

With MON 2000 software to optimize Gas Chromatograph performance !

THE DANIEL 2350A CONTROLLER SYSTEM HARDWARE

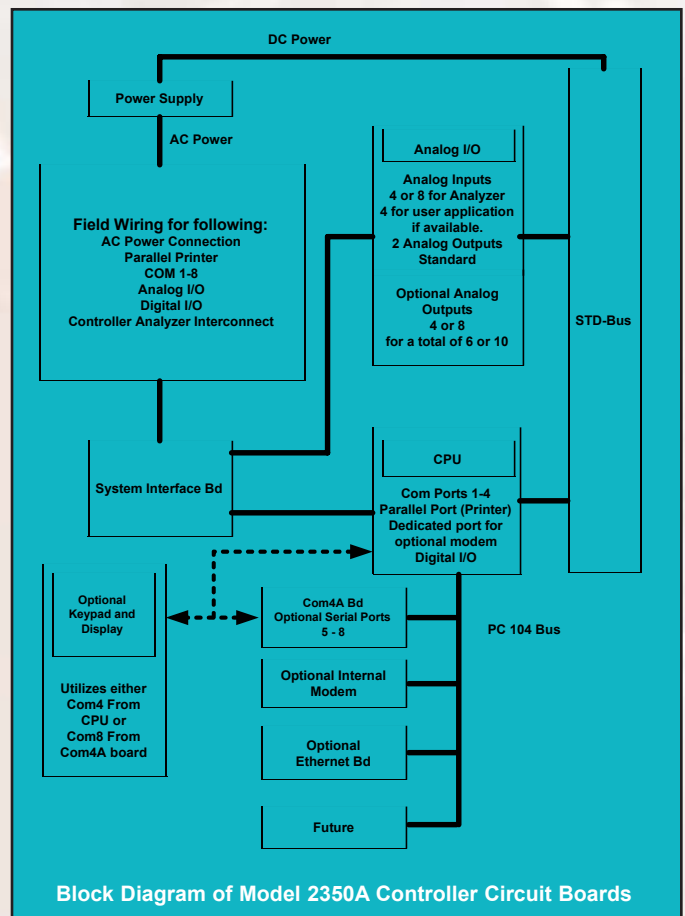
Three colored LED status indicators are located on the front panel - green (indicating operation), yellow (indicating unacknowledged alarms), and red (indicating current alarms requiring operator action). The 2350A boards are mounted in a passive card cage with ribbon cable connectors to enable STD (32-bit) bus communications. The CPU has a PC 104 Bus for easy addition of serial ports, modem, ethernet card etc. The controller performs all signal processing, calculations, instrument control, communications and data storage. The GC electronics (pre-amp board and decoder board) electrically interface to the controller the same as the older 2251 controllers - so retrofitting units in the field is simple and straightforward. Furthermore, cutouts for the panel-mount version are the same as the 2251/2551 panel cutouts, additional hardware modifications are not required. Additional space is required in the rear of the panel to accommodate the card cage and termination board. Controller-mounting options allow the controller to be located remotely from the GC or as an integral part of the GC in the field.

INCREASED DIAGNOSTIC CAPABILITY

- On-screen chromatograms via PC, eliminates the need for chart recorders
- Archives, event, and maintenance logs with time/date stamped analysis and configuration changes
- Extensive chromatogram "Overlay" and "Zoom" functions with MON 2000 software. Troubleshooting by direct comparison of historical chromatograms
- Zoom on baseline to improve peak integration for improved energy measurement

CONTROLLER ELECTRONICS OPTIONS

- High Speed Internal Modem - direct dial to your Gas Chromatograph and configure or interrogate it remotely with MON 2000 software.
- Analog Outputs (4-20mA) - User configurable. 2 standard, 4 or 8 additional.
- Keypad and Display - Full 18 button keypad with Liquid Crystal Display (LCD) and LED backlighting.
- Additional Memory - Uses disk on chip 16MB for historical data storage - memory expandable 576 MB.



