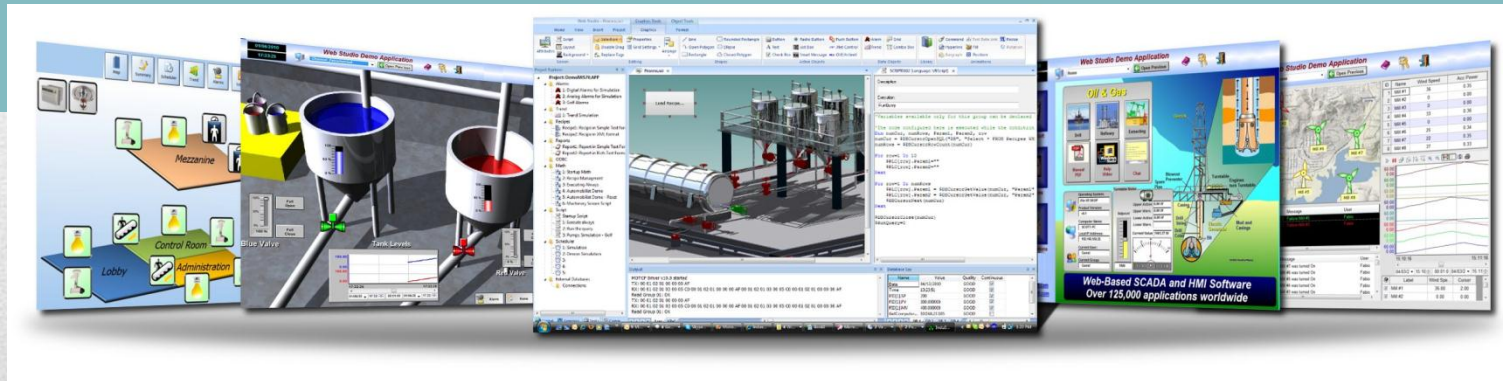




Smart Control Systems





PRODUCT LINE OVERVIEW

- SoftPLC Programmable Automation Controllers (PAC's)
 - Functionality of PLC's, RTU's and DCS controllers combined with data/computation functions of computers
 - All models include same features/functions and use same programming/maintenance software
 - Models differ in hardware only (*e.g.: ports, memory, speed*)
- SoftPLC Gateways (Protocol Converters)
 - Any SoftPLC can be a Gateway
 - Higher performance/more features than other gateway products

SoftPLC®



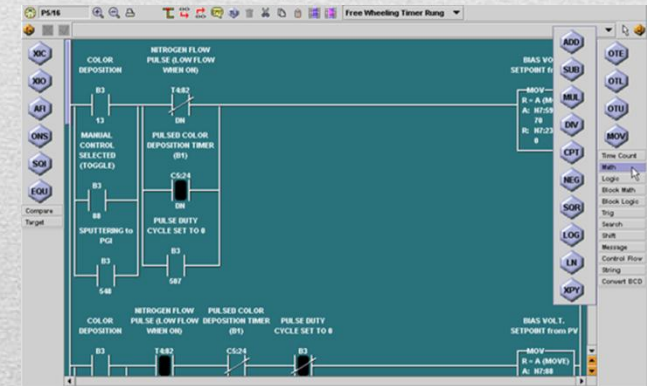
- Industrial I/O

- Tealware™ - Modular rack-mounted I/O system, local & Ethernet configurations
- A-Series – Low count/low cost serial & Ethernet I/O
- Interface cards for industrial networks (*e.g.: Profibus, DeviceNet*)




- TOPDOC® – SoftPLC Programming Software

- Configuration, application development, troubleshooting
- Available for Windows & Linux



SoftPLC

- 
- Web Studio is a complete SCADA software product
 - All features included, no add-on costs
 - Runs on any Windows environment, including mobile devices up to redundant servers
 - Web Studio HMI's are Panel-PC's w/ Web Studio runtime pre-loaded
 - 3.5" - 17" sizes available in standard models
 - Custom sizes/specification models also available (*e.g.: hazardous/marine area, other mounting options, etc.*)

SoftPLC Web Studio



- Gatecraft Industrial Ethernet Products
 - Switches/Routers
 - Media converters
 - Remote Access Modems
 - Wireless Interfaces
 - Firewalls/VPN's
 - Remote Serial Servers



Smart Netbox



Gatecraft Shield

Communication Products

1983 1985 1988 1993 1996 2001 2007 2009

Tele-Denken
formed

1st Release
SoftWires

1st Release
SoftPLC

Name change
to SoftPLC

Tealware I/O
released

Linux Version
SoftPLC

SoftPLC version
Web Studio

SmartBoard
released

COMPANY OVERVIEW



- Founded in 1983 as Tele-Denken Resources, Inc.
 - By ex-Allen-Bradley employees
 - Privately held, Texas Corporation
 - US classified as small, woman-owned business
- 1980's
 - Driver interfaces between PC's & PLC's (O•N•E)
 - A-B PLC programming software (TOPDOC®)
 - for PLC/PLC-2, PLC-3, PLC-5
 - A-B PLC emulation software (SoftWIREST™)
 - A-B private-labeled TOPDOC PLC-3 as 6200 software

History – Key Events



- 1990's
 - SoftPLC Controllers
 - Tealware I/O
 - Changed company name to SoftPLC Corporation
- 2000's
 - Gatecraft Linux O/S and Ethernet products
 - SmartBoard & Smart product family
 - SoftPLC Web Studio

History – Key Events



- Inventors & Innovators
 - Many industry first software features/functions
 - Embrace & provide open architecture technologies
 - Apply computer technologies to industrial automation market
- Focused market offering – specialize in industrial automation products
 - Experts in embedded software (*e.g.: I/O drivers, networking, operating systems*)
 - Reliability & Determinism comes first
- Treasure customer feedback
 - React quickly to customer requests

Corporate Strengths



- Excel in customer support services
 - No “case numbers”
 - Support staff are field experienced application engineers
 - *“I can’t remember a time in the last 20 years that a vendor went to the lengths that SoftPLC Corp. did to ensure our projects were a success.” (USACE)*
- Worldwide network of technical distributors & system integrators for local support
- 24-7/365 support available

