PowerLogic™
System Manager Software

PowerLogic™ System Manager Software

Main Menu Options

Context-Sensitive On-Line Help

Title Bar for Each Window

Pull Down Menu Selections

System Manager Runs Under Microsoft Windows™ 3.0 for Multiple Tasks

Scroll Through Tables, Graphs

User-Sizeable Windows

Concurrent Applications are Displayed as Icons

Supports Simple Point & Click Operation (Microsoft® Mouse Included)

PowerLogic™ System Manager and System Manager Plus are PC-based software packages that provide real-time circuit information from PowerLogic™ Circuit Monitors and other compatible devices. Comprehensive information on all points in the system can be provided at a single or multiple personal computers.

The System Manager Software provides useful information to all persons involved with the efficiency, reliability, cost, or operation of an electrical distribution system. Plant Engineers, maintenance personnel, machine operators and many others can benefit from the powerful, easy-to-use software without extensive software training. Whether your goal is to minimize energy usage, avoid peak demand levels, analyze equipment loading, or simply keep your electrical system up and running, the System Manager software provides the information you need in the format you want.

PowerLogic System Manager and System Manager Plus take full advantage of the powerful graphical environment of Microsoft® Windows 3.0. Commands are performed by simple point-and-click mouse operations or keyboard entry.

Since the System Manager software packages are specifically designed as Windows 3.0 applications, they can be run concurrently with spreadsheet, database, word processing, and other Windows applications. This allows the program to log data, check for alarm conditions and more while the user is working in another application. If system conditions should change outside user-defined operating limits, the System Manager will notify the operator so action can be taken.

The System Manager software runs on IBM AT, Compaq 286 and 386 based machines, or 100% compatible computers. Most dot matrix and laser printers, plotters, mouse and video equipment are supported.

System Manager and System Manager Plus come ready-to-go right out of the box. Microsoft Windows 3.0 and a Microsoft® mouse are included. Installation and system configuration are quick and easy with no additional programming or application development required.

As part of the PowerLogic™ Application Software Series, both packages are designed to utilize Square D's SY/NET® network (although not required), supporting communication speeds through 500kbaud, distances up to 15,000 feet, and virtually limitless connections. PowerLogic™ works with SY/NET® to provide maximum throughput and flexible connectivity, now and in the future.
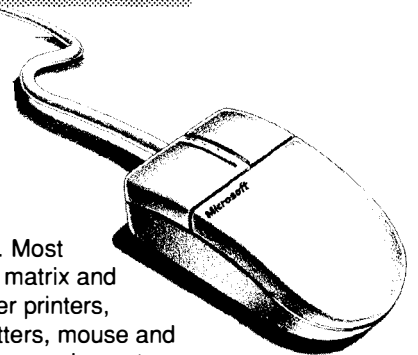
SQUARE D COMPANY

System Manager Highlights

Tables
- Instantaneous Readings
- Demand Readings
- Energy Readings
- Load Current Summary
- Demand Current Summary
- System Voltage Summary
- Power Flow Summary
- Power Factor Summary
- Digital Function Summary

Time Trend Plots
- Load Current History
- Demand Current History
- Demand Power History
- Voltage History
- Real Power History
- Reactive Power History
- Apparent Power History
- Power Factor History
- Energy Use History
- Energy Use Comparisons for Multiple Circuits
- VAR Use History Comparisons for Multiple Circuits

Event History
- Scrollable List of Event File
- User-Defineable Events
- Automatic Logging to Disk & Printer

Bar Charts
- Load Phase Currents
- Average Load Current
- Demand Phase Currents
- System Voltage Summaries
- Power Flow Summary
- Power Factor Summaries

History Tables
- Load Current History
- Demand Current History
- System Voltage History
- Power Factor History
- Power Flow History
- Energy Use History
- Energy Use History Comparisons for Multiple Circuits
- VAR Use History Comparisons for Multiple Circuits

