOUR EXT now sets up pulse trigger correctly

Firmware C.06.23 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.22

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.22 Issues Resolved

Model	Option	Description
E8267D	All	Fixed issue where ARB RMS voltage was not recalled correctly and caused power search failure.
E8663D	503 and HY2	Fixed issue with multiple Self-Test failures after TME calibration.
E8257D, E8663D	HY2	Fixed issue with 5dB power spike when turning on RF output near frequency 251MHz.
All	U01	Added missing front panel UI to Fine Sweep mode.
All	All	Fixed issue with double triggering of list points and trigger out shape in 8360 compatibility language.
All	All	Introduce Keysight Technologies

Firmware C.06.22 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.21

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.21 Issues Resolved

Model	Option	Description
E8267D	All	Fixed marker alignment issue after save/recall with ARB ON.
E8663D	HY2	Fixed RCP filter issue when changing SNR mode.

Firmware C.06.21 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.20

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.20 Enhancements

Model	Option	Description
E8267D	602 and U04	Added support for APCO-25 Phase2 Modulation in Baseband real-time mode.
E8267D	602 and U04	Added support for APSK Modulation in Baseband real-time mode.
E8267D	423	Added support for scenario generator for MS-GPS.
E8663D	HY2	Added support for low phase noise option.
All	U04	Added support for HP8664A and HP8665B programming language.

Firmware C.06.20 Issues Resolved

Model	Option	Description
All	007	Fixed issue with unlevelled power when turning on RF during ramp sweep.

All	All	Fixed issue with DHCP not responding to CISCO DHCP server.
All	All	Fixed issue with power spike while in Step Mode.
All	All	Fixed issue with missing triggers in List Mode.
All	All	Fixed issue with FTP access not working under IE8.
All	All	Fixed issue with display not showing correct compact flash memory size.

Firmware C.06.20 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.18

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.18 Issues Resolved

Model	Option	Description
E8257D	UNY	Fixed issue with self-test 725 on units with UNY and no step attenuator.

Firmware C.06.18 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.17

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.17 Enhancements

Model	Option	Description
E8257D, E8267D	HNY	Low phase noise option for export control.
E8257D, E8267D	HL1	Option to extend RF output down to 9 kHz using the LF generator.

Firmware C.06.17 Issues Resolved

Model	Option	Description
All	UNT	Fixed clipping in Dual FM when using 2 internal sources.
All	007	Fixed Low-band un-leveling in amplitude ramp sweep at -20 dBm.
All	HCC	Fixed issue with re-locking of PSG Opt UNY when in slave position.
E8267D	544, 1EU	Fixed issue with power spike at 28.5 GHz frequency switch point.
All	007	Fixed issue with power drop out (unleveled) during ramp sweep from 26.42-32.1 GHz.
All	008, 009	Removed error message when sanitizing an instrument without flash card.
All	1EU	Fixed issue with RF leakage in low band when RF off and Power setting at 0 dBm.
All	All	Misc Bug Fixes

Firmware C.06.17 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software

Revision 1.0.50.0 or earlier.
Not for use with Option 421 Signal Studio for Noise Power Ratio
Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.16

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.16 Issues Resolved

Model	Option	Description
All	All	Fixed issue with power spikes when switching on multi-tone.
E8663D	R2C, U01, U02	Added missing remote languages in UI with option R2C, U01 and U02.
All	All	Fixed issue with auto power search performing differently between Frequency and Amplitude changes.
All	All	Added additional error message to indicate the reason for Power Search failures.
All	All	Fixed issue with possible wrong frequency display in list mode.
All	All	Fixed issues with AM and FM inputs in 8643A compatibility mode.
All	All	Fixed manual RMS signal level limits on the external IQ Auto Mod Attenuator.

Firmware C.06.16 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.15

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.15 Issues Resolved

Model	Option	Description
All	All	Added warning to display start time and approximate execution time of sanitize operation.
E8267D	All	Improved power search accuracy when the lvds input is being used (Explorer).
All	All	Fixed problem with incorrect DHCP subnet and gateway settings under certain network configurations.
All	U02	Added Aeroflex 2040 compatibility language.
All	All	Improved Mod On/Off compatibility across the 8643/8673/8360/AF2040 languages.
All	All	Added support for N1913A/N1914A power meters for user power flatness.
All	1SM	Fixed problem with instruments with option 1SM not using Scan Mod when AM Path 2 Selected.
All	All	Fixed a pulse problem during ramp sweep in the 250-396 MHz band
All	All	Fixed 8360 language compatibility for SYST:LANG SCPI command and allow units to CORR:FLAT
All	All	Fixed problem of attenuator using wrong step size in manual mode with Optimize SNR on
All	H18	Fixed Wideband IQ/FM latch control timing issue.
E8267D	All	Enhance the handling of monolithic waveforms. They can now be added to normal sequences side-by-side.