MON 2000 WINDOWS™ BASED SOFTWARE

Mon 2000 software is a menu driven, Windows™-based software package designed from the DOS version of MON. It will operate the entire family of Daniel 2350 gas chromatographs via any PC running Windows™ 95, 98, 2000, NT or XP. MON 2000 software allows the user to take complete control of a Daniel Chromatograph either locally or remotely. MON 2000 gives the technician the tools to improve performance of older chromatographs; improved chromatography improves energy measurement accuracy.

FILE COMPATIBILITY IS ASSURED,

previous 2350 applications (*.bin files) and chromatograms (*.cgm files) also run in MON 2000. Because it was developed from its DOS predecessor with expanded context, sensitive on-line help, training requirements should be minimized.

SIMPLIFIED TROUBLESHOOTING CHROMATOGRAM COMPARISON (FIG. 1)

- Virtually unlimited possibilities for advanced troubleshooting and analysis
- Compare chromatograms (up to 8) to simplify troubleshooting or overlay multiple chromatograms to spot a trend
- Check the original calibration against the last calibration

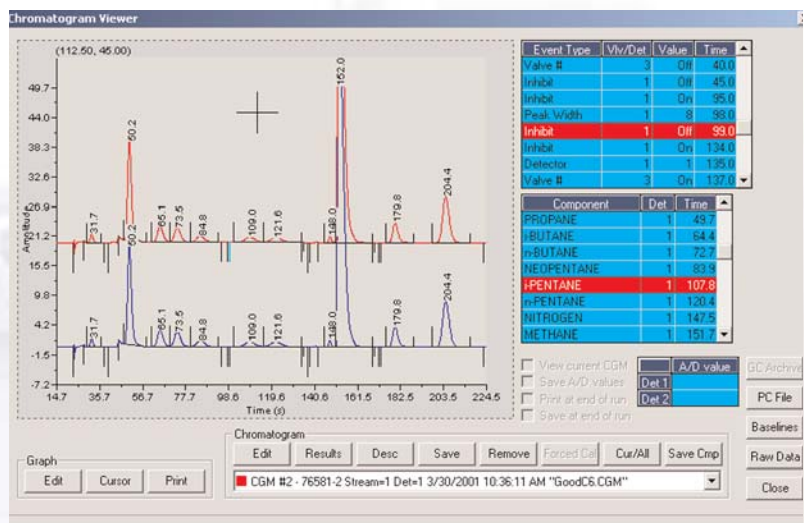
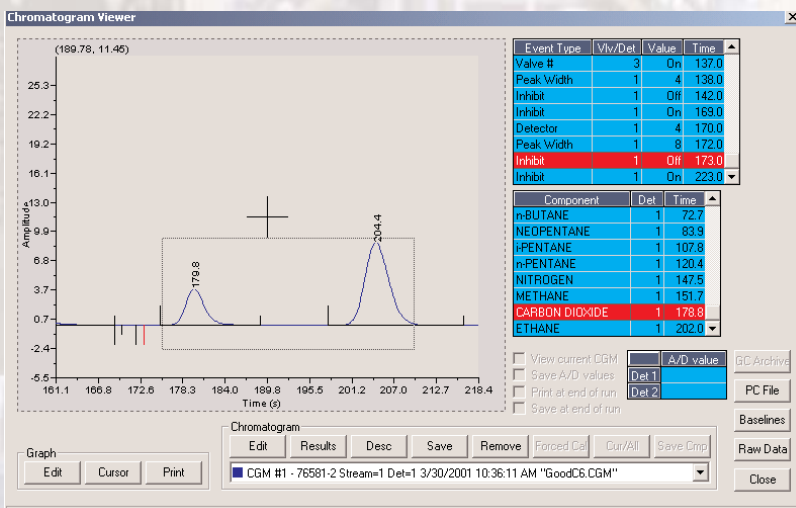


Fig. 1



ADVANCED FUNCTIONS (FIG. 2)

- Zoom functions to optimize peak integration
- Current chromatogram on screen, last analysis and calibration data stored in 2350A
- Unlimited storage of chromatograms to PC hard drive
- Timed events, peak integration parameters, and chromatograms on one screen
- Trending of any component or calculated value from archived data in the 2350A Controller