Meters
- Current Meters
- Demand Currents
- Voltage Meters - L-N and L-L
- Real Power
- Reactive Power
- Apparent Power
- Power Meter (Demand)
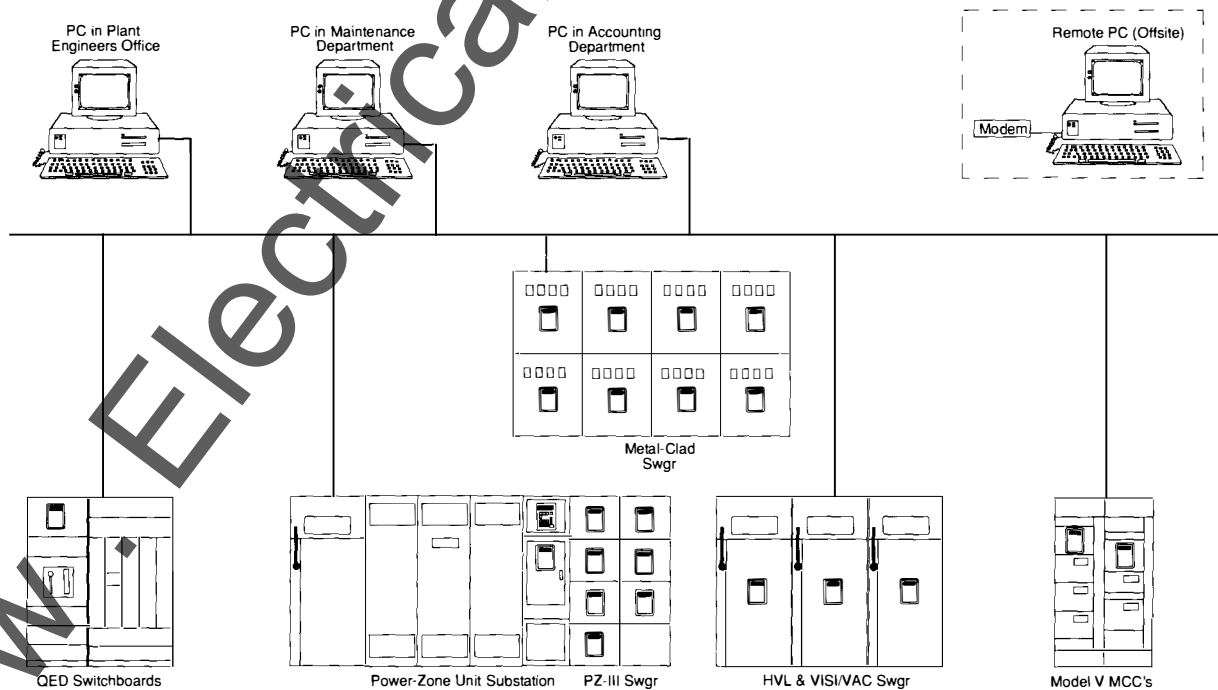- Power Factor Meters

Waveform Plots
- Phase Voltages and Currents
- Auto Create Feature - Produces Multiple Windows for Multiple Circuits

Waveform Data Block
- RMS Magnitudes
- Peak Magnitudes
- Crest Factors
- Fundamental Frequency Component Magnitude (60Hz) - Each Waveform
- Total Harmonic Distortion (% of Fundamental)
- Most Significant Harmonic Component
- Magnitude of Most Significant Harmonic (% of Fundamental)
- Automatic Scaling, Grid and Labeling
- User-controllable Scaling, Grid and Labeling - SMS-770

Alarms
- User Selectable Indication - Visual, Audible, Required User Acknowledgement
- Three Severity Levels
- Associated with Discrete Inputs or Analog Circuit Quantities

PC in Plant Engineers Office   PC in Maintenance Department   PC in Accounting Department   Remote PC (Offsite)

Modem

Metal-Clad Swgr

QED Switchboards   Power-Zone Unit Substation   PZ-III Swgr   HVL & VISI/VAC Swgr   Model V MCC's

Typical communications network for power system managed with System Manager Software at each PC.
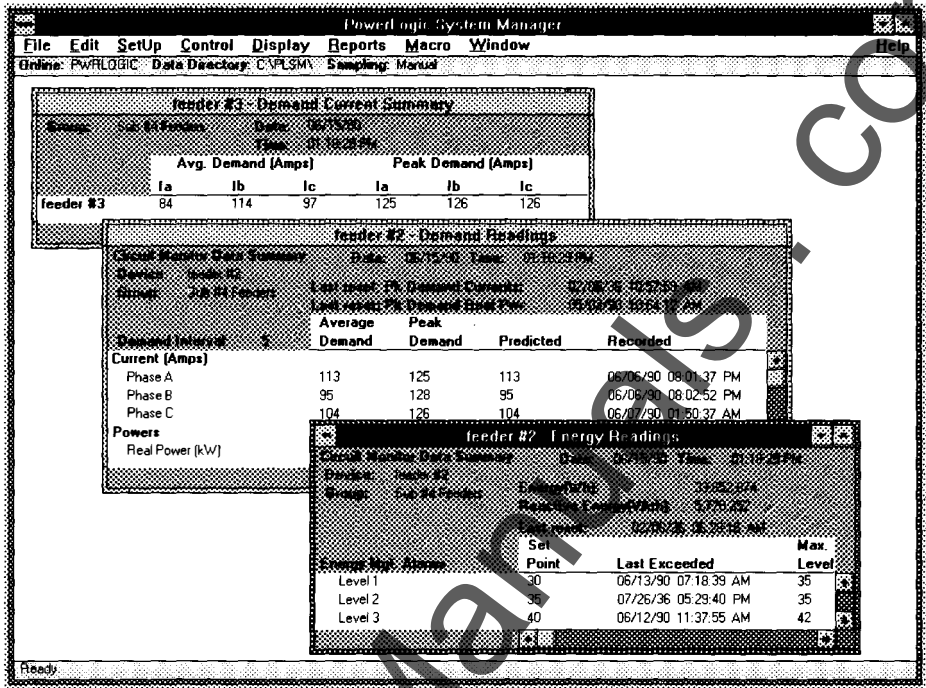
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SIMULTANEOUS ACCESS / CONTROL THROUGH MULTIPLE WINDOWS