Corporate Strengths



- SoftPLC Customers can be found in a wide variety of industries world-wide
 - Wood/Paper – Boise Cascade, Weyerhaeuser, Int'l Paper, Bowater...
 - Food/Beverage –Safeway, Kraft, Pacific Shrimp, TeePak, Coca-Cola...
 - Transportation – Ford, Detroit Diesel, GM, Schenck, Lockheed, Toyota...
 - Quarries/Materials – Tilcon, LaFarge, Smurfit, Cadman...
 - Power – USBR, Detroit Edison, Dracena, NW Natural Gas, SCADA Solns...
 - Water – Ebasco, Taiwan Water, Miami-Dade County, City of Diamond IL...
 - Pharma/Semi-Con – Quest Labs, Bayer, 3M, Panasonic, ThermoBiostar...
 - PetroChem – BP, GE Plastics, China Petroleum, Shell, Dresser, Formosa...
 - Metals –ArcelorMittal, Alcoa, Valesul Aluminum, Midwest Metals...
 - *and many more!*

Customers



- 1996-ongoing: US Army Corps of Engineers
 - Selected SoftPLC to replace old DCS system for hydroelectric controls after intense evaluation of controllers & I/O products
 - Currently >300 PLC's for unit controls, fish mgmt, navigation locks...
 - Each program ~10K rungs of logic, some have over 100K rungs
 - Due to project success, SoftPLC was selected in 2009 for Grand Coulee Dam upgrade by US Bureau of Reclamation
 - Largest power plant in the USA, 3rd largest in world (7GW)
 - Also pumps water to irrigate eastern half of Washington state
 - Using SoftPLC Web Studio HMI's on this project too
 - Combined, SoftPLC is used to generate over 5% of US power and 17% of US Hydropower

Project Story



- Nestle-Purina Pet Food 1997
 - 1st application replaced PLC-5 that wouldn't communicate to serial weigh scale
 - Replaced other PLC-5's (*all using existing 1771 I/O*)
 - Plant standard became SoftPLC for all new applications
 - Despite Nestle standard of A-B

Project Story



- 1995 Fonterra/Bonlac Foods/United Milk Tasmania
 - PLC-5/80E out of memory & having comm problems
 - Replaced CPU, connected to existing 1771 & SLC-500 I/O
 - No changes to Citect SCADA required, comm problems fixed
 - Added 3 Profibus networks

Project Story





SOFTPLC PAC'S

Features/Functions

- SoftPLC is control software that turns an industrial computer into an open architecture controller
 - First “PAC” (*Programmable Automation Controller*) on the market
 - Embedded software, runs on dedicated “headless” systems (*eg: no monitor, keyboard...*)
 - Provides features of proprietary PLC’s (I/O control, PID) **PLUS** features of computers (*flexibility, networking, speed*)
- Programming/Addressing modelled after A-B PLC’s
 - A-B PLC “on steroids”
 - Provides A-B users an easy, affordable upgrade path

“What is a SoftPLC?”

- SoftPLC's are **not** PLC's
 - Better communications and data handling
 - Advanced features – even beyond proprietary PAC's
 - Truly open architecture
- SoftPLC's are **not** PC-based controllers
 - Deterministic scan (*“hard” realtime*)
 - Online run-mode program changes
 - Troubleshooting tools like PLC (*Runtime Fault detection/ correction, I/O Forcing*)
 - Runs on embedded Linux, no Windows

Market Positioning



HARDWARE MODELS

Smart & Hardbooks for PAC/Gateway/Gatecraft



- All SoftPLC “Smart” products are based on the SmartBoard® design
- SmartBoard provides rugged, compact, low-cost and powerful platform
 - Customers can have common hardware for multiple product solutions
 - Programmable Controls, Protocol Gateways, remote access modem, industrial firewall
 - SmartBoard includes “hooks” for easy customization for OEM applications

SoftPLC's SmartBoard®

- Metal enclosure, DIN-rail mount
 - Compact size ($5.75''H \times 6''D \times 1.5''W$)
- Built-in managed Ethernet switch
 - (2) IP interfaces for routing capability
 - (4) RJ-45 10/100MB ports
 - Fiber optic options on 1 port
- (6) serial ports
 - (1) 9 pin RS-232 interface
 - (3) RS-232 ports
 - (1) RS-485, 2-wire
 - (1) factory configurable port (*e.g.: Modem, RS-485 2/4 wire, A-B RIO*)



SmartBoard Hardware

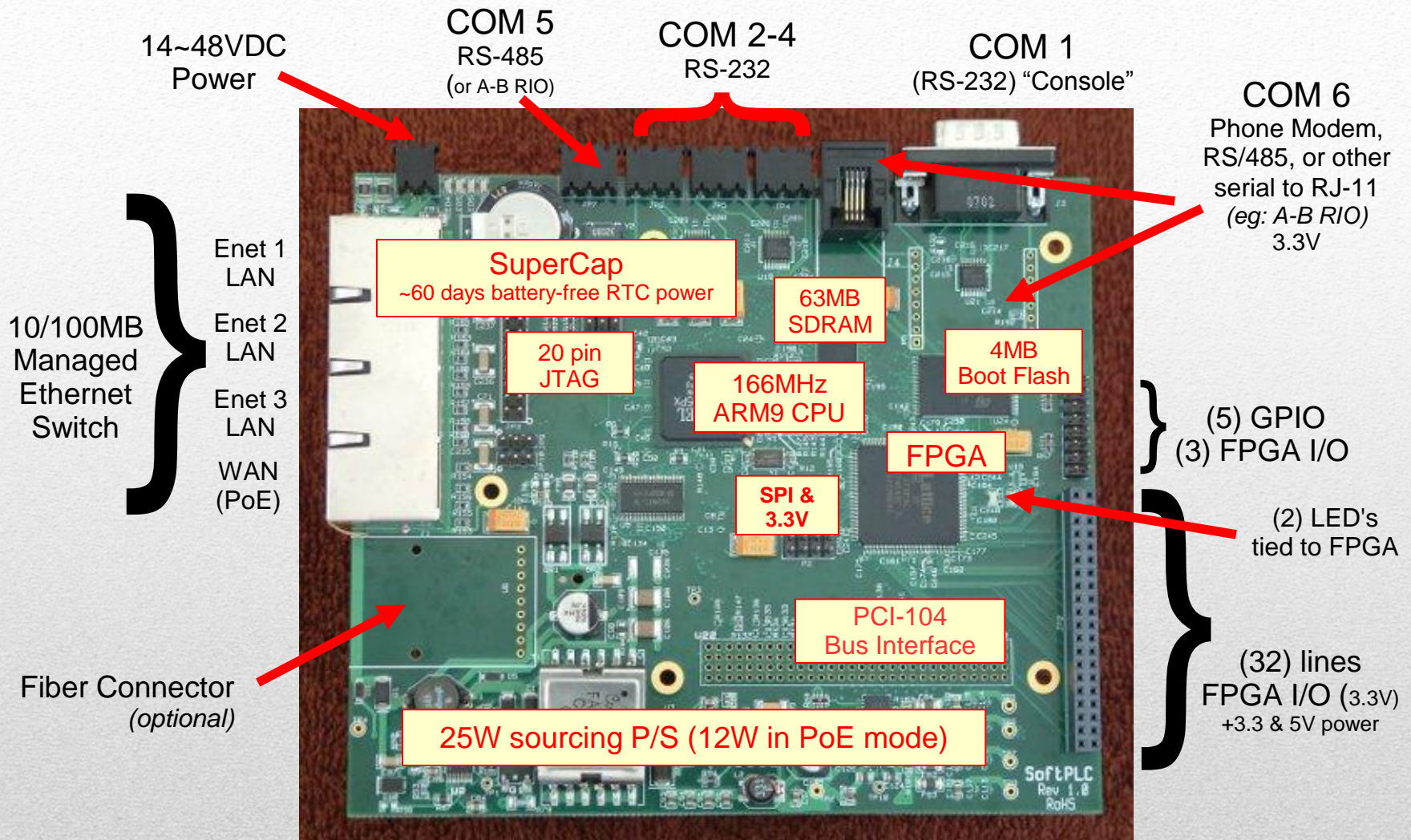
- Selectable I/O interfaces
 - Local Tealware Interfaces
 - Backplane3 supports any 3 modules directly mounted on CPU
 - LocalPorts supports up to 12 Tealware racks, up to 30' from CPU
 - Remote I/O
 - Ethernet (e.g.: ModbusTCP)
 - Serial (e.g.: Modbus)
 - A-B RIO
 - Bus I/O via PCI-104 interfaces (*e.g.: Profibus, DeviceNet*)
 - Supports up to 3 interface cards