Fig. 2

2350A Rack Mount Controller with Optional Keypad / Display



MODBUS POLLING FUNCTIONS (FIG. 3)

- Continuous polling for analytical data
- Data acquisition and reporting functions for multiple GC's
- Hard-wired or remote access via modem
- Addressable for up to 32 modbus slaves on a RS-485 or RS-422 network or point-to-point as RS-232
- Flexible Windows™-based configuration
- Set up polling for continuous operation or determine the polling intervals from 1 second to 24 hours
- Import/export data effortlessly with Windows™ functionality
- Save data in text file (.txt), Excel file (.xls) or internet-ready HTML (.htm) file formats

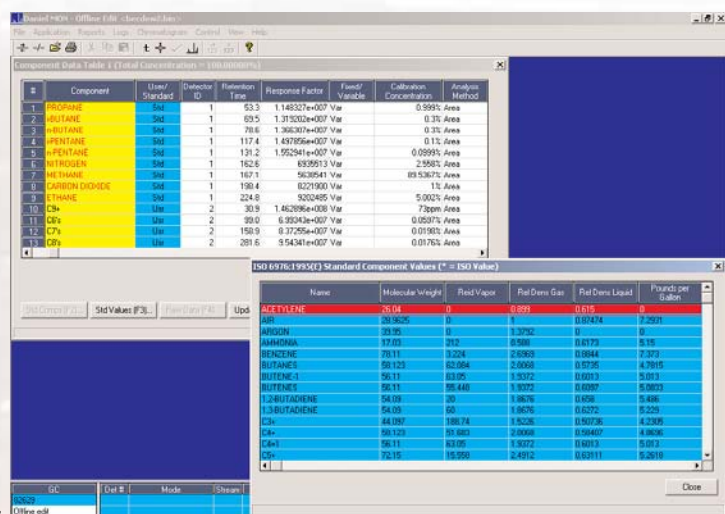
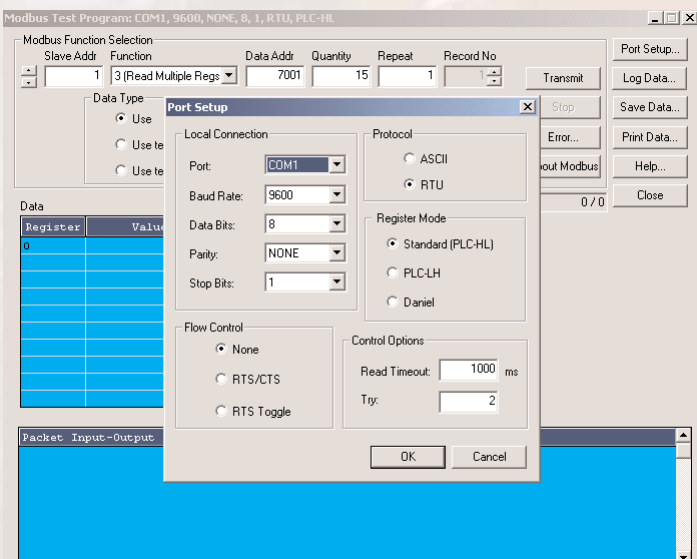


Fig. 4

INTERNET READY...

Access the worldwide web from within MON 2000 and ...

- Download future enhancements directly from Daniel's website
- Register on-line via Daniel's website and receive new release information
- E-mail chromatogram files (*.cgm) for peer review. Compressed binary file size of less than 25k make chromatogram files ideal for e-mail. All raw data, analytical data, timed events and component retention times are all contained in one small *.cgm file as an e-mail attachment.



LATEST MEASUREMENT STANDARDS (FIG. 4)

- New GPA 2145 (Revision 2) physical properties (energy content and related calculations) are included as standard components to bring users up to date with recent standards
- ISO 6976-1995 applications meet European requirements for energy measurement with full choice of calculation methods
- Manual entry of alternate physical constants allowed (but tagged as "User" for GC audit purposes)
- Hydrocarbon dewpoint calculations are an option for the extended C9+ analysis. Using PR or RKS equations of state and latest physical property data.

Fig. 3