Circuit Monitor quantities and system conditions can be displayed in individual windows. Multiple windows can be opened (viewed) simultaneously, each containing a different Circuit Monitor or system condition. The user is free to size or scroll through each window and position it on the display screen as needed. In this manner, information associated with different machines, areas of the plant, or just different types of data can be viewed simultaneously.

INFORMATION DISPLAYED IN A VARIETY OF FORMATS

System Manager provides not only complete information from the electrical system, but it does so in a wide variety of formats. These include real-time and historical data tables, bar (profile) charts, time trend plots, graphical meter displays, and voltage and current waveform plots. These formats may also be combined for report production.
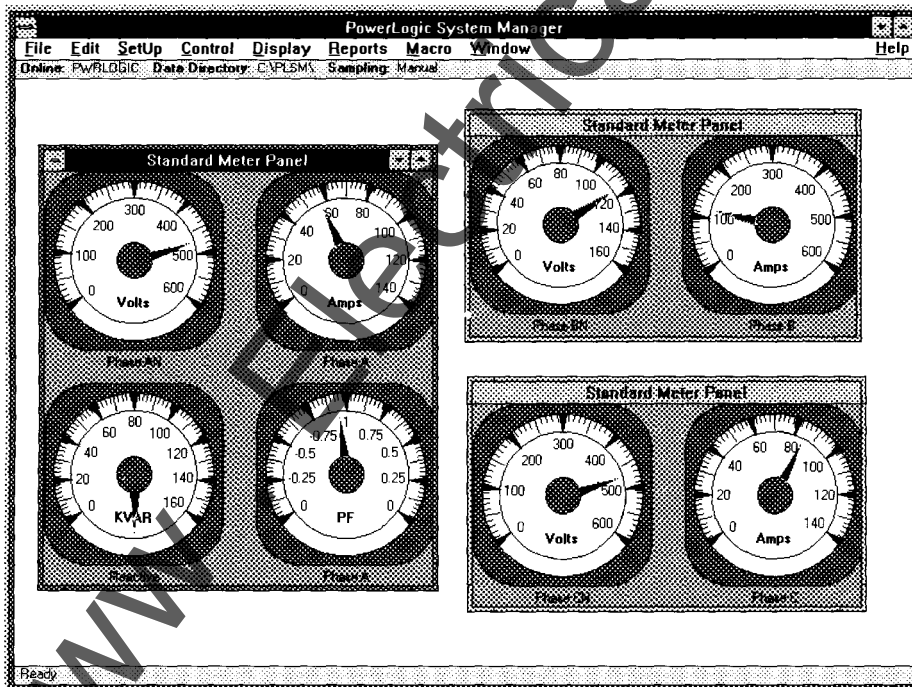
PowerLogic System Manager

File Edit SetUp Control Display Reports Macro Window Help

Online: PWRLOGIC   Data Directory: C:\PLSM\   Sampling: Manual

feeder #3 - Demand Current Summary

| | Avg. Demand [Amps] | | | Peak Demand [Amps] | | |
	Ia	Ib	Ic	Ia	Ib	Ic
feeder #3	84	114	97	125	126	126

feeder #2 - Demand Readings

	Average Demand	Peak Demand	Predicted	Recorded
Current (Amps)				
Phase A	113	125	113	06/06/90 08:01:37 PM
Phase B	95	128	95	06/09/90 08:02:52 PM
Phase C	104	126	104	06/07/90 01:50:37 AM
Powers				
Real Power [kW]				

feeder #2 - Energy Readings

	Set Point	Last Exceeded	Max. Level
Level 1	30	06/13/90 07:18:39 AM	35
Level 2	35	07/26/36 05:29:40 PM	35
Level 3	40	06/12/90 11:37:55 AM	42

Ready

REAL-TIME & HISTORICAL DATA TABLES

All instantaneous and minimum and maximum quantities acquired by Power-Logic Circuit Monitors can be presented in tabular form. Historical data tables are provided for tracking circuit information over time such as load current, power factor, energy use, and more. Historical tables may also include multiple Circuit Monitors for comparing such quantities as energy and VAR usage.

