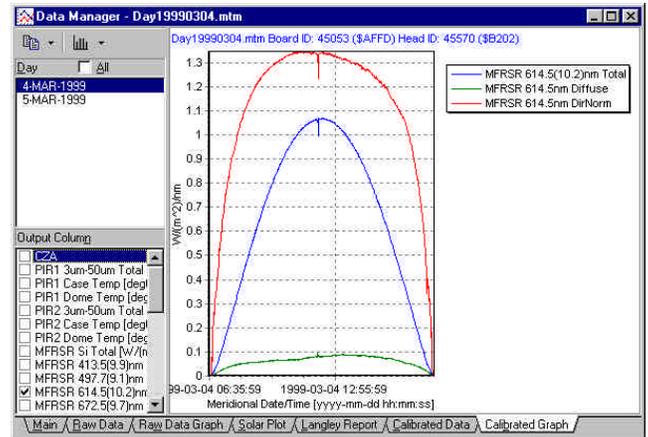


YESDAS MANAGER 2.5 SOFTWARE FOR MS-WINDOWS 9x/NT/2000/XP

BULLETIN YDM-2

simultaneously collect data from another remote site connected via modem on a different serial port.



YESDAS Manager client showing calibrated data display.

As data files are gathered, each one is automatically checked for truncation or other common transmission errors. A retry is performed if any errors are encountered. If all data unpacks successfully, the memory buffer in the remote YESDAS system can be optionally cleared if desired. Also, if the modem connection is left active or the YESDAS system is direct wired, YESDAS Manager can even display real-time data as shown above.

Data Merge Facility

Managing a site for an extended period of time can create a large data file repository. As binary data files are collected by the data collection engine, a separate data merge facility converts these files into contiguous "midnight-to-midnight" (or *mtm*) data files and organizes them into easy-to-follow directories. This step eliminates any redundant or overlapping data sets, and looks for other problems such as wide time gaps or configuration errors in the data stream, performing a low-level quality control check of the data acquisition protocol. These *mtm* files are fully compatible with existing Unix tools available for YESDAS. Also the system-unique, hardware identification serial numbers in each YESDAS binary data file supports automated quality control checks to ensure that the system being polled is actually the correct system based on the calibration data.



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$$p = \frac{\rho RT}{m}$$

$$S(\lambda) = S_0(\lambda) e^{-m \cdot \delta(\lambda)}$$

$$B(T) = bT^4$$

Description

YESDAS Manager 2.5 is a comprehensive tool set for MS-Windows 9x/NT/2000/XP that fully automates the retrieval, processing, and display of data from one or more remote or local YESDAS data acquisition systems. It is designed to fill the needs of the meteorologist, climatologist, or scientist requiring high accuracy and reliability of monitored environmental parameters. Because it automates nearly all steps in the data collection and calibration process, it frees you to perform the important task of analysis and interpretation.

Features

YESDAS Manager's modular 32-bit software architecture features a robust and well-tested core that is highly expandable and scalable. For example, components can be partitioned across multiple PC servers to support hundreds or even thousands of remote stations. It consists of these components:

- A schedule-driven data collection engine
- A data merge facility that creates an organized library of contiguous data files
- A Windows graphical user interface (GUI) client for processing and displaying retrieved data on a MS-Windows 9x/NT/2000/XP PC
- A web server component that provides a read-only display, web user interface (WUI)
- A calibration/solar information file librarian and editor to coordinate any system profile changes
- An automated error handler with email alert
- An improved Langley processor for accurate MFR optical depth retrievals

Automated Data Collection Engine

As anyone who has tried to use a computer to send data over the telephone network knows, there are reliability problems inherent with the technology. Modems mysteriously drop connections, and data are garbled by random line noise, requiring human intervention. To eliminate these problems, YESDAS Manager's data collection (or *polling*) engine is driven by a sophisticated scheduler with agents that can be spread across several PC workstations to handle the collection of multiple remote sites simultaneously. At the center of the data collection tool is a robust multi-session threaded terminal emulator that buffers the user from the YESDAS control language. Multiple serial ports can be active at a time. This permits, for example, a site with a local direct-wired YESDAS to

