

5970S

40 Scans per second on a HP 5970™



Fast Scan – 5970S Prototype – (5970 on life-support : -)

Scan control comes from a wave generator.

Tektronix monitor is used to display the signal traces.

MStation is used to download the MS parameters.

Data Translation DACQ is used to digitize the signal

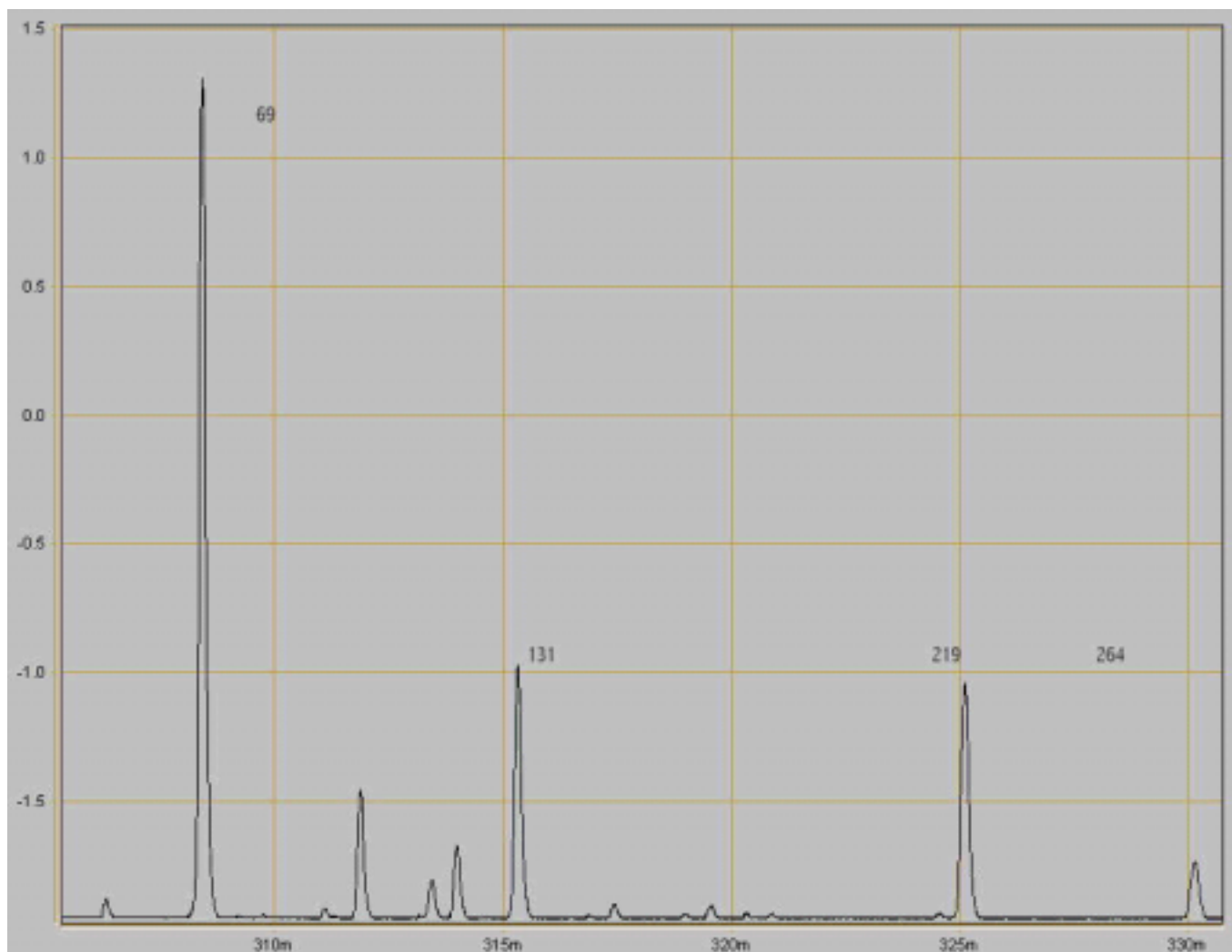
The following MS boards have been modified.

Quad driver

RF box

Ion source control

Detection



Feb 9 2004 – Acquisition Solutions k - 40 Scans / Sec
Spectra - FC43
~ 25ms ~ 230 AMU

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Discussion

Resolution mid high 1 AMU

Resolution base peak 3 AMU

MS tuning: Extractor 30 V, EM 2400 V

With a new multiplier, we could work with a lower voltage on the Extractor. The result would be narrow peaks. The acquisition speed and the width of the scan can be adjusted. The maximum sampling rate is 200Khz. The acquisition can handle scan of 500 AMU (10 points/mass) at the speed of 25ms per/scan. Experiment shows that resolution improves when decreasing the mass range.

Implementation of the fast scans requires the design of a new electronic for the MS and some changes to our current acquisition system (MStation). The modifications to MStation will not take away its multi-Experiment capability (SIM and Scan within one injection).

Even know unit resolution could not be achieved with this prototype we think that the result may be good enough for some applications. This why we wanted to share this data with you. The prototype does not have the flexibility at this time to run all the tests and try all the different combinations we would like. But, please let us know if you would like us to check something specific for you.

We will keep working on this development because regardless of our success increasing the scan speed of the MS, we feel that providing a second source for the electronic and software for the HP (Agilent) mass spectrometers is valuable for a lot of HP customers.

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MStation :

This redesigned version of Force7 offers extended capabilities. It is well integrated with the sequencing function of the ChemStation from HP and is compatible with 5970 - 5971 - 5972 - 5973

ChemStation, 5970, 5971, 5972, 5973, SmartCard are trademark of HP.

MStation, Force7 are trademark of Acquisition Solutions k

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