VDI SAX Modules –

Installation and Quick Start Guide

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Table of Contents

Recommended Operating Procedures and Precautions

This document provides information on how to setup a Keysight Signal/Spectrum Analyzer for use with a VDI Spectrum Analyzer Extension (SAX) Module in Spectrum Analyzer Extension Mode.

Input power limitations, safety guidelines, general operating practices and recommendations for the SAX module are provided in the SAX Product Manual (VDI-731). Please review VDI-731 prior to reading this document.

This document is accurate as of October 23, 2018.

Signal/Spectrum Analyzer Compatibility

All VDI SAX Modules are compatible with the following Signal/Spectrum Analyzers:
- N9040B UXA Signal Analyzer
- N9030B PXA Signal Analyzer
- N9020B MXA Signal Analyzer
- N9010B EXA Signal Analyzer

External Mixing (EXM) Option is required for the above analyzers. This enables a 3.75-14.1 GHz LO signal that can accommodate the LO requirements for all standard VDI SAX Modules.

Other Signal/Spectrum Analyzers may be compatible with VDI SAX Modules. Please contact VDI for more information.
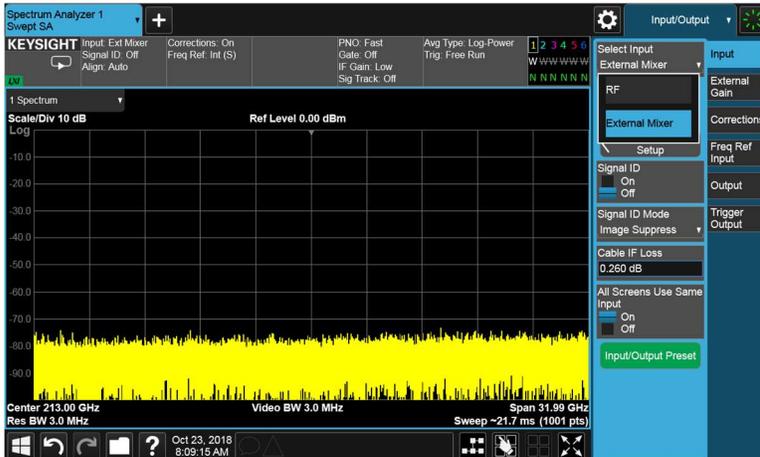
Switch from RF Input to External Mixer Mode
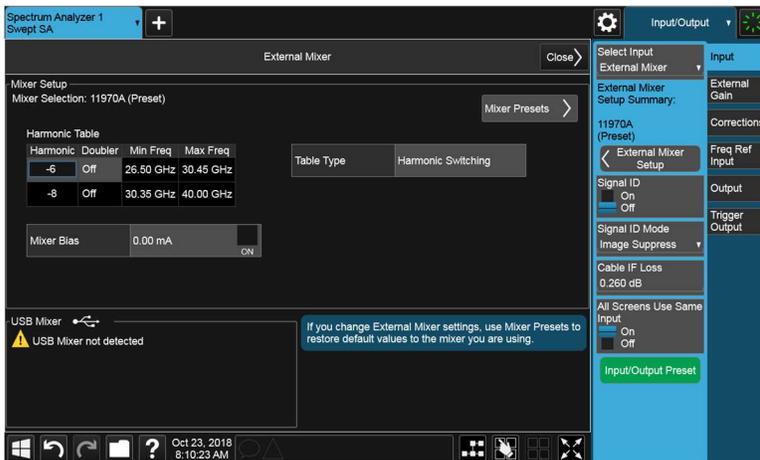
- Press [Input/Output]

- Navigate to [Select Input] > [External Mixer]