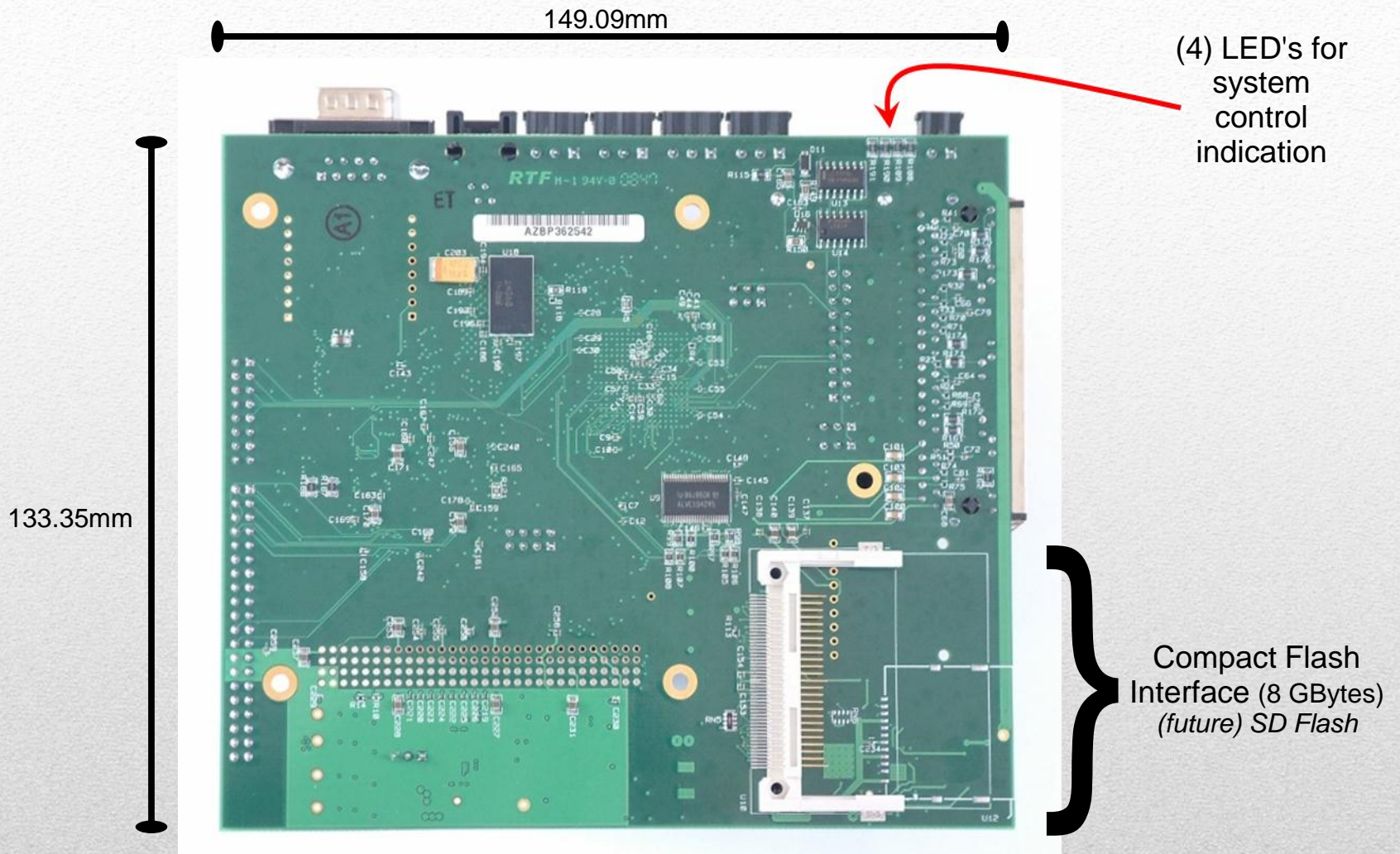
Smart SoftPLC I/O Interfaces

- Low power requirement (*2-5W based on options*)
 - 14-48VDC or Power-Over-Ethernet
- Industrially Rated:
 - 0~60°C operation, -20~85°C storage
 - Extended temperature option available -20~70°C
 - Humidity: 0~95% non-condensing
 - Fanless/Diskless system
 - Watchdog Timer
- RoHS compliant