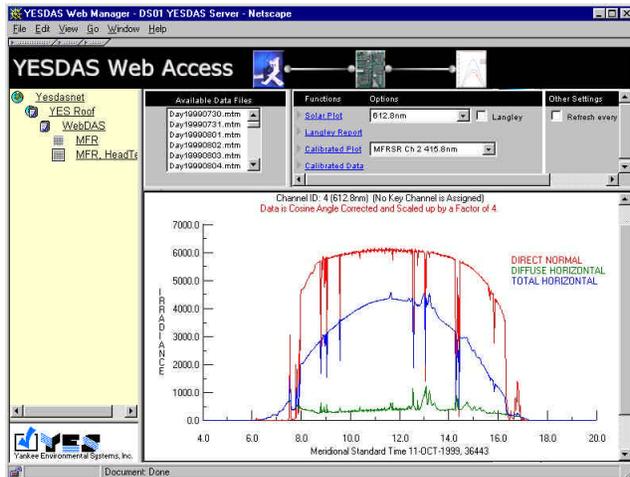
$$e_m(T_d) = \frac{r}{0.62197 + r}$$

$$2.82 \sin \phi - 20 \sin \phi + F_x$$

$$\frac{du}{dt} = \frac{24 \tan \phi}{a} + \frac{1}{a} \frac{\partial p}{\partial t} - \frac{2.82 \sin \phi}{a} - 20 \sin \phi + F_x$$

Windows Graphical User Interface

An MS-Windows 9x/NT/2000/XP graphical user interface supports operations including data browsing, configuration, graphical plotting, and printing. Normally, a single client manages multiple sites, but multiple clients can also share a network of several YESDAS systems. For example, in a professor/student hierarchy, professors could alter instrument profiles while students might only be allowed to view data.



YESDAS Manager's real-time calibrated data web display.

Web User Interface

A Web user interface (WUI) supports world wide web users with either Netscape or MS-Explorer browsers as shown above. The WUI permits you to push data to remote users via Internet, Intranet, or virtual private network connections. Remote web users do not need any client software; they use a simple cut-and-paste of the URL to rapidly move data from YESDAS Manager directly into a favorite MS-Windows application such as MS-Excel for further analysis. Also, because multiple software licenses do not need to be purchased and maintained, this feature permits administration-free operation of larger networks of YESDAS systems, dramatically lowering the total cost of ownership. The web server component can also be installed on another PC to partition the processing workload.

Calibration/Solar Information Profile Manager

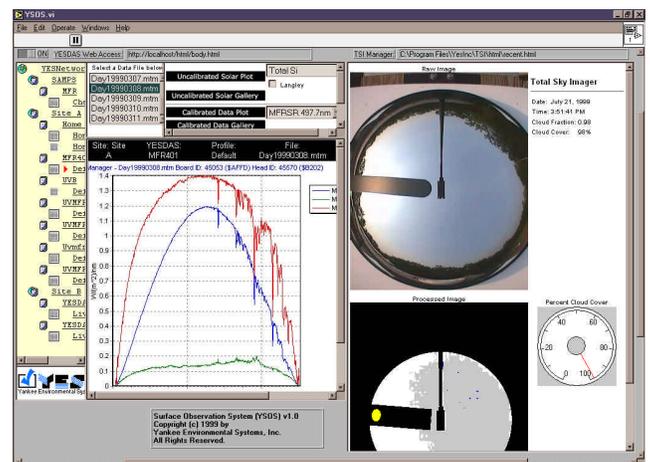
YESDAS Manager LabView5 Interface with TSI display, demonstrating ActiveX technology YESDAS

Manager introduces the concept of *system profiles* to track and manage data acquisition protocol changes to each YESDAS system over its operational lifetime. Profiles keep track of important changes in the data stream as sensors are periodically added or replaced with freshly calibrated sensors. For example, calibration intervals are tracked that permit later automated processing of the data with the correct calibration constants. The true power of the QED data processing language built into YESDAS can now be tapped via the integrated QED editor/processor. Numerous additional enhancements over earlier versions are included:

- Ability to plot calibrated data
- Real-time display via Windows or web interface
- Improved Langley analysis filtering algorithms for solar data, resulting in improved optical depth results at sites with sub-optimal conditions
- LabView 5 interface for user-developed applications

Minimum System Configuration

YESDAS Manager requires a minimum configuration of a Pentium 90 (P5-200 or better strongly recommended), MS-Windows 95, NT 4, 2000, or XP with at least 32 MB of RAM and 40 MB of disk space. Note that user data files will require additional free disk space depending on factors such as the number of monitored channels and sampling rates. The use of the web interface requires MS-Explorer or Netscape 4 (or later). For a working demo please visit our website.



YESDAS Manager's real-time calibrated data web display.



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