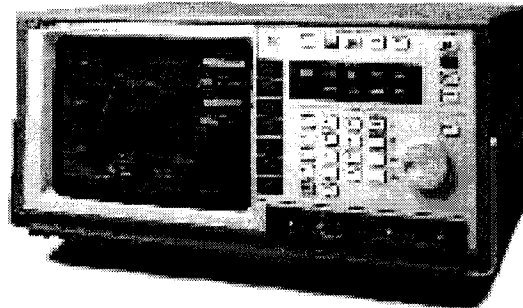


Flexible Phase Analysis for RF Communications Speeds Time to Market

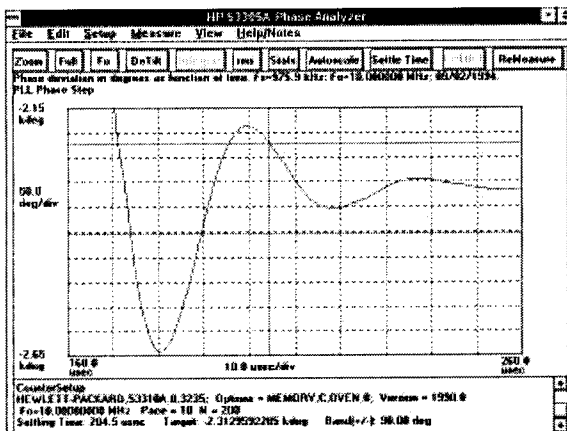
Product Overview



HP 53310A Modulation Domain Analyzer

Option 305 Phase Analysis Software

also available separately as
HP 53305A Phase Analysis Software



Enhance your HP 53310A with powerful phase analysis software that runs on your PC.

Minimum system requirements:

HP 53310A. Works with any option, but Fast (repetitive) Sample Rate is not supported

IBM-compatible PC:

386-based with coprocessor

4 Mbyte RAM

2 Mbyte hard disk space

MS-DOS® 5.0

Windows 3.1

IEEE 488.2 Interface:

HP-IB:

HP 82335A or HP 82341A

GPIB:

National Instruments

AT-GPIB or AT-GPIB/TNT

with NI-488.2 version 2.1.1

drivers for Windows

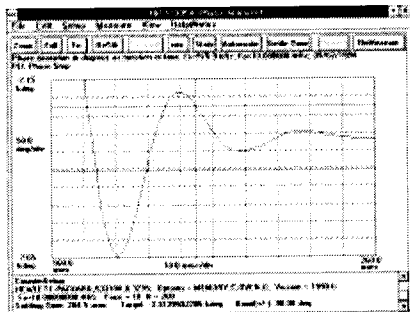
The HP 53310A Modulation Domain Analyzer's Option 305 Phase Analysis Software adds the power of phase analysis in the Modulation Domain to your HP 53310A. Now you can better understand your design through direct phase analysis by measuring phase settling time, phase noise (phase spectrum), phase deviation and phase trajectory. If you already own an HP 53310A, purchase the software separately as the HP 53305A Phase Analysis Software.

The software runs on any IBM-compatible PC with Microsoft® Windows. Simply connect your PC to the HP 53310A using IEEE 488.2.

With the software, you can measure and display frequency, frequency deviation and phase deviation. From these displays, you can analyze settling time characteristics, view histograms and statistics, and even perform an FFT to get phase noise and jitter spectrum.

Automatic Settling Time Measurements

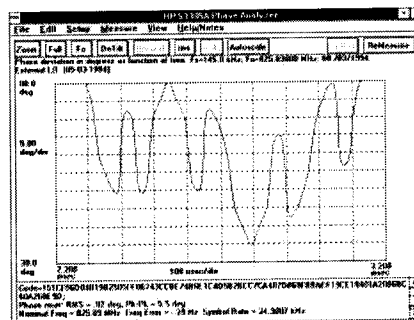
External downconversion and discriminators are a thing of the past. With the HP 53310A Option 305, you can directly measure the phase detector output, without the need for calibration. You simply enter the tolerance band and target frequency or phase (or let the analyzer track the target value for you), and the analyzer automatically calculates the settling time from its frequency, frequency deviation, or phase deviation display. The synthesizer step command is typically used as a "time-zero" reference to trigger the analyzer.



Take the drudgery out of PLL characterization with automatic phase settling time measurements.

Modulation Analysis

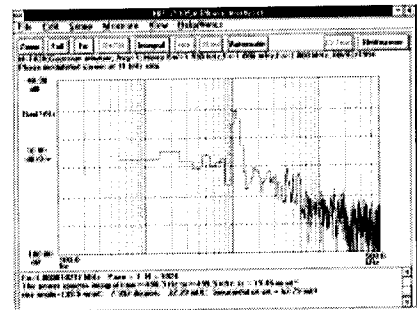
Many new digital RF communication systems employ complex frequency and phase modulation techniques. The HP 53310A Option 305 provides direct frequency and phase versus time views of your complex modulation. The high resolution RF input (Option 031) allows you to directly profile both wide and narrow band modulations up to a 500 kHz modulation rate. This eliminates the need for external downconversion, saving you time and effort.



Gain a better understanding of your RF system performance with the phase modulation display (Pi/4 DQPSK shown).

Phase Noise

Modulation rates, spurious modulation, and total integrated noise over the modulation bandwidth are easily uncovered with the Phase Power Spectral Density (phase noise) display. This display is simply a calibrated version of the FFT of a phase deviation display.



Uncovering spurs or measuring total integrated noise over the modulation bandwidth is a snap with the Phase Power Spectral Density display.

Typical Performance—1 GHz Carrier

Off. Freq	IF	Noise Floor
<10 Hz	20 Hz	-180 dB
100 Hz	200 Hz	-170 dB
1 kHz	2 kHz	-160 dB
10 kHz	20 kHz	-150 dB
100 kHz	200 kHz	-140 dB
500 kHz	1 MHz	-130 dB

Ordering Information

HP 53310A Modulation Domain Analyzer	\$9,950
Option 001 Extended Measurement Memory	\$500
Option 010 High Stability Oven Time Base	\$1,750
Option 030 2.5 GHz Channel C	\$1,600
Option 031 Digital RF Communications Analysis/High Resolution 2.5 GHz Input	\$5,000
Option 305 Phase Analysis Software	\$500
If you already own an HP 53310A, order the software separately as:	
HP 53305A Phase Analysis Software	\$500

This data sheet is a supplement to the HP 53310A Modulation Domain Analyzer data sheet. It details features and applications of Option 305. Please consult the HP 53310A data sheet for further product information and specifications:

HP 53310A Technical Data Sheet, pub. no. 5091-2596E.

HP 53310A Option 031 Data Sheet Insert, pub. no. 5091-2597E.

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