Smart Environmental Specs



SmartBoard Internals



SmartBoard Internals



- Powerful, stand-alone CPU's
 - Fanless, diskless
 - Multiple Ethernet, serial, USB ports
 - Up to 2GB RAM
- Some models have PCI slot(s) for add-in cards
- Many standard models
- Custom versions available based on application requirements (*ie: slots, form factor, communication ports, environmental*)



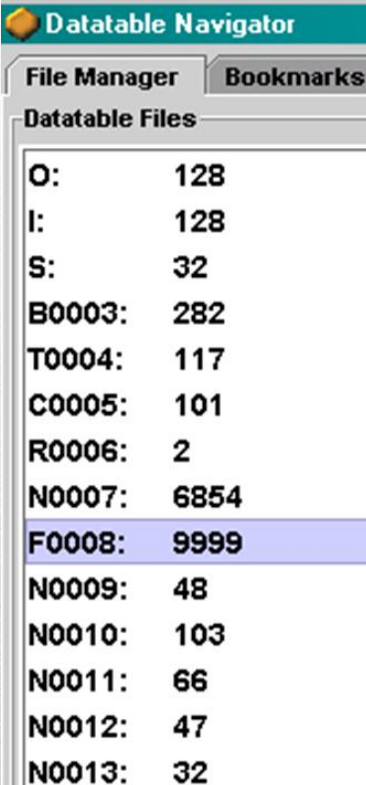
Hardbook Products



SOFTPLC PAC'S

Firmware Features/Functions

- Data Table Registers
 - 10K files of 10K elements each (*100M words*)
 - Addressing similar to A-B PLC-5/SLC-500
 - Binary, integer, floating point, PID, strings
 - Timer, counter, arrays, more
 - Status file for fault analysis, RTC, etc.
- Every bit accessible by address or tag
- Non-sequential display feature (*Watch Window*)

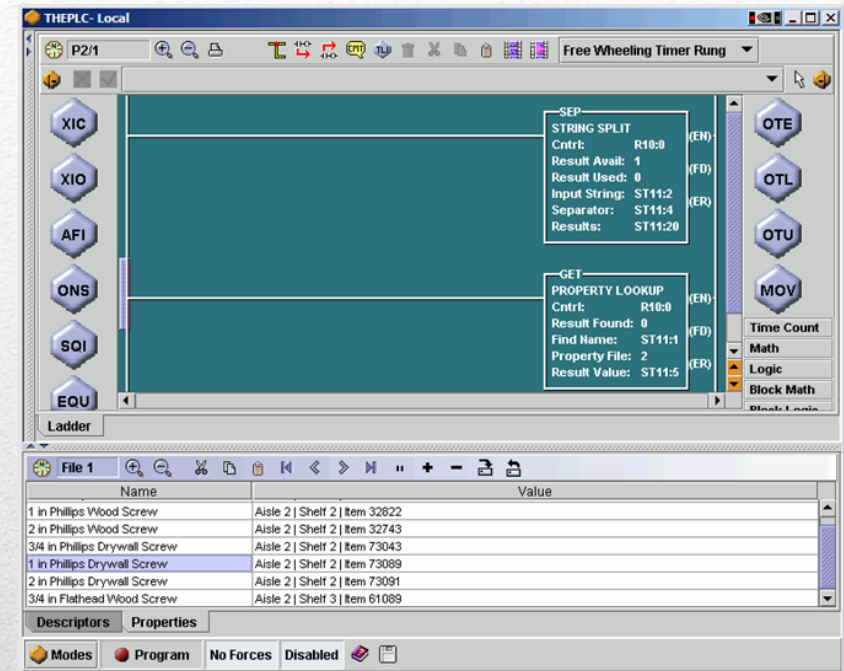


The screenshot shows the 'Datable Navigator' window with two tabs: 'File Manager' and 'Bookmarks'. The 'Datable Files' list contains the following entries:

Address	Value
O:	128
I:	128
S:	32
B0003:	282
T0004:	117
C0005:	101
R0006:	2
N0007:	6854
F0008:	9999
N0009:	48
N0010:	103
N0011:	66
N0012:	47
N0013:	32

User Memory

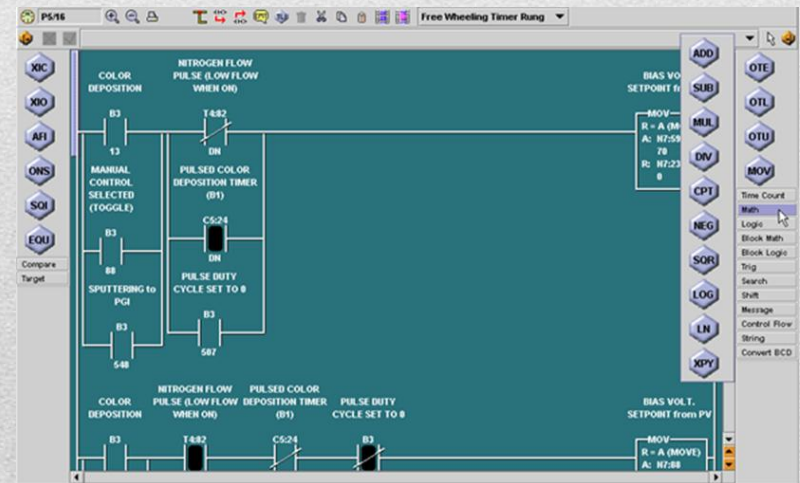
- “Property Tables”
 - Internal relational database
 - Up to 10K tables of 10K elements each
 - Ideal for use in sorting, recipe, warehouse applications
 - Ladder instructions provided to read and process data records

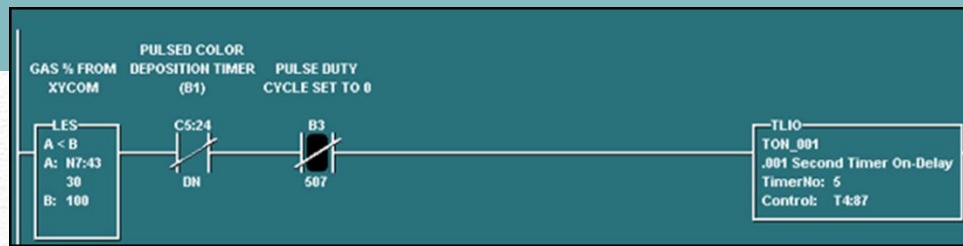


User Memory

- Powerful Ladder Logic instruction set
 - Over 135 standard functions
 - Relay logic, timer/counter, math, data, PID, strings, more
 - Similar to PLC-5/SLC-500 programming
 - Program by address or tag
 - Up to 10K subroutines of 10K rungs each
- All logic documentation stored in SoftPLC