RESET INSTRUMENTATION

Circuit Monitor minimums and maximums, peak demand currents, peak demand real power, accumulated energy, and energy alarms may be reset from the System Manager Software. These quantities may be reset individually or simultaneously, for one or more Circuit Monitors. The date and time of the last reset operation are stored for each quantity.

INSTRUMENTATION VIA PANEL METERS

Traditional panel meters such as ammeters, voltmeters, power meters, power factor meters, and others, are supported by the System Manager software. Individual meters or standard meter panels can be displayed. Meters for multiple Circuits can be displayed in multiple windows. All meters include colors illustrating the nominal value, typical range, and acceptable limits for the quantity of interest.

PowerLogic System Manager

File Edit SetUp Control Display Reports Macro Window Help

Online: PWRLOGIC   Data Directory: C:\PLSM\   Sampling: Manual

Standard Meter Panel

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TIME TRENDING

Plots of circuit information over time are easily produced using the 'Time Trend Plots' option. Trending of demand levels, energy usage, transformer loading, etc., can be quickly generated to help manage equipment loading and energy usage, aid in maintenance, and generate reports.

REPORT GENERATION

Both System Manager and System Manager Plus include a report generation feature which allows users to generate reports for any displayable information. Reports include appropriate headings and pagination. System Manager Plus offers the additional flexibility to customize reports as necessary. Together with macro support, automatic report generation is quick and easy.

PASSWORD PROTECTION

Both System Manager packages provide three levels of password protection - master, engineer and operator levels. When a user attempts to access a protected portion of the system, he will be prompted to enter the password. Upon successful password entry the user will have sufficient time to make any changes at that system level before re-entry of the password is required.
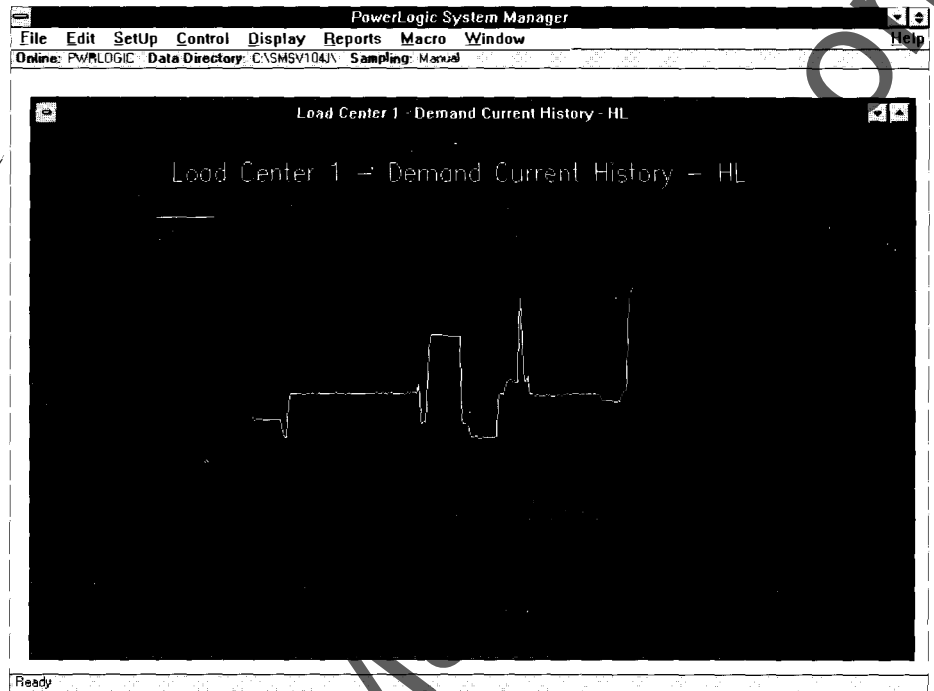
MACRO LANGUAGE

Macros, a series of recorded keystrokes, are supported so the user can automate repetitive operations. Each macro is assigned a unique name. The user can later select the required macro from a scrollable window listing. Macro capability and a complete macro language are provided with System Manager Plus.