Firmware C.06.15 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.10

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.10 Issues Resolved

Model	Option	Description
E8267D	UNY	Adds support of UNY hardware to the E8267D
All	HGT	Add support of Gigatronics 8003
All	U01	HP8643/44 programming language compatibility
All	U01	Adds support of very small sweeps continuous sweeps without spurs
E8267D	All	Fixes a problem without output levels adjusting when IQ scale was adjusted even if modulation was turned off.
All	All	Various Small Defect Fixes

Firmware C.06.10 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.02

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.02 Issues Resolved

Model	Option	Description
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E8257D	UNY	Fixed potential problems with cold start of the instrument at very low temperatures.
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Firmware C.06.02 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.01

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.01 Issues Resolved

Model	Option	Description
All	All	Fixed potential problems when using the instrument at very low temperatures.

Firmware C.06.01 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.06.00

- Requires [Upgrade Assistant 5.18](#) or later

Firmware C.06.00 Enhancements

Model	Option	Description
E8257D	UNY	Added support for option UNY.
All	All	Standard (bundled) options are now listed as such with the words (std).

Firmware C.06.00 Issues Resolved

Model	Option	Description
All	All	Fixed a problem where the delta sigma modulator could be overdriven causing poor FM performance.
All	All	Support of RoHS board assemblies.
All	All	Fixed RF output blanking on all frequency changes when low band filters were enabled.
All	All	Fixed a possible power spike in Ramp Sweep mode.
All	All	Improved the robustness of the restore system files function.
All	All	General small clean ups.

Firmware C.06.00 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.71

- Requires [Upgrade Assistant 5.16](#) or later

Firmware C.05.71 Enhancements

Model	Option	Description
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E8267D	409	Added support for GPS option
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Firmware C.05.71 Issues Resolved

Model	Option	Description
All	All	Small frequency changes now no longer blank the output but transition smoothly to the new frequency.
		Fixed a condition where the phase adjust feature could cause a black screen.
		Power Search mode accuracy improvements.

Firmware C.05.71 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.61

- Requires [Upgrade Assistant 5.16](#) or later
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.05.61 Issues Resolved

Model	Option	Description
E8267D	601, 602	Improved the IQ function "Do External Input Level Measurement" and associated annotation
		Fixed the DC IQ Calibration from 20 GHz to 28.5 GHz
		Improved error messages for waveform licensing
E8257D, E8267D	All	Added support for OML WR2 source modules

All	UNT	Forced external coupling to DC whenever the FM source is set to Internal
All	All	Disabled pulse modulation self tests if pulse modulation options are not present
		Improved the amplitude accuracy below 3.2 GHz with ALC OFF when Option 1EH is not present
		Fixed the MS query in 8662A compatibility mode
		Fixed the phase adjustment feature to allow tuning in both directions
		Added support for larger memory
		Improved the help text for various soft keys

Firmware C.05.61 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.42

- Requires [Upgrade Assistant 5.16](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.05.42 Enhancements

Model	Option	Description
E8267D	All	Added support for Special Options HBL, HBR and HFA
All	All	Added support for Special Option HL1

Firmware C.05.42 Issues Resolved

Model	Option	Description
E8267D	601, 602	Improved initial power search accuracy after an ARB personality change Updated the displayed IQ attenuation when runtime scaling is changed
E8257D	550, 567	Improved the RF Output Limit calibration
All	All	Improved power accuracy for narrow regions within .01 Hz of a band crossing or .01 Hz above the maximum frequency Improved Step Sweep to avoid the possibility of the signal generator becoming unresponsive Improved :SYST:ERR:SCPI to improve the clarity of error messages Eliminated errors when a large frequency multiplier causes a large frequency setting

Firmware C.05.42 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.37

- Requires [Upgrade Assistant 5.16](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.05.37 Enhancements

None

Firmware C.05.37 Issues Resolved

Model	Option	Description
All	All	Fixed selftest 2606

Firmware C.05.37 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.36

- Requires [Upgrade Assistant 5.16](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.05.36 Enhancements

- None

Firmware C.05.36 Issues Resolved

Model	Option	Description
All	All	Improved power transitions when changing various parameters
		Eliminated unnecessary RF blanking when changing various parameters
		Fixed selftest 903

Firmware C.05.36 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.33

- Requires [Upgrade Assistant 5.16](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.05.33 Enhancements

- None

Firmware C.05.33 Issues Resolved

Model	Option	Description
All	UNT, UNX, HAR	Improved range of phase adjustment for phase modulation when used in Low Phase Noise mode
	All	Improved power transitions when changing various parameters
		Corrected list of options displayed on instrument web page. Removed SCPI telnet button for Microsoft Internet Explorer 7.0 and later. Prevented caching of images on the remote front panel.
		Removed display of attenuator cycles if no attenuator is present
		Added softkey to enable verbose SCPI error messages
		Improved Upgrade Assistant to detect connection failures
		Added support for new PROM and FPGA parts.
		Added support for RoHS compliant board assemblies

Firmware C.05.33 Compatibility

Requires Option H42.