User Logic





- TOPDOC Loadable Modules (TLM's) extend instruction set
 - Created in C++ using toolkit, by SoftPLC Corp or customers
 - Can be ladder instructions, drivers, or program tasks
- Examples
 - Calculations (Fourier transforms, cavitation, AGA gas flow)
 - Device Interfaces (motion controller, I/O devices, PC cards)
 - Encapsulate proprietary logic in a function block
 - Read/write to database
 - Print reports/Write files to remote disk

User Logic

- Some SoftPLC provided TLM's:
 - COMGENIUS – ASCII / Serial Communications
 - Drives, bar code/RFID, weigh scales, process equipment
 - Simple Modbus Master communications
 - Log Data – Event Logging to CSV or binary formats
 - Send Email/Text Message
 - Includes support for attachments (e.g.: log files)
 - Supports multiple recipients

User Logic

- Supports up to 8K digital & unlimited analog
- Up to 16 I/O drivers can be used simultaneously
- Some available drivers
 - Tealware local & remote I/O
 - ModbusTCP Ethernet
 - A-B RIO
 - Industrial bus (e.g.: Profibus, DeviceNet, CANOpen, etc.)
 - Serial I/O (Modbus & proprietary)
 - PC bus I/O (e.g.: PCI, PCI/104 or direct CPU mounted I/O)
- Third party driver development supported via toolkit

I/O Support

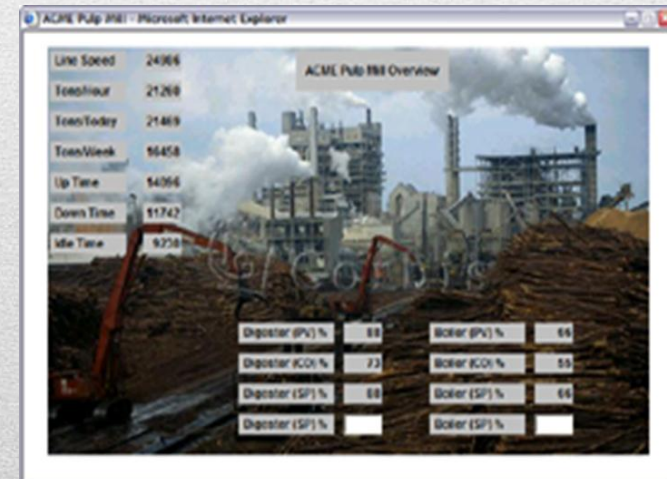
- Connection to SCADA/HMI, programming, peer-to-peer communications
 - Multiple networks supported simultaneously
 - Ethernet (A-B Enet, ModbusTCP)
 - Serial (DF1, Modbus)
 - Industrial Bus (e.g.; A-B DH+, Profibus)
 - SoftPLC appears as A-B PLC-5 or Modbus device on the network
 - All HMI/SCADA/DCS products supported
 - OPC Servers supported

Communications

- Built-in FTP & SSH Servers
 - Used to access SoftPLC flash disk files over Ethernet/serial ports
 - Update/backup configurations, firmware, other files
 - Low-level troubleshooting & diagnostics
 - Access system logs
 - Run command line programs
 - Use any FTP/SSH client program

Communications

- Optional firmware add-on module
- Supports live pages in SoftPLC
 - Pages update in real-time with application data
 - Develop pages using any HTML editor
 - Animation/data update can be done with C++, PHP, Python & other web technologies
- View with any web browser



Embedded Web Server

- Optional firmware add-on module
- Provides high-end protection and secure remote access
 - Stateful inspection, NAT/IP masquerading, blacklisting
 - Multiple VPN tunnels
 - Ethernet & PPP protection

Embedded Firewall

- Optional firmware add-on module
- Comprehensive solution for applications needing 100% uptime
 - Bumpless transfer of I/O control in case of primary CPU fault
 - High speed data transfer between primary/secondary controllers on dedicated Ethernet connection
 - Uses “dumb” arbitrator to assist with switch-over
 - Status available over network to SCADA/HMI, I/O, TOPDOC, other controllers
- With Tealware I/O, fully redundant systems (*CPU, I/O, P/S*) possible

Hot Standby/Redundancy

- PLC-5, PLC-2/PLC, SLC-500, MicroLogix conversion services from SoftPLC
 - Automated utility programs convert on average 95% of program logic and documentation
- SoftLogix5, PLC-5/250 & PLC-3 conversion services quoted per application
 - Semi-automated conversion process averages 85%
- Other PLC conversions quoted per application
 - Control/CompactLogix
 - Schneider, Siemens, GE Fanuc

Old PLC Upgrades



Smart Gateway



Hardbook Gateway

SOFTPLC GATEWAYS

Configurable Protocol Converters & More....

- Up to 16 protocols per Gateway
 - Supports multiple serial and Ethernet protocols
 - All supported protocols always included – no need to order/stock different part numbers
 - Select mix of master & slave protocols
 - Industrial bus networks implemented via hardware add-on(s), base unit remains unchanged
- Via Toolkit, users can add custom protocols

Flexibility

- Minimum (2) Ethernet interfaces (MAC ID's)
 - Routing functions included
 - Wireless and fiber options
- Minimum (4) serial ports
- Up to 8 industrial network interfaces (*eg: Profibus, DeviceNet, etc.*)

Ports, Ports, Ports!

- No data limits
 - 100 Million 16-bit words per Gateway
- Fastest Gateways on the market
 - Highly optimized drivers
 - Developed as PLC I/O drivers and/or PLC peer-to-peer communication

Data / Throughput

- Supports user logic for data manipulation
 - Scaling, totaling, etc. via ladder logic
 - Data logging to local flash and/or to network drives
 - Email/texting functions can send alarms, data or data files as attachments
- Great solution for data concentrator applications

Intelligence

- Linux, FTP/SSH security by passwords
- TOPDOC security
- Firewall/VPN (*firmware option*)
 - Protection of Gateway and connected devices from unauthorized access on any Ethernet or modem connection
 - Remote access to Gateway data and configuration

Security

- All protocols provide detailed error reporting
- User logic can automatically detect errors
 - Report errors to attached SCADA/HMI
 - Report errors via email/text messages
 - Send peer-to-peer message to connected devices (if supported by device/protocol)
 - Via connected I/O (optional) can issue alarms, modify machine/process behavior, etc.