DATA LOGGING

Circuit data can be logged to a printer or saved as a disk file or both. The time interval is user-selectable to allow complete flexibility. Starting and ending times for the printer log define the duration of the log file. This data forms the basis for time trend plots and history tables.
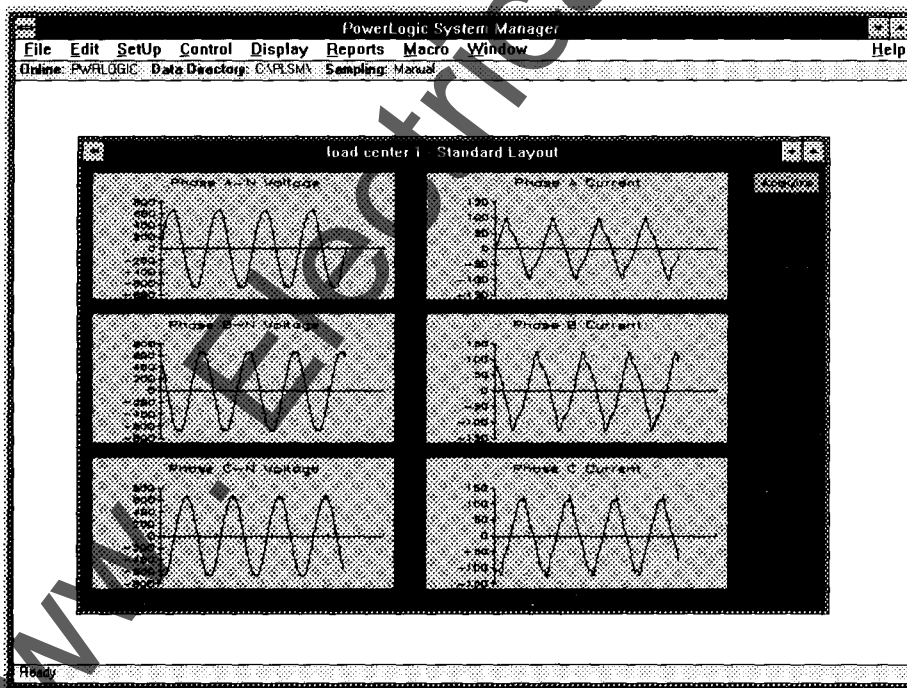
WAVEFORM CAPTURE & STORAGE

Distorted waveforms leading to increased neutral currents, excessive capacitor currents, or reduced transformer capacity can be regularly monitored by the System Manager software. Circuit Monitors utilize a high-speed digital sampling technique to monitor the circuit voltages and currents. Harmonic content through the 31st can be captured and stored for later use.

WAVEFORM ANALYSIS

Waveform information is also provided in a 'Data Block' format which includes the most significant harmonic and its magnitude, percent total harmonic distortion (%THD) as defined in IEEE-519, crest factors, and more. Waveforms can be further analyzed using waveform analysis software to provide system-wide power quality and harmonic information.
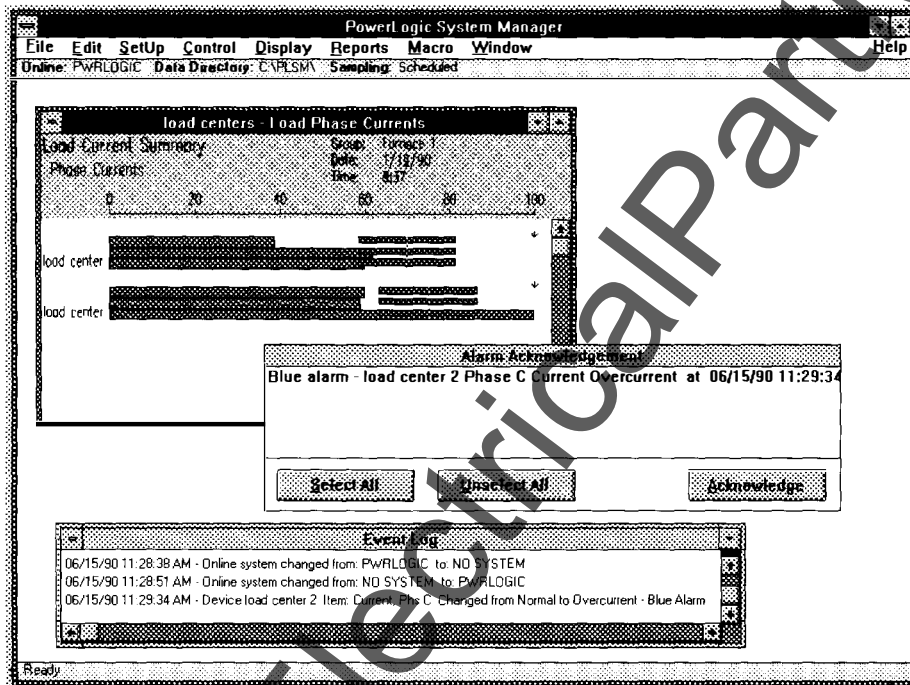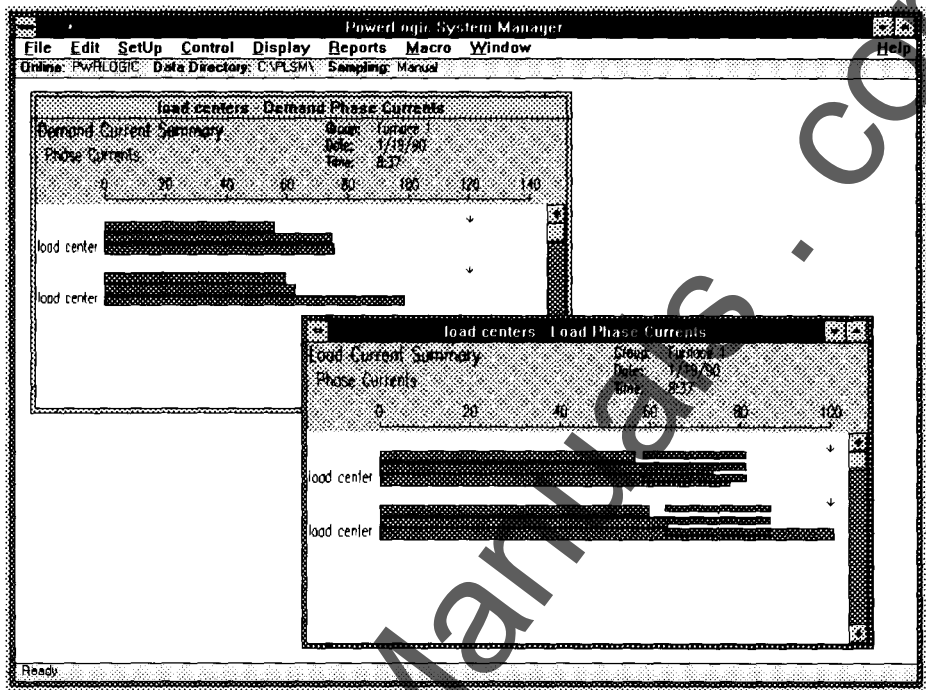
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BAR CHARTS

