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This report summarizes the final results of the purchase, acquisition and installation of a Hewlett-Packard Model 5988A Gas Chromatograph-Mass Spectrometer.

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Title Page

Final Technical Report
for AFOSR Grant No. 89-0156

Purchase of a Gas Chromatograph - Mass Spectrometer

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Abstract

This report summarizes the final results of the purchase, acquisition and installation of a Hewlett-Packard Model 5988A Gas Chromatograph- Mass Spectrometer.

Goals of the Research Project

Funds from the Department of Defense through Grant No. AFOSR 89-0156 were used in combination with matching funds from North Dakota State University to purchase a Hewlett-Packard Model 5988A whose specifications are given below:

HEWLETT PACKARD MODEL 5988A GAS CHROMATOGRAPH - MASS SPECTROMETER

The Basic System:

-MS core with dual EI/CI source, vacuum system, electronics, 220V 60 Hz. Includes capillary direct interface and installation. -5988A MS core includes 2424A CPU with 2.5M byte memory, HP-IB interface, 4 RS232 ports, 3 I/O slots and 9144 CTU in a Design Plus cabinet.

-Gas Chromatograph Mainframe.

Accessories:

-One half inch port into ion source for use with 1/2" probes.

-Direct insertion probe kit for solid samples.

-Capillary Inlet System for Split/Splitless operation. Includes two flow controllers for total flow and septum purge 30 psig gauge, and back pressure regulator.

-HP-IB Data Communications. Includes Inet board, HP-IL to HP-IB converter, and bracket for converter.

-A-Series GC/LC/MS Data System hardware for use with 5970B, 5995C.

-152 Mbyte Disc Drive. Includes HP7958B Disc Drive.

-HP 2235A Rugged Writer Printer, 24 pins, 480 cps (draft) graphics printer with RS-232 and Centronics interface, local printer cable, 16K buffer and paper.

-HP150II Monochrome Graphics Terminal. Includes HP45851A monochrome graphics terminal with cable and two pages alphanumeric memory. Recommended for Aquarius output. HP2397A Color Graphics Terminal. Includes 7 pages alphanumeric memory.

-Interface for 5970B, 5995C, or 5988A. Includes scan box and control HW to interface 5970B with option 410, 5995C with option 410 or 5988A to either option 110 or 120 CPU. Requires 2 CPU I/O slots.

-GC/LC/MS A-Series Software. Includes execute only A-Series operating System and GC/LC/MS applications software with Aquarius II and TOP packages and system installation. Requires 40 M bytes disc space.

-5-day Operators Training Course; which presents the basic operation of an HP Mass Spectrometer with an RTE Data System. Attendees are expected to pay for their travel, food, and lodging RTE System Manager Training Course. A 5-day seminar covering use of an RTE operating system with GC/MS applications software. Requires RTE GC/MS operator training or equivalent.

Conclusion

This instrument is now fully installed and operational. All specifications have been met or exceeded and the instrument is now fully implemented into the research program supported by the Air Force Office of Scientific Research through Grant No. 88-0060 as well as other research projects in the Department of Chemistry.