- Navigate to [External Mixer Setup]
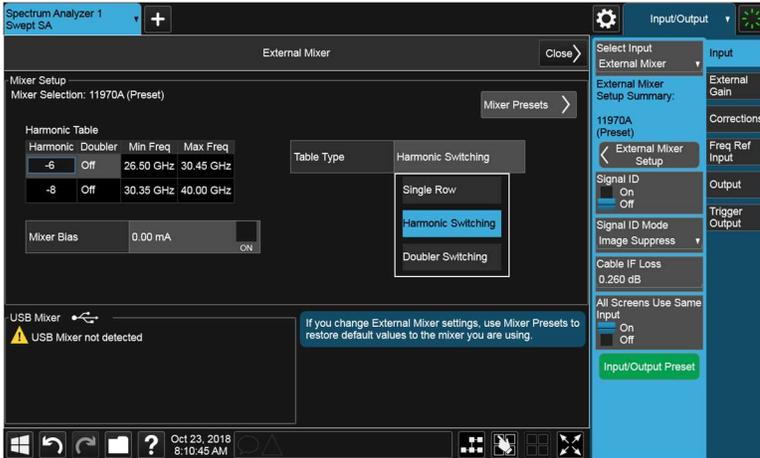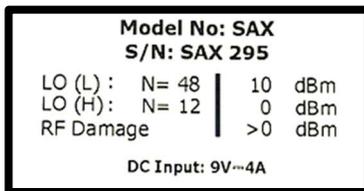
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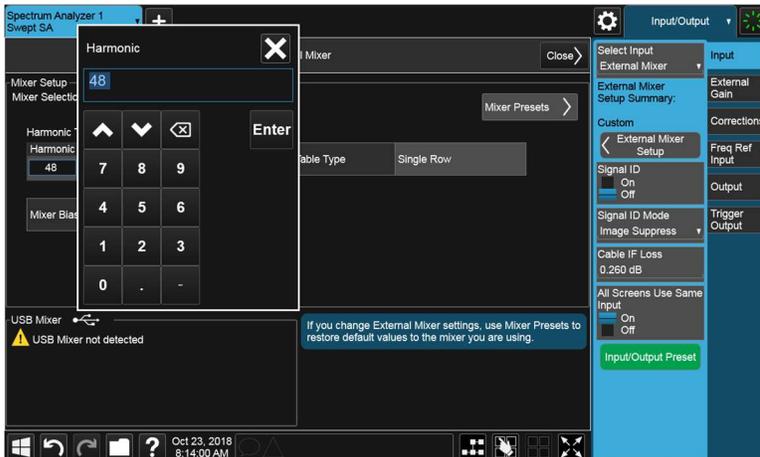## Enter Harmonic Factor of VDI SAX into Keysight Analyzer

- Navigate to [Table Type] > [Harmonic Switching]
- Change from [Harmonic Switching] to [Single Row]

- Review SAX Label on top of SAX Module (See sample label for WR3.4SAX below)

- Enter appropriate harmonic factor into the Harmonic Table that corresponds to the appropriate configuration.
    - o Configuration A (Spectrum Analyzer Extension Mode) of SAX uses LO (L). In this example, N=48 is the correct harmonic factor.
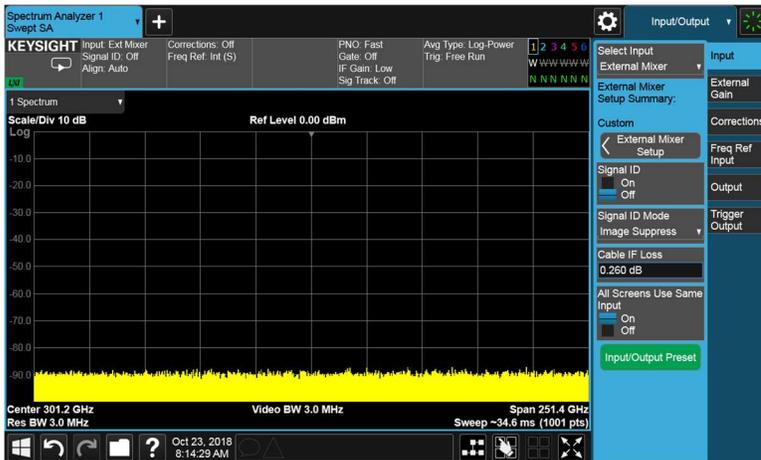
Single Row vs. Doubler Switching