Real-time bar charts for all circuit quantities are generated via the 'Bar Charts' option. As conditions change the charts are updated to reflect the present conditions. Indication of all circuits is easily displayed with this feature.

REAL-TIME CIRCUIT TRACKING

Dynamic graphics are used to display real-time circuit quantities utilizing the "Circuit Tracker™" feature. Circuit quantities such as demand phase currents, peak demand real power, power factor, etc., can be graphically displayed in real-time for a single circuit or group of circuits. The Circuit Tracker feature allows the user to define a normal operating range which appears on the graphical display. Through this real-time graphical indication, conditions through-out the system can be checked at a glance.

ALARMS - REPORT BY EXCEPTION

Alarms may be user-defined for Circuit Monitor quantities, status inputs, relay outputs, or other compatible devices. Alarms may be assigned one of three severity levels and three types of indication -- audible, visual, and/or required acknowledgment. Upon alarm condition, the user is notified immediately based on the type(s) of indication selected. In addition, the user may, at any time, invoke a window showing a summary of all active alarms.

EVENT LOG HISTORY

Any quantity specified by the user as an alarm condition is automatically logged in the "Event Log" file. This disk file is constantly updated and may be viewed, printed, or cleared at any time during program operation. The number of events recorded is limited only by the available disk space and may be cleared at any time. However, the maximum number of events stored can be selected by the user with visual indication when the maximum number of events has been reached.

REMOTE CONTROL

System Manager Plus provides for control of relay output contacts. The highest (master) level of password protection is utilized to avoid accidental or unauthorized usage. Remote-manual control of operations such as initiating an automatic start-up or shut-down sequence can be performed as soon as an alarm condition is observed.

