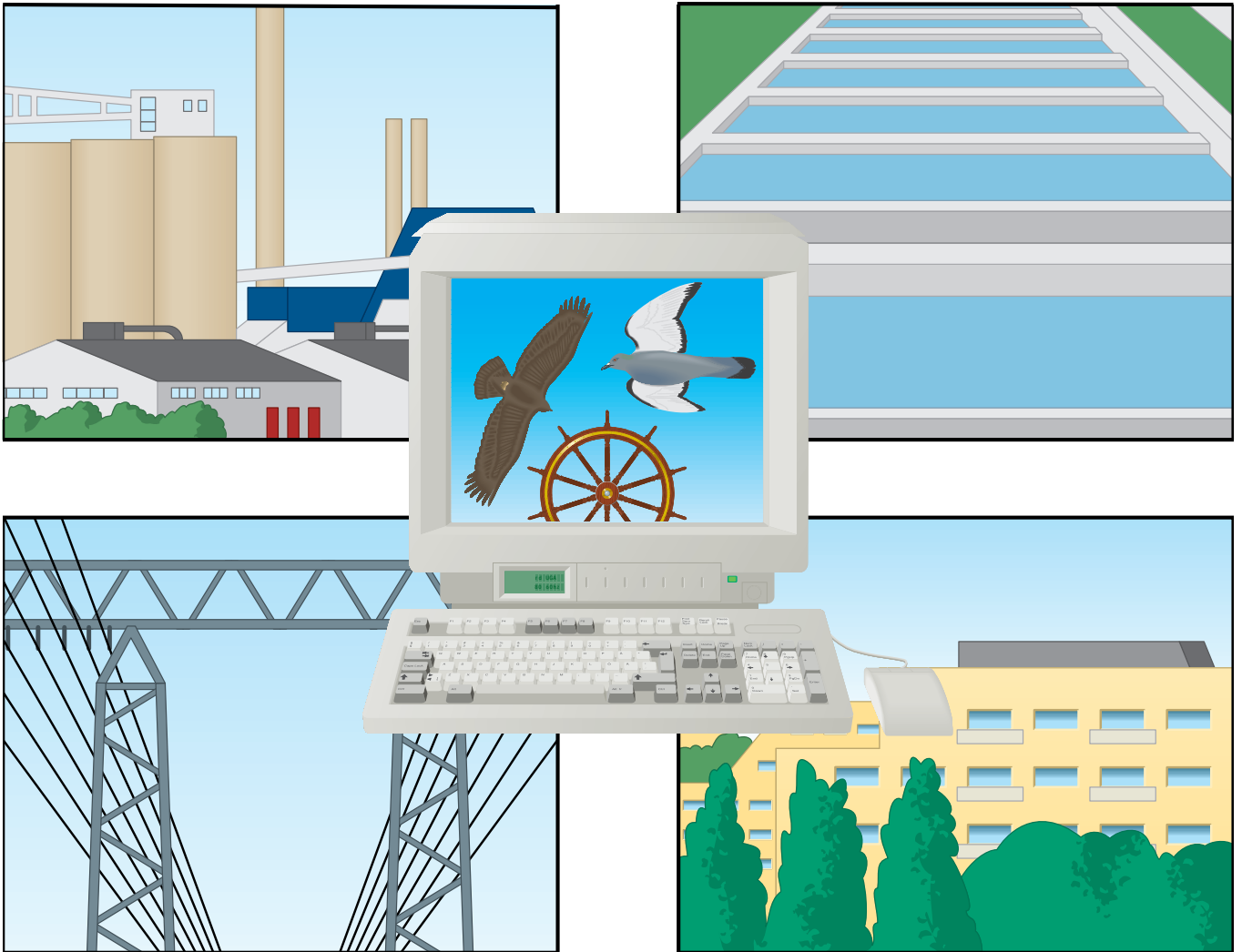# PcManager

Operator system

PcManager is an operator and supervisory system that operates in a Microsoft Windows environment and can be used for supervising, controlling and reporting in all types of industrial applications.