Diagnostics

- Connected I/O and devices can be controlled by Gateway via ladder logic
 - SoftPLC Tealware local I/O
 - Serial (eg: Modbus)
 - Ethernet (eg: ModbusTCP)
 - Industrial bus (eg: Profibus, DeviceNet)

Control

- Any HMI/SCADA/DCS system can access Gateway data
 - Ethernet or serial connection via standard PLC drivers
- Toolkit enables user to write programs to read/write data over Ethernet
 - Gateway can interface directly to databases (eg: SQL)

Data Access

- Easy to configure
 - Configuration via Ethernet
 - No programming required
 - XML or text configuration files to map data from PLC/network address to internal Gateway address
 - Free industrial bus network configuration / diagnostic software included with hardware interface(s)
- TOPDOC is used as configuration and diagnostic tool

Easy configuration

COMMUNICATION PRODUCTS

Smart Netbox, Other Gatecraft products

- Comprehensive “communications appliance”
 - Industrial managed 4 port Ethernet switch/router
 - Supports PoE (*Power over Ethernet*)
 - Media converter (*10/100BaseT to Fiber*)
- Remote Access Modem (*w/ optional SM-MDM*)
 - Access any Ethernet device remotely via phone
 - Lower cost & more powerful than competitor products
- Industrial Firewall/VPN (*w/ optional GC-FW firmware*)
- Remote Serial Server (*w/ optional GC-SDS*)



Smart Netbox

- Product family name for all communication products
- Firewalls/routers
 - Gatecraft Shield - Ethernet to Ethernet protection
 - Gatecraft Junction - Ethernet to Modem protection
 - Gatecraft Beacon - secure WAP
- Gatecraft Link - Ethernet switches & media converters
 - Unmanaged, low-cost, DIN-rail options
 - 10/100, 10/100/1000, and fiber
 - High-end switches (*RuggedCom products*)

Other Gatecraft Products



I/O

Tealware, A-Series, Other options

- Modular, high-density I/O system
 - Local and remote Ethernet configurations supported
 - Wide variety of digital, analog, & specialty modules
- Easy to troubleshoot/maintain
 - Detachable terminal block for easy replacement w/o re-wiring
 - Diagnostic & Status LED's
 - Wide angle swing connector for easy installation
- Digital modules hot-swappable under power

Tealware I/O

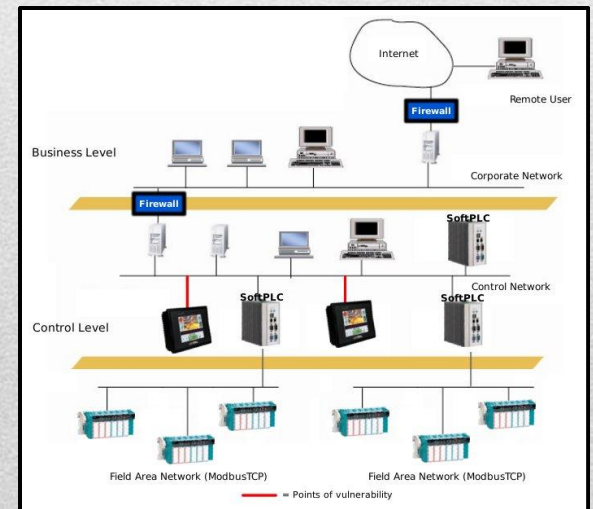
- Local interface to Smart SoftPLC or Smart Adapter
 - 3 modules per Backplane3 interface
 - Connect to expansion racks via LocalPorts interface
 - Up to 12 bases per Smart SoftPLC
 - Up to 3 bases per Smart Adapter
- Remote interface to any SoftPLC CPU via Ethernet
 - Up to 255 drops per SoftPLC CPU
- Modules fit into Rack Base
 - 6 or 8 module slot bases available
 - Up to 10 feet between bases

Tealware I/O

- Decision making can be done at adapter level
 - Define failure state based on process conditions
 - Can take over as local controller if communication to master fails
 - High level features (*eg: remote decision making, SOE*)
- Embedded Firewall for security (*w/ Cat No SM-FW option*)

**Network security increases with
Smart I/O Adapter/Switches**

Smart Adapter



- Cost effective for applications requiring low count / small space / widely distributed I/O
 - Serial RS-485 modules – over 90 signal types available
 - Ethernet ModbusTCP modules – no adapter required, each module its own IP address
- DIN-rail mount and modules can be stacked
- Sourced from multiple vendors as needed



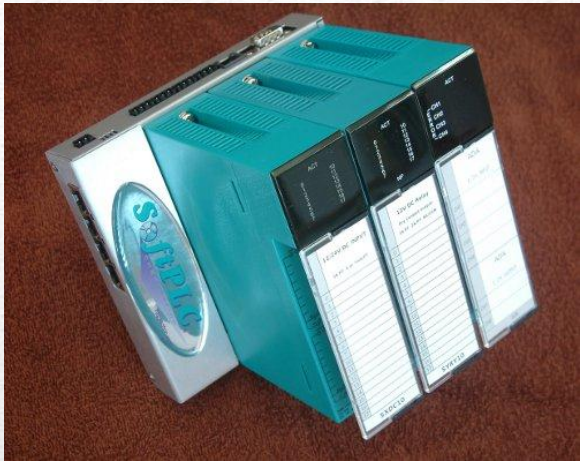
A-Series I/O

- Using loadable drivers and appropriate hardware interfaces, SoftPLC CPU's can communicate to other vendor I/O equipment
 - Any ModbusTCP, Modbus
 - Industrial buses (e.g.: Profibus, DeviceNet)
 - PC bus cards, motion control interfaces
- Via toolkit, additional drivers can be developed