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.31

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Firmware C.05.31 Enhancements

Model	Option	Description
E8257D	1EU	Added support of option 1EU.
	521	Added support of option 521.
	008	Added support of option 008 removable compact flash drive.
	H42	Added support of option H42.
	H26	Added support of option H26.
	1SM	Added support of option 1SM.
E8267D	HER	Added support of option HER.
E8663D	All	Added support of model E8663D.
E8257N	All	Added support of model E8257N.
	340	Added support of option 340.

Firmware C.05.31 Updates

Model	Option	Description
All	All	Added display to indicate completion of security operation and changed error reporting for security operation to report the explicit error if operation is failed.
All except E8257N	UNU, UNW and UNS	Added new 8360 compatibility commands for "PULSe:SOURce" and "PULSe:STATe".
	All	Added support of user defined RF output limit.
		Added display of frequency and amplitude information.
		Added 8662 / 8663 compatibility languages "@1" and "RM" to support setting and querying service mask.
		Fixed [SOURce]:CORRection:FLATness[:DATA] to accept the maximum 1601 number of user flatness points.
		Added ":POW:CLAMP:ENABLE" command.
		Added new calibration for RF output limit.
		Added file name extension for save / recall state operation.
		Increased the maximum number of points to 18500 for span power search operation.
		Increased maximum number of points for list sweep to 3201.
E8267D	601 and 602	All Arb marker set SCPI command "skip_count" and front panel softkey "#Skipped Points" are no longer limited to 65535. It is limited to the size of the range selected.
		Added EDGE wide filter.
		Enabled user to enter I and Q offset level in volts on the IQ adjustments menu.

Firmware C.05.31 Issues Resolved

Model	Option	Description
All	All	Fixed a defect which could cause increase of ramp sweep time.
E8267D	601 and 602	Fixed a defect which may cause pulse repetition frequency off.

Firmware C.05.31 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.26

- Requires [Upgrade Assistant 5.15](#) or later
- [Enhancements](#)
- [Updates](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.05.26 Enhancements

- None

Firmware C.05.26 Updates

Model	Option	Description
All	All	

Firmware C.05.26 Issues Resolved

Model	Option	Description
E8267D	H18	Fixed a defect to improve wideband I/Q performance.
All	All	Fixed a defect to avoid the delay of pulse generation when SCPI command "FREQ:MODE:CW:" is issued.
		Added support of all RoHS boards.

Firmware C.05.26 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.22

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Updates](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.05.22 Enhancements

- None

Firmware C.05.22 Updates

- None

Firmware C.05.22 Issues Resolved

Model	Option	Description
All	All	Fixed a defect to prevent source becoming unlevel when it is operated in optimization for signal to noise ratio mode.

Firmware C.05.22 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.21

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Updates](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.05.21 Enhancements

Model	Option	Description
E8257D	H10	Added support of option H10, 100MHz reference output.
E8267D	009	Added support of option 009 removable compact flash drive.
	H18	Added support of option H18 wide IQ/FM mode when frequency is < 3.2GHz.
	HBQ	Added support of option HBQ band limited wide band differential external I/Q inputs.

Firmware C.05.21 Updates

Model	Option	Description
E8267D	601, 602	Enabled automatic load sequence segments from non-volatile memory to waveform memory in sequence operation.
		Updated the Dual Arb Trigger menu layout for ease of use.
	403	Added noise output mux selection to enable user selection of turning on / off carrier, noise and carrier + noise for signal to noise ratio (SNR) measurement.
All	All	Added support for "MS?" query for 8662A and 8663A compatibility language.
		Added LED enunciator (SNR) to optimize signal to noise (S/N) feature.

Firmware C.05.21 Issues Resolved

Model	Option	Description
E8257D	All	Improved compatibility language in 8662A/B and 8663A compatibility mode.
	H30	Fixed a defect which could disable option H30.

	1E1	Fixed a defect which could cause power unlevel at low frequency (when frequency is $\leq 250\text{KHz}$).
E8267D	601, 602	Adjusted resolution of Dual Arb sample rate to $1\text{e-}8$, instead of 0.001.
		Fixed a defect in Custom Arb function with FSK modulation.
		Added runtime scaling to manual power search reference.
		Fixed a defect where an older or not created by the instrument sequence file headers could cause the FW to corrupt the files.
		Fixed a defect in RMS power search to return a correct RMS value when AWGN is added to an Arb waveform.
		Fixed the Arb custom random symbol generation to generate a uniform distribution of symbols regardless of the number of bits per symbol.
All	UNU and UNW	Adjusted the text for pulse help keys to reference GATE/PULSE/TRIGGER INPUT connector.
	All	Fixed a defect which could cause power spike during frequency change.
		Fixed a defect which could cause black screen on front panel display.
		Fixed a defect in power search manual mode where reference value applied during power search was incorrect.
		Fixed RF leakage in RF off mode when option UNT, UNU and UNW are not installed in the instrument.
		Fixed a defect to enable AM Path2 to modulate signal amplitude after Mod On/Off was turned off and back on.
		Fixed a defect in save and recall operation to correctly restore the instrument states when signal generator is used with an OEM mixer.