PcManager is a complete IT platform – a unique software concept that meets the need for information transfer between man and machine in industrial and technical applications. The system can be configured as a single workstation or as an entire series of workstations connected via a LAN (Local Area Network).

Communication with different makes of control systems (PLCs/substations) is standard as is communication with other computer systems.

PcManager makes it possible to start at a basic level with a single system and gradually add more complex solutions.

PcManager has the following main features:

- Complete operator and supervisory functions
- An open system that enables easy connection with PLCs of different makes
- A modular design that allows for everything from a small system (low functionality and up to 80 signals) to a large system (full functionality and 1500 signals).

- A modular design and distribution that permits the same concept to be used in a single workstation as well as in complex plants
- Client/server system
- Object oriented graphics
- Runs under Windows 3.11 or Windows 95
- Connectivity to other Windows applications
- OLE and ODBC interfaces

ABB

A modular system

PcManager's pre-defined function modules are based on many years experience of process automation. The icons and symbols are quick to learn and there is little risk of misinterpretation. Clear, easy to use menus and forms also result in less errors.

The user-friendly concept allows easy configuration and makes PcManager simple to learn. The manual is built into the software and help texts can be called up on-line.

Basic module

The basic module contains the fundamental system functions for installation, variable and system databases, message handling, system error management.

Server modules
LAN-RS232

Communication between several PcManager workstations via asynchronous, point-to-point connection (RS232/V24) via fixed or dialled lines.

LAN-IPX

Communication between several PcManager workstations via a network link (LAN) based on the IPX/SPX protocol, e.g. Ethernet or Token-Ring.

Protocols

Communication for PLCs/substations (same or different makes/protocols – COMLI, SattBus, MODBUS, Siemens 3964R, OMRON, etc.)

Dialled workstations

Communication with one or more PcManager workstations via dialled telephone line.

Dialled PLCs/substations

For automatic connection to PLCs/ substations (same or different makes/ protocols) via dialled telephone line.

Long-term storage

For automatic safety back-up and storage of selected data on external media (CD unit, hard drive, network server, etc.).

Graphics

Creation and display of graphics with dynamic variables (digital and analogue) and automatic update. The variables can be changed via the keyboard or using the mouse. Changes are logged in a report and, like the graphics, can be printed out.

Data acquisition

Functions for automatic data acquisition of digital and analogue variables and storage on hard disk or other media. Time or event controlled.

Table reports

Search, display and print out of acquired data variables in tabular form. Variable data can be altered manually.

Trend graphs

Search, display and print out of acquired data variables in graphical form. Variables can be zoomed and compressed.

Alarms

Display and print out of alarms, errors and events in plain text with automatic or manual acknowledgement. Alarms can be displayed in different types of report.

Operation times

Measurement, display and print out of operation and idle times with comments in different reports. Ideal for planned maintenance.

Timer channels

Automatic ON and OFF switches of digital variables at specified times and according to different schedules.

Calculations

Mathematical and logical operations between external (PLC/substation) and internal digital and analogue variables. Time or event controlled execution.

Result reports

Search, display and print out of user-defined reports with configurable layout. The reports are event based or time based on a shift, day, week, month or year basis and can be generated manually or automatically.

Recipes

Entry, presentation, storage and downloading of user-defined recipes (number of listed variables) to PLCs/ substations. The recipes can be transmitted manually or automatically.

Access authority

Use of passwords to prevent unauthorised use of and changes to system functions.

Documentation

For compressed print out of the system's configuration data.

Note pad

Presentation of text messages between different operators and workstations.

Variable information

For display of information related to the variables in the system.

Integration with other programs

Conventional clipboard functions, DDE, OLE and ODBC are used to transfer data to and from other Windows programs (e.g. Excel and Access).

Client modules

Operational client
For client functions (operator workstation) for one or more external PcManager servers. The client functions can be run either via a fixed line (LAN) or via a dialled line (DATEL). The client always has the same operator and operational functions as the server to which is it connected.