- After entering the harmonic factor into the Harmonic Table, review the Min Freq and Max Freq listed in the Harmonic Table.
- If the frequency range (Min Freq to Max Freq) does not cover the desired band, Doubler Switching is needed.
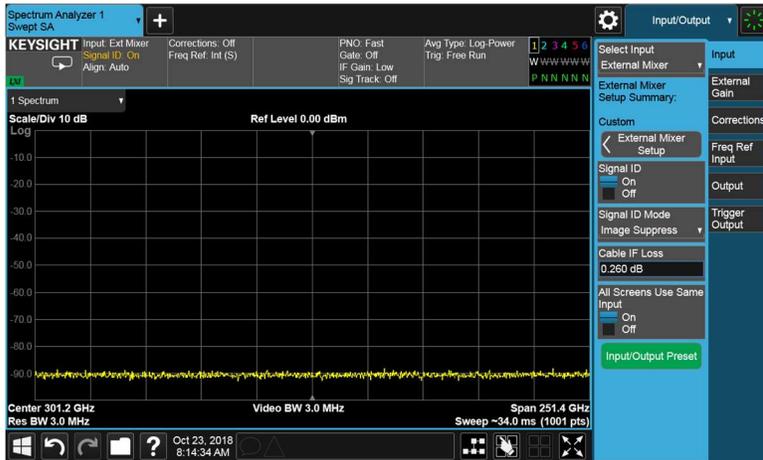- In this case, switch from [Single Row] to [Doubler Switching]
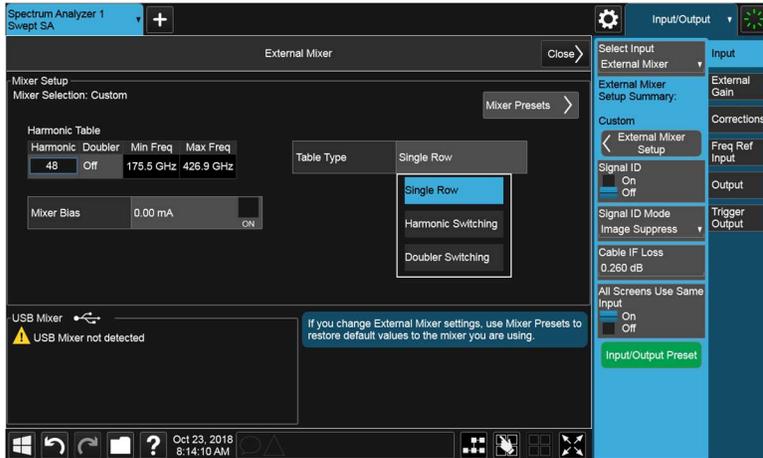
- Navigate to [Close] on the External Mixer Setup

Signal ID

- Turn [ON] Signal ID
  - o Signal Identification enables you to identify true signals and eliminate any image or harmonic signals.

Analyzer Functions

- You may adjust any settings on the analyzer the same way you would without the VDI SAX Module
  - o For example: Start Frequency, Stop Frequency, Number of Points, Amplitude, Resolution BW, Video BW, etc.

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Load Correction File

Load Correction File

To account for the loss from the RF Input Port to the IF Output Port of the SAX, a 'PXA Table' conversion loss file is provided on the USB flash drive that is included with the SAX module.