Firmware C.05.21 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.03

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.05.03 Enhancements

- None

Firmware C.05.03 Issues Resolved

Model	Option	Description
E8257D	550, 567	Fixed a bug which could cause loss of calibration data.
All	All, except option UNX	Fixed a bug in Reference Oscillator Adjustment menu. Changed internal reference bandwidth.

Firmware C.05.03 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.05.01

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.05.01 Enhancements

Model	Option	Description
E8267D	601, 602	Added UQPSK (Unbalanced Quadrature Phase Shift Keying) modulation.
		Added support for the Keysight Waveform Converter Utility.
	003, 004	Added SSI capability when used with the N5102A Baseband Studio digital signal interface module.
All	HNS	Added support for Option HNS High-Performance Pulse to 31.8 GHz.
	1E1	Added a minimum noise feature for improved signal to noise ratio.
	All	Added support for E8251-60348 and E8251-60161 reference assemblies to improve the phase noise of signal generators without Option UNX.
		Added userIQ and userFsk to custom arb.
		Added support for E8251-60441 and E8251-60443 motherboard assemblies.
		Added support for the N8211-60009 Option 1EH assembly.
		Added a Restricted Display feature which hides the frequency annotation.
Added :DISPlay:REMOte:VIEW:SWEEp and :DISPlay:REMOte:VIEW:MODulation to allow one to view sweep and modulation status.		
Added :DISPlay:MENU[:NAME] to allow one to view menus.		

Firmware C.05.01 Issues Resolved

Model	Option	Description
E8267D	601, 602	Fixed save and recall of User FSK. Adjusted the limits for maximum FSK deviation.
		Fixed incorrect truncation of Nyquist and Root Nyquist filters.
		Improved the copy feature so that whenever header files are copied from non-volatile memory to baseband generator memory, the corresponding waveform and marker files are also copied.

		Forced recalculation of the waveform RMS amplitude and peak amplitude whenever a portion of the waveform is changed using ARBI and ARBQ commands.
		Added support for new types of flash memory on the baseband generator.
		Added a warning that aliasing can occur when displaying waveforms and markers from large files.
		Prevented a possible Error -310 which could occur when using slow sample rates.
		Increased the range of the Quadrature Angle Adjustment. Eliminated a situation in which the hardware state was not updated.
		Limit skew and delay when the baseband generator frequency offset is set to zero or when the user filter is very short.
	601	Eliminated a potential loss of files in volatile waveform memory (WFM1) during personality switching.
	H00	Fixed incorrect setting of DLIN:SSCH or DLIN:PSCH and incorrect annotation after selecting the uplink direction.
	H02	Improved the use of filter delay and user burst shape for EDGE and GMSK .
	All	Improved the error messages for the I/Q calibration procedure.
All	UNT	Improved AM modulation performance for frequencies less than 25 MHz.
		Fixed the setting of FM deviation for rare cases in which it was set to twice the expected value.
	UNU, UNW	Prevented a change in the period of a triggered pulse from affecting the period of a free-run pulse.
	HAR	Fixed the initialization of Option HAR. Changed low frequency limit to 0.98MHz.
	HHP	Added improvements to the hardware control algorithm for additional output power. HHP is a HW option now.
	All	Added a warning that one should cycle power after installing or uninstalling licenses with License Manager. Added HSM signal polarities to standard instruments. Added the text 'invalid' or 'expired' next to invalid or expired licenses.

		If the signal generator has an attenuator, set it to maximum attenuation before running self tests. If the signal generator has no attenuator, issue a warning and await user confirmation before running self tests.
		Eliminated a condition in which the amplitude would not change or would change too much when an amplitude change of less than 0.02 dB was requested.
		Fixed a memory leak which could cause an out-of-memory condition when using VXI-11 LAN control.
		Fixed possible memory corruption when the SCPI debug mode is used.
		Added the list of options to the information displayed on the LXI webpage.
		Allowed deletion of expired transportable time-limited licenses.
		Improved error handling for the internal service webpages.
		Improved Power Search performance for frequencies less than 10 MHz.
		Improved various error messages.

Firmware C.05.01 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.94

- Requires [Upgrade Assistant 5.12](#) or later
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.94 Issues Resolved

Model	Option	Description
All	All	Modified the Secure Erase procedure to not erase system files. Added service features to reinstall lost system files.
		Improved the unlevelled indicator so that it is active sooner after the signal generator is turned on.

Firmware C.04.94 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.92

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.92 Enhancements

Model	Option	Description
E8267D	601, 602	Added a Quadrature Angle Adjustment for the internal baseband generator under the I/Q Adjustments softkey menu
		Added run time scaling to Multitone and Two Tone
	016, H16	Added support for Option 016 Differential Wideband I/Q Inputs. Renamed Option H16 to Option 016. Improved the calibration and the power search reference voltage. Allowed movement of filter frequencies to maximize I/Q bandwidth.
All	HAR	Added support for Option HAR Improved Phase Noise below 500 MHz
	HHP	Added support for Option HHP Low Band Amplifier

	007	Added a softkey and SCPI to select auto or manual sweep time when used with the 8757 scalar network analyzer
	All	Added some commands for partial GT900 and GT9000S compatibility
		Added :SYST:OPT to allow one to overwrite the response of *OPT?