System client
Same as above but has the capability of configuring connected servers.

Tailored modules
The system can be added to with other Windows programs for multi media, electronic mail, advanced statistics, and service and maintenance. Conventional system tools (e.g. Microsoft SNA Server and SQL Server) are used for more advanced functions such as connection to other computer systems, networks and databases. Special functions can be tailor-made using normal software development tools such as Microsoft Visual Basic and C++.

System configuration

Client/server
PcManager may be configured as a single node or as a client/server configuration. The server includes a local client, which enables the single node configuration.

A client (operational or system client) can be located on a separate node or on the same node as a server. When located on a separate node, the operator will work with a remote server via the client.

When located as the same node as a server, it is possible for the operator to work either with the local server or, via the client, with a remote server.

A client can be located at the same LAN as the server or communicate with a remote server using modem and dialled telephone line.

PLC
PLCs can be connected to a server in a point-to-point or multidrop configuration. Over longer distances, modems and dialled telephone lines may be used.
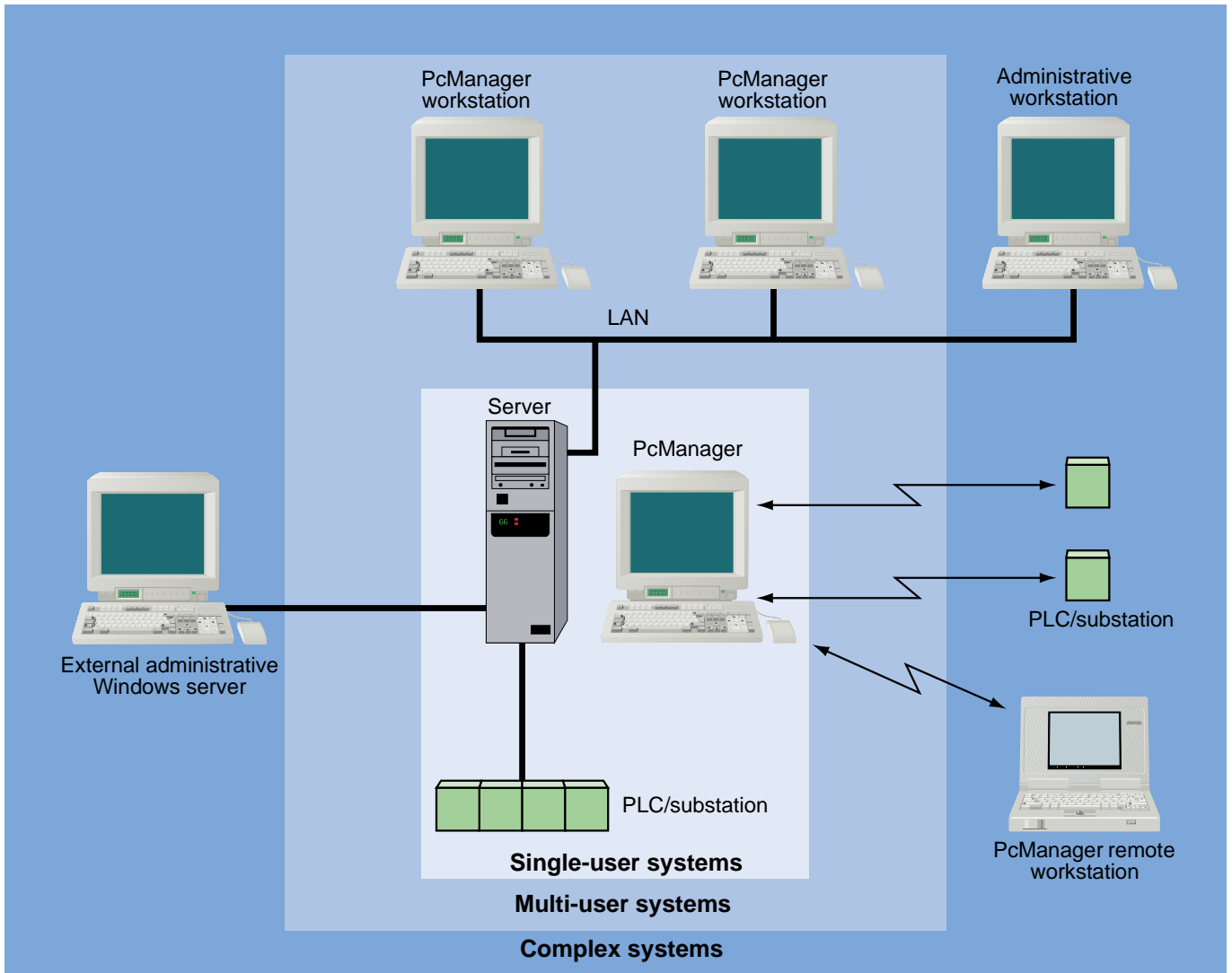
A connection via modems and dialled telephone lines may be fixed or dialled