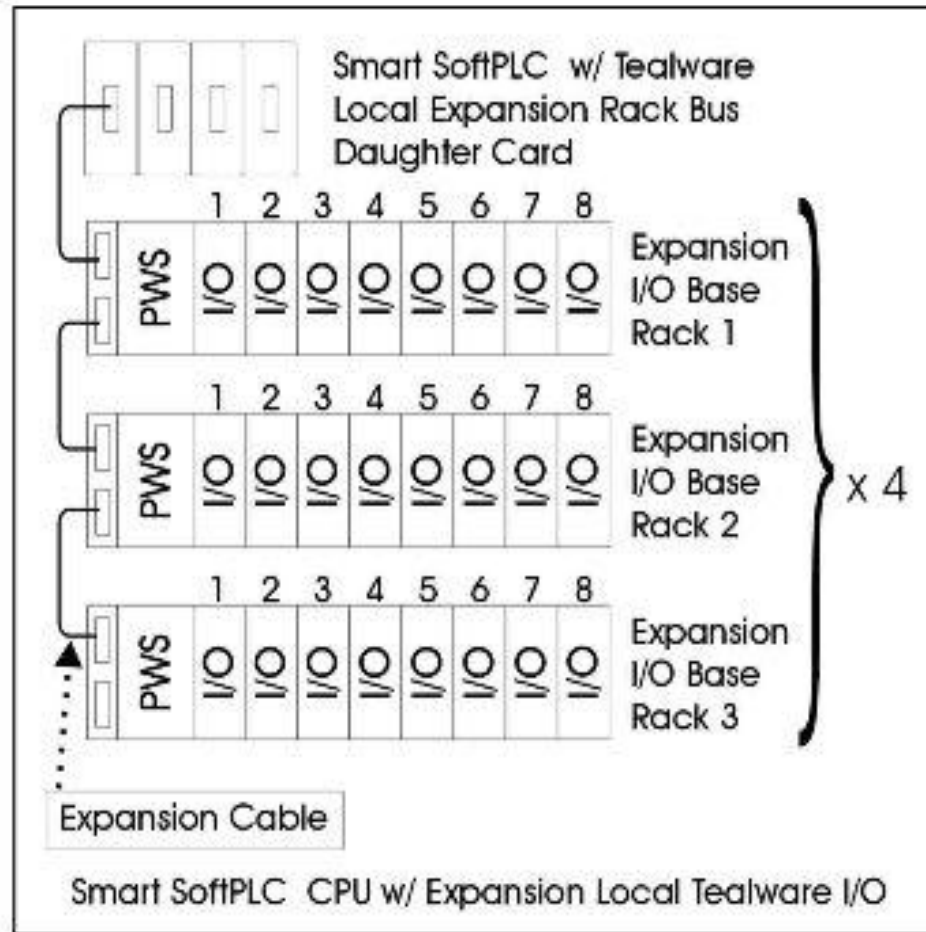


Other I/O Options

Configurations



Backplane3 Configuration

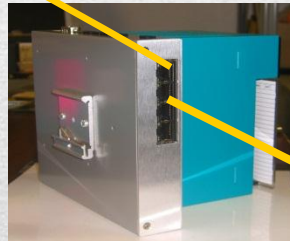


Local Ports Configuration

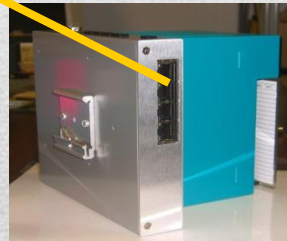


Smart SoftPLC
(Cat No SMS11-B)

Ethernet
ModbusTCP



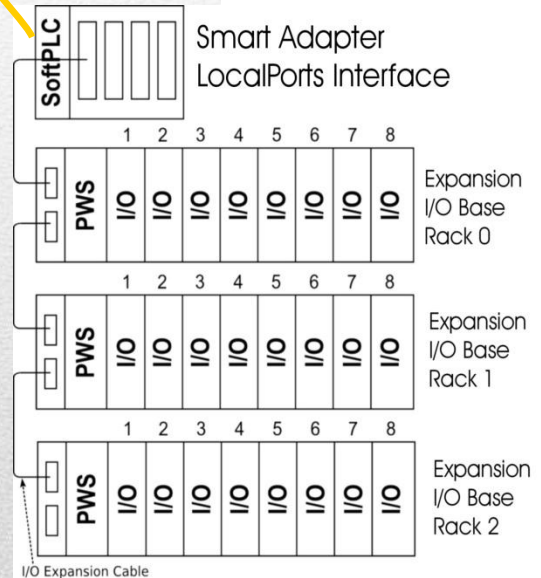
Smart Adapters
(Cat No SMS11-B)



Hardbook SoftPLC
(Cat No HB-MOLE-x)



Ethernet
ModbusTCP



Example Configurations

Meter



Meter

Smart SoftPLC or Hardbook with Bus I/O



Hardbook SoftPLC/Gateway

+



Bus Interface Card
(up to 8 cards)



Profibus
ASI
DeviceNet
Interbus
CANOpen
SERCOS
etc.



Smart SoftPLC/Gateway
w/ PCI-104 bus option

+



PCI-104 Bus Interface Card
(Up to 3 cards)



Profibus
ASI
DeviceNet
Interbus
CANOpen
SERCOS
etc.

Bus I/O Configurations

Hardbook/Processor with A-B Remote I/O

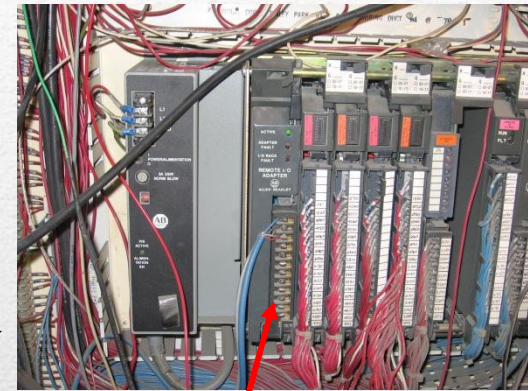


Hardbook SoftPLC
(Cat No HB1-HPLA-x)

+

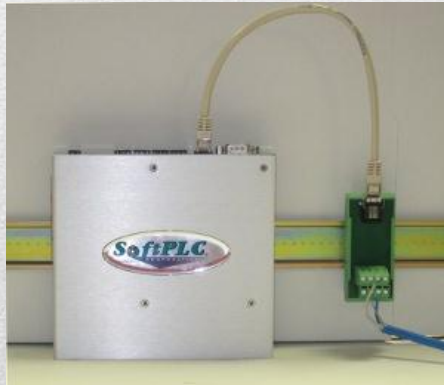


1785-PKTX/PKTXD*
(Cat No SPO-PKTX)



1771-ASB
or other A-B RIO Adapter

Smart SoftPLC w/ A-B
RIO interface



A-B RIO Configurations

Allen-Bradley Upgrades **with SoftPLC Controllers**

THE Best Solutions
to upgrade A-B PLC's & HMI's

Minimizing cost, downtime, training & re-engineering



- Motivation:
 - Product/programming software obsolescence
 - Older technology lacks desired features/ communications
- Why upgrade vs replace?
 - Cost/downtime to replace entire system prohibitive
 - I/O typically not an issue, only the CPU