Firmware C.04.92 Issues Resolved

Model	Option	Description
E8267D	601, 602	Fixed Arb waveform generation to ensure that the waveform header is updated
		Fixed I/Q skew limits for various filters
		Improved the accuracy of the CCDF graph and statistics
		Added small cosmetic changes to the Arb Waveform and Markers graph
		Adjusted the RMS value in the waveform header whenever a waveform is scaled or clipped
		Prevented the false impression that one could edit a viewed sequence by using the backspace and number keys
		Improved error messages when creating waveform sequences
All	All	Improved Manual Power Search
		Fixed inaccuracies in power search
		Removed a leading '+' returned by *TST? when in 8360 compatibility mode
		Fixed ALC Hold with external leveling when the ALC Bandwidth is changed
		Fixed the Mod On/Off indicator which appeared in signal generators that had no modulation options
		Modified :SYST:ERR:SCPI to retain its value through a preset
		Fixed some potential causes for a black Exep# window or for a lack of responsiveness
		Increased the number of possible FTP sessions from one to four to improve support for MS Internet Explorer 6.0 and 7.0

		Improved state recall so that simply entering a number causes the recall to occur
		Fixed SCPI queries which did not return results when sent using the internal webpage
		Fixed incorrect step or list sweep when the first sweep was aborted and restarted
		Improved various error messages and fixed a misspelled word on the internal webpage

Firmware C.04.92 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.85

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.85 Enhancements

Model	Option	Description
E8267D	601, 602	Added support for N76xxB Signal Studio applications.

Firmware C.04.85 Issues Resolved

Model	Option	Description
E8267D	601, 602	Fixed possible bit errors in the output signal for data rates between 34 and 38 MSymbols/sec
		Improved the summing ratio feature to avoid loss of signal and abrupt changes in amplitude

		In the multitone table editor, prevented the cursor from moving to the frequency column.
		Suppressed "Error -310, System error; BBG1: SH4 READY line." if the instrument has been instructed to allow unsafe file operations
	UNW	Fixed the width of narrow pulses when routing ARB markers to control Pulse
	H00 (400)	Fixed the entry of fixed bit patterns for DPCH, PCCPCH, etc
E8257D	532	Fixed the attenuator steps to work the same as Options 520 and 540
All	All	Improved the 8360 Series compatibility language when used in zero span sweeps
		Improved the 8663 compatibility language when selecting the modulation source
		Fixed the filename for User Flatness so it is properly displayed
		Fixed possibly incorrect defaults for persistent state values

Firmware C.04.85 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.81

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.81 Enhancements

Model	Option	Description
E8267D	HDS	Added support for Option HDS Synchronized DSIM Device Clock
	601, 602	Added additional parameters to waveform headers to support a single waveform format on ESG, PSG and MXG products
		Added a BBG DAC indicator to warn of DAC over range errors
		Added "Length In Symbols" to the FIR table editor and the impulse response graph window
		Improved the speed of segment and sequence selection
All	Allowed Power Search to be set to RMS, Fixed, Manual or Modulated	
All	UNU, UNW	Added ":PULM:EXT:DEL" to the 8360 Series compatibility language
	All	Added support for time limited and transportable licenses
		Added logarithmic step sweeps, added ":SWEep:CPOint?" and ":LIST:CPOint?" to query the current sweep point, added updating of frequency and amplitude during a sweep, and improved manual sweep so it pauses at the current point.
		Changed the error indicators to have white backgrounds and be more visible
		Added "SYST:PRES;POW:STAT OFF" to the 8360 Series compatibility language
		Added "*OPT?" to return the list of instrument options
		Added the capability to fill missing calibration arrays when upgrading to UNR or UNX
Added web pages for uploading and downloading files and for displaying the current sweep list.		

Firmware C.04.81 Issues Resolved

Model	Option	Description
E8267D	601, 602	Fixed bad data in waveforms when the waveform ends exactly on a memory boundary.
		Fixed external delay so it is no longer applied after it is turned off.
		Fixed a potential crash when manipulating markers or waveforms.

		Removed softkeys and SCPI related to the Arb external reference.
		Improved handling of incorrect data in an ARB Header file
	H16	Fixed self tests for Wideband IQ modulation
All	All	Fixed the 8662/8663 compatibility languages by improving the "M4 FM" and "AP" commands, adding the "@3" and "X6" commands, adding the semicolon as a valid separator, and eliminating a potential crash.
		Fixed possible self test failures when the instrument is set to use any of the compatibility languages.
		Fixed external leveling when used without an Option 1E1 Attenuator
		Cleared the error status line when the last error is read or *CLS is received.
		Fixed ":DISP:STAT" to be the same as ":DISP:STATE"
		Changed the "Text File Busy" error message to "File in use"
		Fixed ":DISP:WIND:STAT" so it is correct even after "*RST"
		Eliminated possible memory corruption in user flatness
		Improved the SCPI help for various softkeys

Firmware C.04.81 Compatibility

Requires Option HDS or Option H16.

