



# **Agilent M9392A PXI Vector Signal Analyzer 50 MHz to 26.5 GHz**



## **Software Release Notes**



**Agilent Technologies**

## Notices

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### Safety Notices

The following safety precautions should be observed before using this product and any associated instrumentation.

#### CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

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## Agilent M9392A Version 1.3.2 Critical Fix (no enhancements)

Critical fixes - Symptom	Resolution
Invalid range setting for the 89600 VSA hardware extension when <u>not</u> using the M9360A Preselector in front of a M9351A or M9361A Downconverter. (WIT 179267)	Fixed the range limits.

## Agilent M9392A Version 1.3.1 Critical Fixes (no enhancements)

Critical fixes - Symptom	Resolution
Agilent 89600 VSA version 15.01 experienced the following problems when running the latest M9392A software: <ul style="list-style-type: none"> <li>Intermittent failures (WIT 171773)</li> <li>Inconsistent LTE demodulation behavior (WIT 171893)</li> </ul>	The M9392A software was corrected to eliminate these problems when being operated by Agilent 89600 VSA software.
The M9392A extension for 89600 VSA had a minimum video trigger limit of -100 dBm. However, the M9392 driver generated an error when the video trigger level is set below -65 dBm. (WIT 173063)	The M9392 extension for 89600 VSA was modified to have the same minimum limit for video trigger as the M9392 driver (-65 dBm).
M9302A LO switching time was unexpectedly slow when controlled via the M9302A IVI-COM driver. (WIT 172682)	The M9302A driver was updated to eliminate the problem.
When using the M9392A SFP to view a signal with the power level set below -53 dBm, the marker value was incorrect. (WIT 173931)	The M9392A software was corrected to eliminate the incorrect marker behavior.
The software installations for modular products (IO Libraries Suite and the modular product's software) were incorrectly specifying the registry value for a critical DLL (AgPXlePMu.dll), thus greatly increasing the potential for software failure. (WIT 103276)	The defect has been fixed. <b>NOTE:</b> To insure your modular product installations work properly, be sure to install Agilent IO Libraries Suite 16.3.16603.3 before installing the modular product's software.

## Agilent M9392A Version 1.3 Enhancements (no critical fixes)

Enhancement
<p>M9392A software version 1.3 provides full support for connectivity with Agilent 89600 Series VSA Software version 15.0. Agilent 89600 software version 15.0 now allows a "Modules" configuration method for connecting to the M9392A hardware. This method is recommended because it is more convenient (no need to save a connection from the M9392A SFP) and supports connections involving multiple instances of 89600 software and multiple M9392A instruments. The "Connection" configuration method is still supported by version 15.0, and is necessary if you are using an 89600 software revision prior to 15.0. For details on connection procedures for single- and multi-channel measurement configurations, see the M9392A SFP help system and M9392A Startup Guide.</p> <p><b>CAUTION:</b> Do not mix the connection methodologies ("Modules" configuration and "Connection" configuration) in the same 89600 session or while multiple 89600 instances are running or controlling multiple M9392A instruments. Doing so will make the 89600 software unstable.</p> <p style="text-align: right;">(WITs 104557 &amp; 108817)</p>