USER-DEFINED STATUS LABELING

Circuit Monitor status inputs, relay outputs and bits in SY/MAX® programmable controllers can be assigned unique descriptive labels. These user-defined labels add meaningful indication to data windows, such as alarm and event windows, in which input, output and alarm status appear.
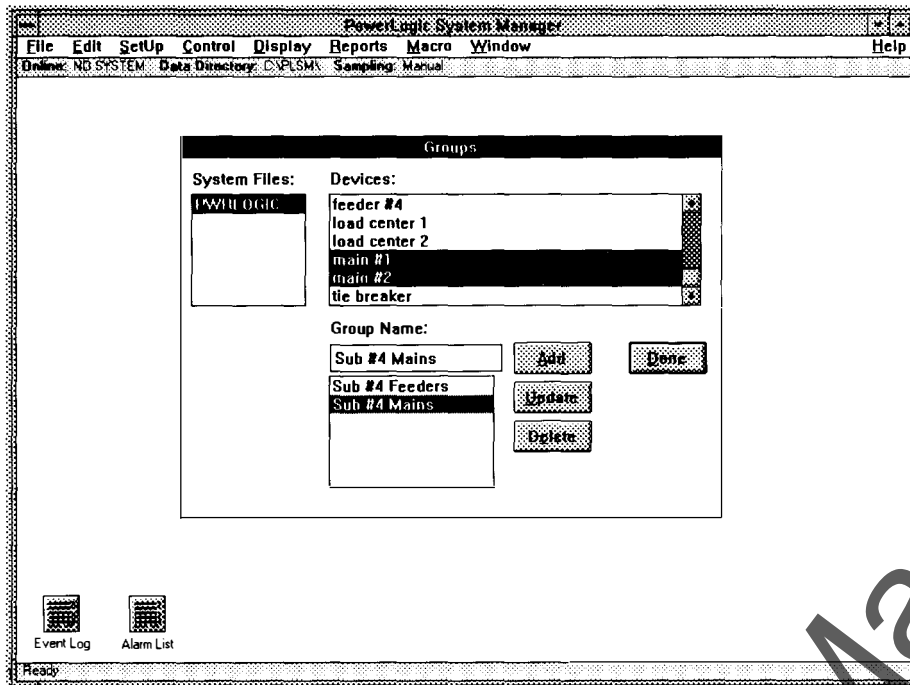
PowerLogic System Manager

File   Edit   SetUp   Control   Display   Reports   Macro   Window   Help

Online: NO SYSTEM   Data Directory: C:\PLSM\   Sampling: Manual

Groups

System Files: Devices:

PWRLOGIC   feeder #4
                    load center 1
                    load center 2
                    main #1
                    main #2
                    tie breaker

Group Name:

Sub #4 Mains   [Add]   [Done]

Sub #4 Feeders   [Update]
Sub #4 Mains
                        [Delete]

Event Log   Alarm List

Ready

EASY SYSTEM SETUP & CONFIGURATION

System setup and configuration involves the definition of a number of parameters including device addresses, CT/PT ratios, system connections, alarms, groups, data logging and similar information. Setup information is stored on disk. Multiple setup files may be created and selected for use in monitoring separate facilities whether local or remote via modem. Initial configuration of systems with 20-30 Circuit Monitors can often be performed in less than an hour. Future changes due to system additions or alterations can be implemented with minimal time investment.

GROUP-ORIENTED PRESENTATION

Presentation of large amounts of information is simplified by the System Manager's "Group" feature. This feature allows devices to be organized into logical groups, each with a unique name. Groups can include the entire facility, points of utility metering, chillers, etc.. This feature can also be applied to status inputs and relay outputs of Circuit Monitors or other compatible devices.

ON-LINE CONTEXT SENSITIVE HELP

A complete on-line help system equivalent to the entire user's manual is available at all levels of program operation. The system is categorized and specific topics may be selected, or printed should the need arise. All features of the software are covered including macros, printing, exporting, graphing, and more.

SHARE DATA WITH OTHER PROGRAMS

For compatibility with other applications a number of file formats are supported. These include comma separated variable (.CSV), Microsoft Excel (.XLS) and Metafiles, ASCII Text Files (.TXT). For exporting waveform information, DADISP File format (.DSP) is also provided.