- Press [Recall]

- Navigate to [Correction] on the menu options.
- Select [Correction 1]
    o If Correction 1 is already used for other measurements, please select another Correction #.
- Navigate to [Recall From]
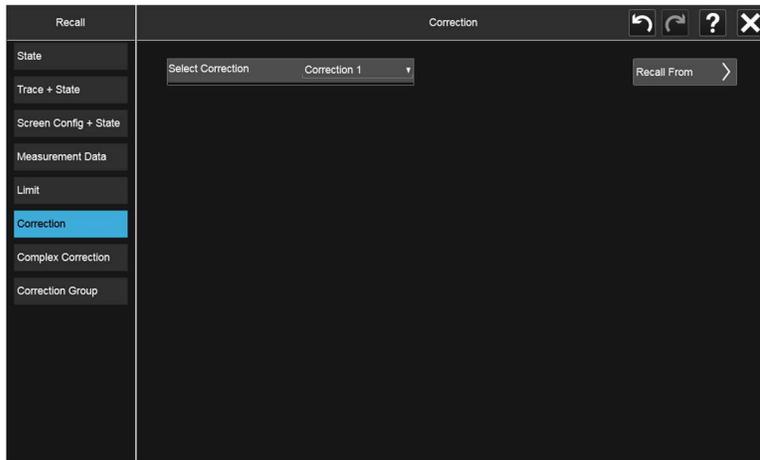
- Insert USB Flash Drive into Analyzer
- Navigate to 'PXA Table' file that is located on the USB Flash Drive
  - Special Note: Each SAX Module has a unique 'PXA Table'. Verify that the SAX serial number in the 'PXA Table' file name matches the SAX serial number on the label on top of the SAX Module.
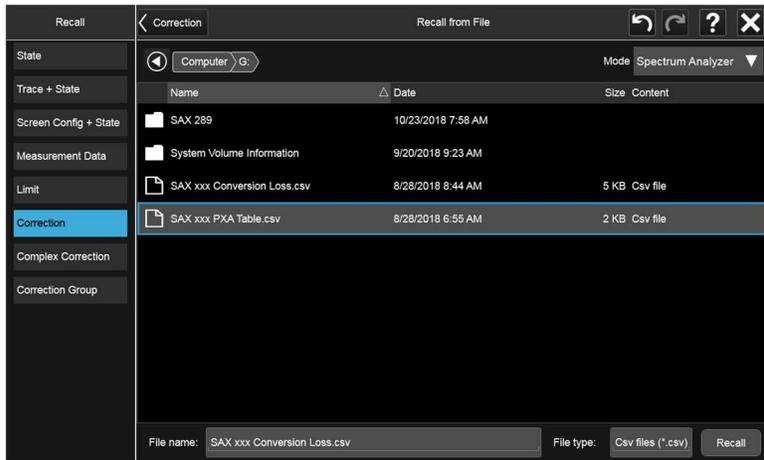
- Press [Input/Output]
- Navigate to [Corrections] on from the list of menu options (see below)
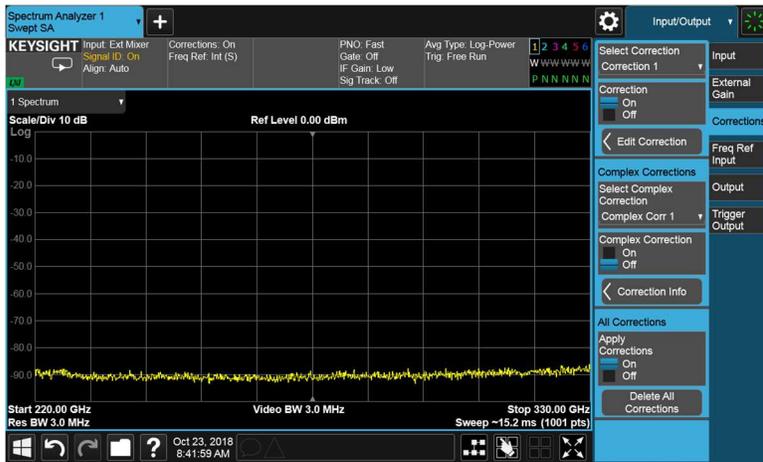
- Select appropriate correction file (e.g. Correction 1)
- To verify if correction file was loaded correctly, navigate to [Edit Correction] to view the correction file data.