ELECTRONIC COUNTERS

Modulation Domain Analyzers (cont'd)

HP 5371A, 5372A, 5373A, 53310A

Flexible Jitter Spectrum Analysis for Digital Communications

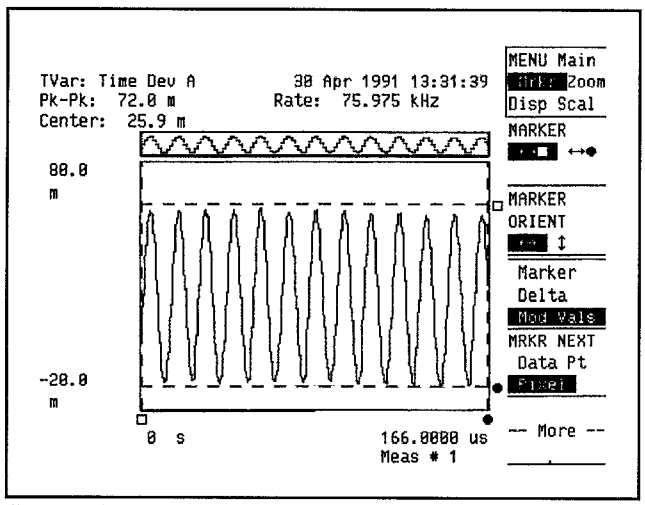
The HP 5371A and HP 5372A frequency and time-interval analyzers can be used to characterize jitter or phase noise in digital communications, oscillators, and other serial data systems. The HP 5371A measures and displays the variations of period jitter with time or in a histogram. The HP 5372A adds the capability to display jitter as the variation of the significant instants from the ideal timing position (the time deviation function).

With the new Jitter Spectrum Analysis feature (Option 040) of the HP 5372A, jitter spectrum measurements are possible with higher resolution than current jitter test sets. Any clock rate, including nonstandard rates, can be accommodated or measurements made without the presence of a clock. The jitter bandwidth can exceed 2 MHz. The Jitter Spectrum Analysis option is ideal for characterizing the phase noise performance of low-cost oscillators and synthesizers. This new option of the HP 5372A eliminates the need for an external computer for analysis.

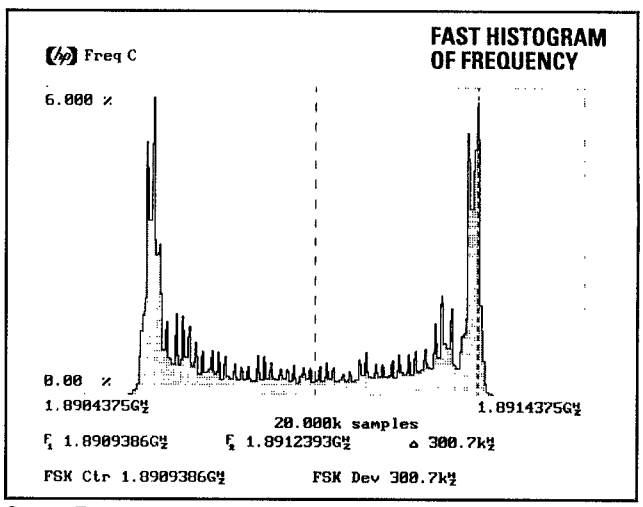
Modulation Analysis for Mobile Communications

The HP 53310A's new Option 031 "Digital RF Communications Analysis/High Resolution 2.5 GHz Input" provides automatic measurements of synthesizer settling time, Frequency Shift Keyed (FSK) center frequency, and FSK peak deviation on DECT, CT2, and CT3 radios. Features for optimizing RF designs include:

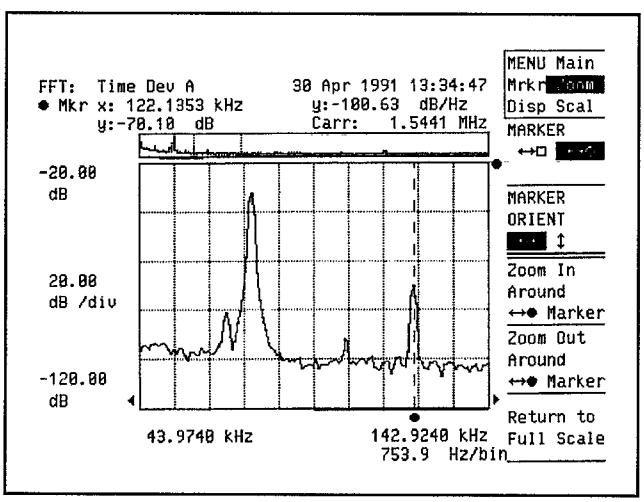
- **High resolution measurements**—built-in downconversion provides superior frequency resolution for RF signals.
- **RF envelope trigger**—simplifies measurement setup by automatically triggering on a detected TDMA burst.
- **Automatic measurements**—synthesizer settling time, Frequency Shift Keyed (FSK) center frequency, and FSK deviation.



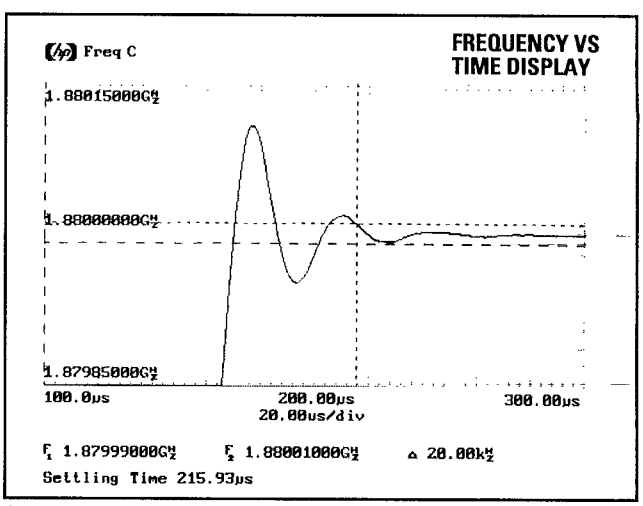
Jitter as a function of time. A strong periodic component is shown in this jitter vs. time graph. The rate of the jitter and the peak-to-peak jitter are displayed in Unit Intervals.



Center Frequency and Peak Deviation are automatically calculated from frequency histograms.



The jitter spectrum shows the large component of jitter as well as a smaller spur. The HP 5372A Jitter Spectrum Analysis (Option 040) enables the viewing of all components of jitter.



Settling Time is displayed automatically on this direct measurement of the synthesizer step.