COMPLETE PRINT FUNCTIONS SUPPORTED

Any information which can be displayed in a window or multiple windows can be printed. The printed output will automatically be formatted with appropriate paging and headings. If desired, the information can be saved to disk in a selected file format for electronic mailing, additional editing, or later printing.
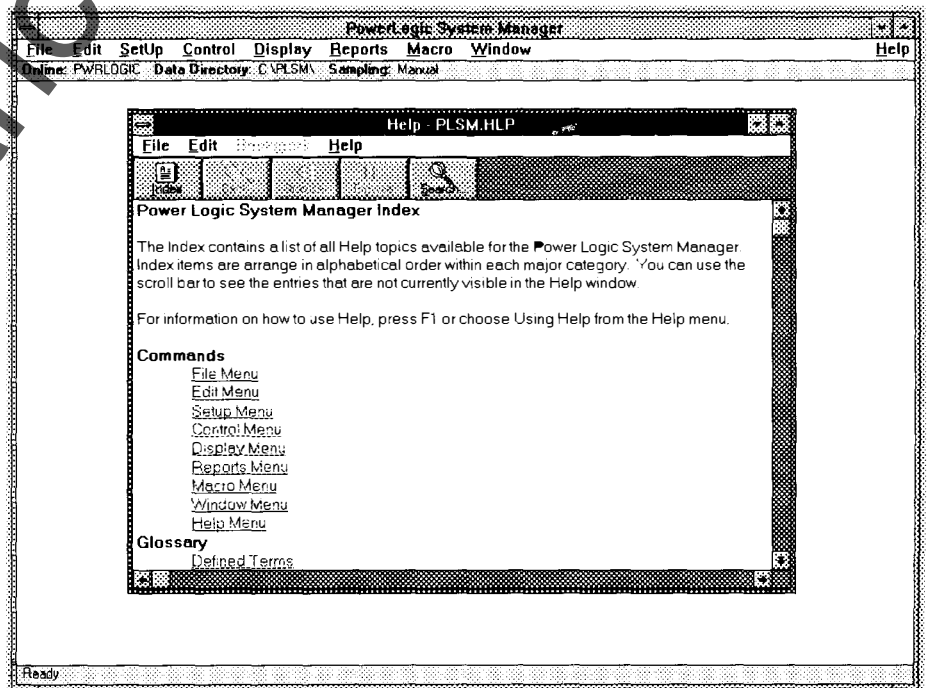
ON-LINE DIAGNOSTICS AND TROUBLESHOOTING

System Manager performs regular diagnostics checks to insure integrity of the devices and system communications. Should communications or control power be lost, the occurrence is stored in the "Event Log". Additional troubleshooting can be performed by the user including system communications tests, register reads/writes and more.

PowerLogic System Manager

File   Edit   SetUp   Control   Display   Reports   Macro   Window   Help

Online: PWRLOGIC   Data Directory: C:\PLSM\   Sampling: Manual

Help - PLSM.HLP

File   Edit   Bookmark   Help

[Index]   [Search]

Power Logic System Manager Index

The Index contains a list of all Help topics available for the Power Logic System Manager. Index items are arrange in alphabetical order within each major category. You can use the scroll bar to see the entries that are not currently visible in the Help window.

For information on how to use Help, press F1 or choose Using Help from the Help menu.

Commands
   File Menu
   Edit Menu
   Setup Menu
   Control Menu
   Display Menu
   Reports Menu
   Macro Menu
   Window Menu
   Help Menu
Glossary
   Defined Terms

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System Manager Selection Guide

Feature	System Manager SMS-700	System Manager Plus SMS-770
Displays and Prints Tables, Charts, & Graphs	Yes - Predefined	Yes - Predefined & Custom
Displays Individual Meters & Meter Panels	Yes - Predefined	Yes
Displays Waveforms & Saves Data to Disk	Yes	Yes
Allows User to Zoom in on Waveform Plots	No - Automatic	Yes
Monitors CM Alarms and other User-defined Alarms	Yes	Yes
Saves and Displays Event History	Yes	Yes
Reports Status of Discrete Inputs	Yes	Yes
Reports and Provides User Control of Digital Outputs - Password Protected	Reports Status Only	Yes
Data Logging in Background	Yes - Fixed Function	Yes - Fixed Function & Variable Scheduling
Password Protection (3 Levels)	Yes	Yes
Macro Functions	No	Yes
Microsoft® Windows™ 3.0 Compatible ❏	Yes	Yes
Mouse Support ✳	Yes	Yes

❏ A copy of Microsoft® Windows™ 3.0 (or latest release) is included with each System Manager or System Manager Plus.

✳ A Microsoft® Mouse (serial) with software is included with each System Manager or System Manager Plus.

PC Hardware Requirements for Operating System Manager Software

Minimum Requirements
- IBM AT (80286) or 100% compatible (Micro-channel not supported)
- Hard disk drive with 5MB free space
- (1) long slot available (for SY/LINK® PC Card)
- (1) SY/LINK® Network Interface Card (Class 8010 Type SFI-510)
- 640 K RAM
- EGA Monitor and EGA Video Adapter

Recommended for Better Performance
- 80386 Based Machine
- Color VGA Monitor and VGA Video Adapter
- Additional RAM; 2MB or More

ORDERING INFORMATION

```
                                              CLASS       TYPE
                                           ┌──────┐┌──────────┐
SQUARE D CATALOG NO. ─────────────────────│ 3080 ││ SMS700   │
                                           └──────┘└──────────┘
CAT. CLASS 3080 ──────────────────────────────────┘       │
                                                          │
TYPE:   SMS-700 System Manager ✓ ─────────────────────────┘
        SMS-770 System Manager Plus ✓
```

✓   Includes MS Mouse and MS Windows 3.0
    SY/LINK PC Interface Board(s) must be ordered separately.

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For Further Information - Contact your nearby Square D sales office or call or write to :
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