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.71

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Issues Resolved](#)

- [Compatibility](#)

Firmware C.04.71 Enhancements

Model	Option	Description
E8267D	601, 602	Allowed baseband external trigger delay to be set in seconds or samples
	601	Added support for E4400-60761 Baseband Generator
	H16	Added support for Option H16 Wide Bandwidth I/Q
E8257D	All	Added Auxiliary Software Licenses
All	HA1	Added support for Option HA1 Improved Phase Noise
	All	Added additional 8644B commands: AMPL:LEV, AMPL:STAT ON OFF
		Added additional 83732B commands: :UNIT:TIME US, :PULS:DOUBlet ON OFF, :TRIG:SOUR EXT
		Added support for external ALC hold with the commands: [SOURce:]POWER:ALCHold:EXTernal ON OFF and [SOURce:]POWER:ALCHold:INTernal ON OFF
		Added support for E8251-63375 ALC Assembly including power clamp

Firmware C.04.71 Issues Resolved

Model	Option	Description
E8267D	601, 602	Fixed a potential crash when reading an encrypted waveform
		Eliminated potential power spikes when used with N5115B Baseband Studio for fading
		Increased the speed of reading and writing ARBI and ARBQ files
E8257D	550/UNW, 567/UNW	Fixed pulse modulation above 20 GHz if Option UNT is not present
All	UNU, UNW	Fixed the Incr Set key when used with pulse delay, pulse period, and pulse width
	All	Fixed the Message Available bit in the Status Byte when used with VXI-11 LAN
		Eliminated potential power spikes when decreasing attenuation
		Fixed a potential crash when writing to user flatness files

		Fixed query of amplitude units
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Firmware C.04.71 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.56

- Requires [Upgrade Assistant 5.12](#) or later
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.56 Issues Resolved

Model	Option	Description
All	All without UNU or UNW	Corrected a power error and spurious signals which appear after recalling an instrument state when used with an 8757D Scalar Analyzer
	H30	Fixed a configuration error which prevented use of Option H30

Firmware C.04.56 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.55

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.55 Enhancements

Model	Option	Description
E8267D	601, 602	Added Amplitude Shift Keying (ASK)
		Added Option SP2 Dynamic Sequencing
		Added a softkey and associated SCPI to select if marker events should track changes in I/Q delay
		Added the ability to modify the RMS value in the waveform header from the front panel
		Added support for E4400-60759, -60760, and -60761 Baseband Generators
		Added the SCPI command <code>RADio::TRIGger:TYPE:GATE LOW HIGH</code>
		Added support for special options H00, H01, H02 and H17
	Added the commands <code>[:SOURce]:RADio:CUSTom:VCO:CLOCK:RATE?</code> and <code>[:SOURce]:RADio:ARB:VCO:CLOCK:RATE?</code> to query the baseband generator clock	
All	Added Option H3V Increased I/Q Output Voltage	

Firmware C.04.55 Issues Resolved

Model	Option	Description
E8267D	601, 602	Fixed error messages which could be generated when attempting to open PRAM files
		Reduced the resolution errors in the External Trigger Delay for the baseband generator
		Corrected the bandwidth in RT AWGN and ARB AWGN
		Eliminated a rare condition in which a baseband generator file in volatile memory could be lost or corrupted
		Fixed Multitone and other ARB personalities to properly initialize triggering when they are turned on

	All	Properly adjusted I/Q calibration file sizes if necessary when firmware is upgraded.
All	All	Eliminated incorrect display updates when using step sweep or list sweep with minimum dwell time

Firmware C.04.55 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.53

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.53 Enhancements

Model	Option	Description
E8257D	All	Added support for Option 532, 31.8 GHz Maximum Frequency
		Added support for the E8251-60075 Output Board
All	UNX	Added Option HA1 Enhanced Phase Noise Specifications
	All	Added Option H5K 5k Ohms external input impedance for the AM and FM inputs
		Added Option 1EZ Extended Support Life

Firmware C.04.53 Issues Resolved

Model	Option	Description
All	UNU, UNW	Eliminated an extraneous pulse which was generated when changing the settings for pulse type or pulse triggering

UNT	Reduced the output signal when RF is OFF for signal generators with option UNT but without options UNU or UNW
All	Eliminated a black Exep# window which appeared infrequently
	Properly updated softkey labels on the web-based interface to always match the current instrument state
	Fixed the LAN interface to return all of the requested bytes when used with VXI-11 iread()
	Fixed misspelled words in error messages
	Fixed FTP to be more compatible with MS Windows XP
	Improved reliability by turning off unused circuitry and lowering self test power levels
	Fixed self tests which failed when run in a loop. Fixed miscellaneous self test failures
	Fixed potential UNLEVEL indicator or power spike at retrace through frequencies of 3.2 GHz and 20 GHz
	Eliminated a potential deadlock when setting power in Master-Slave mode
	Fixed user preset and state recall to properly set the attenuator when external leveling is used
	Changed the upper frequency of self test 2202 from 1500MHz to 1550MHz
	Fixed :SYSTem:PRESet:PERSistent to set the Service Request Enable register to 0

Firmware C.04.53 Compatibility

Not for use with the E8267D. Use in the E8257D only.