## Agilent M9392A Version 1.2 Enhancements (no critical fixes)

Enhancement
<p><b>Wideband, Multichannel PXI Vector Signal Analyzer with Streaming Capabilities:</b> This solution is based on two M9392A PXI VSAs and offers a combination of bandwidth, multichannel support, and gapless recording, with 250 MHz of analysis bandwidth, 26.5-GHz frequency coverage on two channels, and continuous streaming up to 100 MHz bandwidth.</p> <p>Related learning material and web sites:</p> <ul style="list-style-type: none"><li>• Press release: <a href="http://www.agilent.com/about/newsroom/presrel/2012/03apr-em12042.html">http://www.agilent.com/about/newsroom/presrel/2012/03apr-em12042.html</a></li><li>• PXI Dual-Channel Analysis web site: <a href="http://www.agilent.com/find/pxi-vsa-mimo">http://www.agilent.com/find/pxi-vsa-mimo</a></li><li>• M9392A multichannel connections: <a href="http://cp.literature.agilent.com/litweb/pdf/5990-8254EN.pdf">http://cp.literature.agilent.com/litweb/pdf/5990-8254EN.pdf</a></li><li>• Implementing multichannel streaming: <a href="http://cp.literature.agilent.com/litweb/pdf/5991-0221EN.pdf">http://cp.literature.agilent.com/litweb/pdf/5991-0221EN.pdf</a></li><li>• Implementing wideband multichannel analysis: <a href="http://cp.literature.agilent.com/litweb/pdf/5991-0135EN.pdf">http://cp.literature.agilent.com/litweb/pdf/5991-0135EN.pdf</a></li></ul> <p>Related driver enhancements:</p> <ul style="list-style-type: none"><li>• IVI driver enhancements:<ul style="list-style-type: none"><li>◦ Added two enumerations to Trigger.Source: (For more detail, see the IVI help system.)<ul style="list-style-type: none"><li>■ AgM9392TriggerSourceVideoSyncOut: Triggers the measurement when the video signal satisfies the constraints specified by TriggerVideo.Configure on a master digitizer module. The master digitizer module produces a sync pulse which must be used to trigger the master digitizer module and may be used to trigger slave digitizer modules.</li><li>■ AgM9392TriggerSourceExternalSyncOut: Triggers the measurement when the external trigger signal satisfies the constraints specified by TriggerExternal.Configure on a master digitizer module. The master digitizer module produces a sync pulse which may be used to trigger slave digitizer modules.</li></ul></li><li>◦ Added new hint enumeration to Acquisition.Hints.Add: AgM9392HintTypeStreamingMaxBufferSizeInBytes sets the maximum amount of memory (in MB) to be allocated for streaming data buffers. Range: 0.0, or 5 MB to max RAM in computer (0.0 = buffer size not limited).</li></ul></li><li>• LabVIEW driver was updated to accommodate the above added IVI enumerations. (For more detail, see the LabVIEW help system.)<ul style="list-style-type: none"><li>◦ New Trigger Source options (Video Sync Out and External Sync Out). See Configure Acquisition.vi, SetAttributeViInt32.vi, and GetAttributeViInt32.vi.</li><li>◦ New hint (STREAMING_MAX_BUFFER_SIZE_IN_BYTES). See Add Hint.vi and Was Hint Used.vi.</li></ul></li></ul>

## Agilent M9392A Version 1.1.1 Critical Fixes (no enhancements)

Critical fixes - Symptom	Resolution
The M9392A soft front panel (SFP) always displayed the "Streaming Enabled" checkbox, allowing you to attempt to enable streaming, even if your M9392A was equipped with an M9202A Digitizer that was <i>not</i> upgraded to accommodate streaming. (WIT 88608 and 88609)	The M9392A software was corrected to not show the "Streaming Enabled" checkbox if the M9202A Digitizer was not upgraded to accommodate streaming.
Users were unable to build a 64-bit application using the M9392A IVI drivers in VS.NET. (WIT 87589)	The M9392A software installation script was updated to fix a DLL registration problem.
When recording a certain bandwidth (typically 12.5 MHz) the associated controller, or remote controller computer, would occasionally crash catastrophically. (WIT 87254)	The M9202A (MD1) software was revised to correct the problem.
When recording using the SFP running on the M9036A embedded controller using the M9036A's video interface (that is, not using Remote Desktop) the M9036A would occasionally crash. (WIT 86998)	The M9392A software was revised to help the M9036A avoid crashes.
The SFP Help button link from the "Connect to Instrument" dialog opened the help file but did not go directly to the associated help topic. (WIT 86998)	The software was revised to link to the correct SFP help topic.

## Agilent M9392A Version 1.1.0 Enhancements (no critical fixes)

### NOTE

The Agilent IO Libraries Suite (IOLS) has been updated to accommodate new capabilities in the Agilent M9392A PXI Vector Signal Analyzer.

- Version 16.0 (or newer) of the Agilent IO Libraries Suite is required for Agilent M9392A PXI Vector Signal Analyzer operations.
- Version 16.1 (or newer) of the Agilent IO Libraries Suite is required for Agilent M9392A PXI Vector Signal Analyzer **Data Streaming** operations.