at pre-defined occasions when buffered data is transferred.

More than 20 different protocol drivers are available for communication via the server's serial ports. In addition, SattBus on SattBus card or Ethernet board may be used.

Others
Other computers and applications may co-exist on the same LAN as PcManager. With e.g. the OLE or ODBC interfaces, PcManager may communicate with these applications.

PcManager workstation

PcManager workstation

Administrative workstation

LAN

Server

PcManager

External administrative Windows server

PLC/substation

PLC/substation

PcManager remote workstation

Single-user systems

Multi-user systems

Complex systems

PcManager is a unique system solution which enables the same software to be used freely in all types of plants, from a single work-station to extremely complex installations with a number of workstations connected in a network.

Technical data

Software

Functions	Operator and management system for control, monitoring and alarm handling.
	Functions for historic data storing, trend curves, operation times monitoring and various types of reports.
	Clipboard function, DDE, OLE and ODBC are used to transfer data to and from other Windows programs.
Operating system	Windows 3.11 and Windows 95

Hardware

Platform	At least 486 DX, 66 MHz, 16 Mbyte RAM and 120 Mbyte hard disk.
Communication accessories	Digiboard PC4e and PC8e are recommended for serial communication
	Ethernet board is needed for non-serial communication.
	SattBus card or Ethernet board is needed for SattBus communication.
Screen pointer control	A three button mouse is recommended
Programming keyboard	Standard PC keyboard

Configuration size

Number of nodes	Max. 17
Number of servers	Max. 3
Number of process signals	Max. 1500/server

Performance (typical values)

Picture change	Static 1.0 sec. Including dynamic 2.0–5.0 sec.
Dynamic updating	Activator to screen 2.0 sec.
Control	To activator 1.0 sec.
Alarm	Polled alarm, activator to screen, 2.0 sec.

Graphics

Resolution	SVGA (800 x 600 pixels) Pixel based graphics
Colours	16 or 256

Communication – subsystem

Interface	RS232, SattBus card or SattBus on Ethernet
No. of serial channels	1 to 8
No. of SattBus cards	1 to 4
Transmission speed	300, 600, 1200, 4800, 9600, 19200 or 38400 baud. For SattBus 62500 baud.
Range	RS232C, max 15 m, Via RS422/485 converter, max. 1200 m (4-lead). SattBus, max 2000 m. Ethernet max. length is depending on media.
Protocols	COMLI, SattBus and more than 20 other protocols. Some protocols can be dialled
COMLI telegram types	0123569ABCJÅÄ<=

Network

Communication method	IPX/SPX-based LAN. Ethernet or RS232. For long distances, modems and dialled telephone lines may be used
Number of nodes	Max. 17

Peripheral units

Log printer	Line formatted printer, e.g. Microline 380
Report printer	E.g. HP DeskJet 660C or HP LaserJet 5P
Screen printer	E.g. HP DeskJet 660C or HP LaserJet 5P
External storage media	E.g. Opto-magnetic disk

Languages

Software	English and swedish
Documentation	English and swedish

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