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.32

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Compatibility](#)

Firmware C.04.32 Enhancements

Model	Option	Description
E8257D	HSM, H43	Fixed the EXT REF indicator which was not appearing if the external reference was connected before the instrument was turned on.
		Fixed a potential memory problem when using user flatness correction.
		Added compression of calibration data to reduce memory usage.
		Fixed self test 2203 when used without Option 1EA.

Firmware C.04.32 Compatibility

Requires Option HSM and Option H43.

Requires Option UNU or Option UNW.

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

Not for use with instrument states which were saved using C.04.31 firmware.

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Firmware C.04.31

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Compatibility](#)

Firmware C.04.31 Enhancements

Model	Option	Description
E8257D	HSM, H43	Added the ability to force the Source Settled output to "not settled" during sweep retrace. Added the associated SCPI command :OUTPut:SETTled:RETRace NORMal INVerted. Changed the default for power search to "manual" for Options HSM and H43. Fixed the "unleveled" indicator.

Firmware C.04.31 Compatibility

Requires Option HSM and Option H43.

Requires Option UNU or Option UNW.

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.30

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Compatibility](#)

Firmware C.04.30 Enhancements

Model	Option	Description
E8257D	HSM, H43	Added support for Option HSM and Option H43

Firmware C.04.30 Compatibility

Requires Option HSM and Option H43.

Requires Option UNU or Option UNW.

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.23

- Requires [Upgrade Assistant 5.12](#) or later
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.23 Issues Resolved

Model	Option	Description
All	All without UNU or UNW	Fixed failures of self tests 1306 and possibly other self tests after 1306.
All	All	Added support for Option UNX Enhanced Phase Noise

Firmware C.04.23 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.22

- Requires [Upgrade Assistant 5.12](#) or later
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.22 Issues Resolved

Model	Option	Description
All	All	Fixed failures of self tests 901, 902 and 903 and potential for loss of power at high temperatures.

Firmware C.04.22 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.19

- Requires [Upgrade Assistant 5.12](#) or later
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.19 Issues Resolved

Model	Option	Description
All	007	Eliminated unlevelled condition for frequency sweeps which cross 3.2 GHz

Firmware C.04.19 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.17

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.17 Enhancements

Model	Option	Description
E8267D	003, 004	Added the ability to use I/Q timing skew, regardless of the modulation type, when the low voltage differential signal (LVDS) input is Pre-FIR Samples or Samples.
		Added I/Q delay capability with constant envelope modulation.
	All	Added capability to the firmware, so that it recognizes the new digital E8251-60340 output board.
		Improved the "Text File Busy" error message. The new text includes "The file <filename> is currently in use. It must be deselected before it can be manipulated."
E8257D	All	Added capability to the firmware so that it recognizes the new analog E8251-60339 board.

Firmware C.04.17 Issues Resolved

Model	Option	Description
E8267D	003, 004	Eliminated the system error condition (System Error –310) that occurred when the Digital Signal Interface Module (DSIM) was turned on when no DSIM was connected to the signal generator.
		Fixed the unlevelled condition, caused by an incorrect RMS level, that sometimes occurred when playing a waveform in LVDS (low voltage differential signal) mode. Now, the default RMS value is set to the RMS value of the external I/Q signal.
	601, 602	Fixed the problem with applying and limiting I/Q skew, and applying I/Q delay only when the I/Q modulator was on. Now I/Q skew is applied and limited, and I/Q delay applied regardless of the on/off state of the I/Q modulator.
		Fixed Real Time Custom so that serial mode is used when a user-PRAM file is selected.

		Improved the selection of ALC bandwidth and detector filter settings based on I/Q and burst states. Improves performance of the Signal Studio N5110B for Waveform Capture and Playback software application.
E8257D	550, 567	Eliminated a power spike at 20 GHz that appeared during ramp sweep retrace.
All	All	Removed Option HEC from the installed options list. This option is a standard feature.
	All without UNU or UNW	Eliminated a 500 kHz square wave signal that remained after Scalar Pulse was turned off.

Firmware C.04.17 Compatibility

Not for use with Option 007 Analog Ramp Sweep for frequency sweeps which cross 3.2 GHz due to an unlevelled indication during retrace.
 Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.11

- Requires [Upgrade Assistant 5.12](#) or later
- [Enhancements](#)
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.11 Enhancements

Model/Option	Description
003 or 004	Enabled upgrading of the programmable ROM image in the N5102A Baseband Studio Digital Signal Interface Module, which is needed to support the N5100B Baseband Studio for Waveform Capture and Playback product.