Enhancement
<b>50 MHz Streaming:</b> Added 50 MHz streaming capability. This standard feature (M9202AU-V05) with its 12-bit IF digitizer (Agilent M9202A) enables long gapless capture of signals to 50 MHz bandwidth to RAID storage solutions. It also includes software tools to enable signal identification and signal export to analysis software such as the industry standard Agilent 89600B VSA.
<b>100 MHz Streaming:</b> Added optional 100 MHz streaming capability. This optional feature (M9202AU-V10) increases the bandwidth of signal capture to 100 MHz

To view an application note with an overview of Agilent M9392A Data Streaming capability, see <http://cp-literature.agilent.com/litweb/pdf/5990-8872EN.pdf>

## Agilent M9392A Version 1.0.2 Enhancements (no critical fixes)

Enhancement
<p><b>Driver Enhancement:</b> Added another Hint type, DIGITIZER_EXTERNAL_REFERENCE, which sets the M9202 Digitizer 100 MHz reference to external or internal. By default, the external reference is used (for example, the M9202 Digitizer's REF IN connector can receive the 100 MHz reference from the M9302 LO's 100 MHz REF 2 OUT connector). This change affects the AddHint and WasHintUsed IVI driver functions (and Add Hint and Was Hint Used LabVIEW VIs, respectively).</p>
<p>M9392A software version 1.0.2 is the first M9392A software version to support the recent release of Agilent 89600B Vector Signal Analyzer software (revision 13.0 and later). M9392A software version 1.0.2 is also backwards compatible with Agilent 89600A software (version 12.0 and earlier).</p> <p><b>NOTE:</b> If you upgrade from 89600A to 89600B, uninstall the Agilent M9392 software, then install 89600B, and then reinstall Agilent M9392 software (making sure it is version 1.0.2 or greater).</p>
<p>Extended the low end of the microwave downconversion range (using the M9361A PXI Downconverter). When using the M9361A in your M9392A Vector Signal Analyzer configuration, if you disable the Preselector*, the RF IN range for the M9361A (2.75 GHz to 26.5 GHz) is expanded to allow under ranging from 2.25 GHz to 2.75 GHz.</p> <p>* To disable the M9360A Preselector:</p> <ul style="list-style-type: none"> <li>• Soft Front Panel: De-select "Use Preselector" in the Measure tab.</li> <li>• IVI-COM Driver: Set the IAgM9392Acquisition.PreselectorEnabled property to FALSE.</li> <li>• IVI-C Driver: Set the AGM9392_ATTR_PRESELECTOR_ENABLED attribute to FALSE.</li> <li>• LabVIEW Driver: In the Configure Acquisition VI, set the PreselectorEnabled property to FALSE.</li> </ul>

## Agilent M9392A Version 1.0.1 Critical Fixes

Critical fixes - Symptom	Resolution
The Agilent 89601 software will correctly recognize and operate an M9202A Digitizer (MD1), but the limit checking is incorrect.	Improved the interaction with Agilent 89601 software. The 89601 software in "Digitizer Only" mode now supports bandwidths to 800 MHz. Previously, only 400 MHz was supported.
The SFP Connect dialog allows invalid configurations (such as 1 Digitizer + 1 LO only). (WIT 45614).	The software check for valid/invalid configurations was updated.
MD1 SFP broken after an upgrade M9392 installation. (WIT 45843)	MD1 removal was reprogrammed so that upgrade/repair always works with a "clean" system (that is MD1, MD1 SFP, and MD1 IVI removed).
Agilent 89601 software is unable to use the RF bypass mode after setting the Utility/HW/configuration for "Prefer Direct Path" to TRUE. (WIT 45792)	Software was changed so that the direct path bypass mode operates properly across all receivers.
M9392A maximum acquisition time is clipped at 10 seconds, should be increased. (WIT 46482)	The number of samples is rounded up to slightly exceed the requested time range. The allowable range of values depends on band width and the amount of memory available. The absolute maximum is 1000 seconds, reset value: 250 $\mu$ seconds.
M9392A SFP (soft front panel) times out if the acquisition time is set to 10 seconds. (WIT 46483)	The SFP automatically adjusts the timeout to be $\geq$ 10 seconds and $\geq$ 10% more than the acquisition time.
Setting a large trigger delay slows down free run acquisition. (WIT 46484)	The trigger delay on the M9202A Digitizer (MD1) was adjusted to allow rapid acquisition in the free run mode.
Negative video trigger delay is clipped, but the user is not warned. (WIT 46485)	A trigger delay error is displayed if the trigger delay is less than $-1 \times$ acquisition time. The range of allowable values is $-1 \times$ acquisition time to $+10$ seconds.





## The Modular Tangram

The four-sided geometric symbol that appears in Agilent modular product literature is called a tangram. The goal of this seven-piece puzzle is to create shapes—from simple to complex. As with a tangram, the possibilities may seem infinite as you begin to create a new test system. With a set of clearly defined elements—hardware, software—Agilent can help you create the system you need, from simple to complex.



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