601 or 602	Added a new command :SOUR:RAD:ARB:WAV:NHEAders, which loads a waveform and ignores the settings from the header
	Added support for N7613A Signal Studio for 802.16-2004 (WiMAX)
	Added support for N5110B Baseband Studio for Waveform Capture and Playback
	Allow optimization of I/Q timing skew for either the RF output or the external I/Q outputs
	Added ability to set and query the RMS value in the waveform header
	Added support for waveform licenses
403	Added support for Option 403 Calibrated noise personality
	Added real-time noise capability to waveforms played in the Dual Arb Player
All Models	Added SCPI commands for setting the frequency step size and power step size
	Added a Trig (trigger) and a Help key to the signal generator's web-based user interface, which is accessed from the internal signal generator web page

Firmware C.04.11 Issues Resolved

Model/Option	Description
015	Eliminated an error message when recalling certain saved I/Q states
601 or 602	Fixed power search when used with burst modulation
HEC	Eliminated a two-second delay in the ARB commands
SP1	Changed the name of this option from "Auxiliary 1" to "Jitter Injection"
HSQ	Properly initialize the secondary I/Q inputs at power-up
E8267D without UNT or UNU or UNW	Properly displayed the MOD ON/OFF and I/Q ON/OFF annotation and fixed the self test failures
All Models	Fixed a potential error condition when using external mixers
	Improved compatibility with the PSA Option 215, External Source Control, for sweeps of more than 2,000 points
	Fixed selftests 1309 and 1310 which could report a failure but not show any results

Firmware C.04.11 Compatibility

Not for use with N7622A Signal Studio Toolkit Software Rev. 1.0.16.0 or earlier.

Not for use with Option 420 Signal Studio for Pulse Building Software Revision 1.0.50.0 or earlier.

Not for use with Option 421 Signal Studio for Noise Power Ratio Software Rev. 1.0.42.0 or earlier.

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Firmware C.04.03

- Requires [Upgrade Assistant 5.11](#) or later
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.03 Issues Resolved

Model/Option	Description
All Models	Eliminated invalid "YO Unlock" errors that occur under certain conditions while running self-test 201.

Firmware C.04.03 Compatibility

All options are compatible.

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Firmware C.04.02

- Requires [Upgrade Assistant 5.11](#) or later
- [Issues Resolved](#)
- [Compatibility](#)

Firmware C.04.02 Issues Resolved

Model/Option	Description
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All Models	Fixed step and list sweep to properly reset the sweep point for subsequent sweeps when performing frequency sweeps in a downward direction.
	Fixed Unleveled indicator when sweeping through 250 MHz.
Option 1EH	Fixed Option 1EH filtering to correctly configure after a power cycle when Power On is set to Last.

Firmware C.04.02 Compatibility

All options are compatible.

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Firmware C.04.01

- Requires [Upgrade Assistant 5.11](#) or later
- [Compatibility](#)

Firmware C.04.01 was the initial release of firmware for the Keysight E8257D/E8267D PSG signal generator.

Firmware C.04.01 Compatibility

All options are compatible.

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Comparison to HP / Agilent / Keysight E8247C/E8257C/E8267C PSG Signal Generators

Firmware revisions

- Firmware revisions C.03.00 through C.03.84 are for use in E8247C/E8257C/E8267C Signal Generators.
- Firmware revisions C.04.01 and later are for use in E8257D/E8267D Signal Generators.

Replacement configurations

- The replacement for the E8247C is the E8257D.
- The replacement for the E8257C is the E8257D with options UNT and UNU except for some changes in pulse width for pulse modulation. Replace option UNU by UNW for improved pulse width.
- The replacement for the E8267C is the E8267D with options UNT and UNU except for some changes in pulse width for pulse modulation. Replace option UNU by UNW for improved pulse width.

Firmware enhancements

The changes in revision C.04.01 relative to revision C.03.76 are:

- Support for the new models E8257D and E8267D
- Addition of new options for the E8257D relative to the E8257C
 - Option 550: Frequency range from 250 kHz to 50 GHz
 - Option 567: Frequency range from 250 kHz to 67 GHz
 - Option UNT: AM, FM, phase modulation, and LF output
 - Option UNU: Pulse modulation
 - Option UNW: Narrow pulse modulation
 - Option 1EH: Improved harmonics below 2 GHz
- Addition of new options for the E8267D relative to the E8267C
 - Option 532: Frequency range from 250 kHz to 31.8 GHz
 - Option 544: Frequency range from 250 kHz to 44 GHz
 - Option 601: Internal baseband generator, 8 MSa memory
 - Option UNT: AM, FM, phase modulation, and LF output
 - Option UNU: Pulse modulation
 - Option UNW: Narrow pulse modulation
 - Option 1EH: Improved harmonics below 2 GHz
- Option 1E6 has been replaced by Option UNW
- Allowed frequency modulation to be used simultaneously with ramp sweep.
- Increased the maximum ramp sweep time to 200 seconds.
- Increased FM deviation and phase modulation sensitivity
- Suppressed the MOD ON/OFF indicator if no modulation options are present.
- Added an internal calibration for E8267D Option 015 Wideband external I/Q inputs
- Created a service menu for use by service technicians.
- Changed the default for waveform markers from "disabled" to "enabled".
- Listed the equivalent SCPI commands for front panel keys in the online help for many keys.

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