“80% of end users surveyed were upgrading their control systems only, leaving field devices 'as is'.” *Larry O'Brien, ARC Advisory Group*

A-B PLC Upgrades

- Models Supported
 - PLC-5/SoftLogic5
 - SLC-500/MicroLogix
 - PLC-2, 1774 PLC
 - PLC-3, PLC-5/250
- Multiple I/O Types Supported
 - RIO (eg: 1771, 1747, Flex, Block, etc.)
 - DeviceNet, Profibus, etc. also supported via interfaces in SoftPLC CPU



A-B PLC Upgrades

- *Process -*
 - Convert logic/documentation
 - Replace A-B PLC CPU with SoftPLC Controller
- Existing I/O can remain virtually untouched
 - Many options for future upgrades/expansion
- Existing HMI/SCADA can remain, if desired
- Existing communication networks can remain or be upgraded to Ethernet

A-B PLC Upgrades



A-B PLC UPGRADES

SoftPLC Hardware Options

- Smart SoftPLC with A-B RIO interface
 - Supports 2 RIO channels (32 adapters/channel)
 - CPU includes Ethernet switch, multiple serial ports for DF1 or other protocols
- DH+ available via external serial interface



RIO “blue hose” connection points

SoftPLC Hardware Options

- Hardbook SoftPLC w/ A-B Interface(s)
 - Interface is via a PCI slot card
 - 1 or 2 port cards available
 - Ports can be A-B RIO or Data Highway Plus protocol
- Up to 8 cards are supported by SoftPLC



SoftPLC Hardware Options

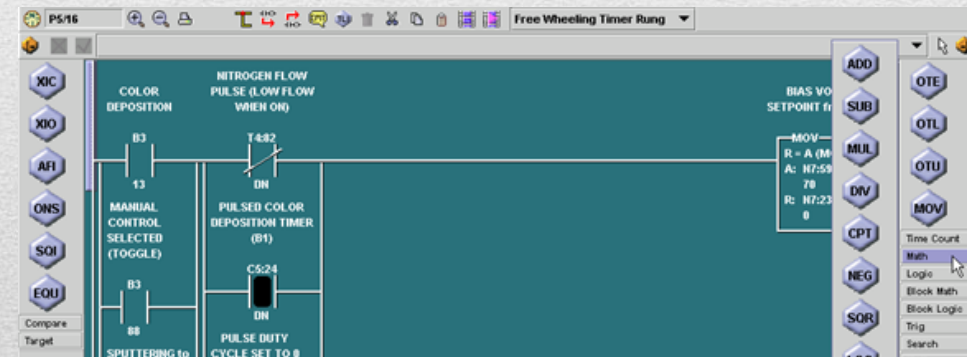


A-B PLC UPGRADE PROCESS

by PLC Model

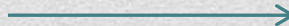
Datable Navigator	
File Manager	Bookmarks
Datable Files	
O:	128
I:	128
S:	32
B0003:	282
T0004:	117
C0005:	101
R0006:	2
N0007:	6854
F0008:	9999
N0009:	48
N0010:	103
N0011:	66
N0012:	47
N0013:	32

- SoftPLC logic/data table is a superset of the PLC-5
 - Automated program conversion utility normally 98% or better (*more of an import than a conversion*)
 - Resulting logic looks nearly identical to users
- HMI/SCADA does not normally need any changes (*unless network type changes*)



A-B PLC-5 Upgrades

- Hardware Changes
 - Re-configure PLC-5 CPU as Remote I/O Adapter
 - Add SoftPLC Controller w/ A-B RIO interface



A-B PLC-5 Upgrades

- Similar to PLC-5, but often text output needs to be “tweaked” before import
- Add-on functions often need manual intervention, but can usually be supported with a SoftPLC TLM (loadable add-on) function

A-B SoftLogic5, PLC-5/250

- Automated conversion from PLC-2 logic to SoftPLC logic
 - Program conversion normally 95% or better
 - Converts from TOPDOC PLC-2 format
 - Conversion cost includes loan of TOPDOC PLC-2 to upload program
- Documentation conversions available from most PLC-2 software programs
- HMI/SCADA: SoftPLC has a PLC-2 compatibility mode to minimize changes required

A-B PLC-2 Upgrades



- PLC-2/30, -2/20, -2
 - Replace PLC-2 CPU with SoftPLC Controller w/ A-B RIO interface
 - If remote I/O, no changes required
 - If local I/O, replace adapters with remote adapters (*1771-ASB*)
- Mini PLC-2's
 - Replace PLC-2 CPU with remote I/O adapter
 - Add SoftPLC Controller w/ A-B RIO interface

A-B PLC-2 Upgrades - Hardware





- Automated conversion utility normally 95% or better
 - Converts logic & documentation
 - Provides text file identifying what conversion process did & any areas of concern
 - Also provides equivalent Tealware I/O modules
- HMI/SCADA does not normally need any changes (*unless network type changes*)
- Resulting logic looks nearly identical to users (*except for I and O addresses*)

A-B SLC-500 Upgrades



- Hardware Changes (*if keeping A-B I/O desired*)
 - Replace SLC-500 CPU with 1747-ASB remote I/O adapter
 - Add SoftPLC Controller w/ A-B RIO interface
- Or, replace entire system (*if retaining IP the main desire*)

A-B SLC-500 Upgrades

- Semi-Automated Conversion Utility
 - Standard logic/documentation converts 90% or better
 - Pointers, GA Basic, etc. must be manually converted (by user or SoftPLC can quote on per program basis)
 - HMI/SCADA does not normally need any changes (*if PLC-2 compatibility mode was originally used*)
- Hardware: Replace PLC-3 CPU w/ SoftPLC Controller w/ A-B RIO Interface

A-B PLC-3 Upgrades



Why SoftPLC instead of A-B Upgrade Solutions?

A-B PLC UPGRADES



- A-B document on PLC-5 logic conversion is 80 pages
 - 53 pages (67%) discuss conversion “issues”, items that need to be manually reviewed, etc.
 - 27 pages (34%) are index, TOC, and instructions on export/import of logic and running the conversion utility program
- SoftPLC list of issues is 1 page

Why SoftPLC vs A-B



- Resulting system more similar to old system
 - Little training needed for maintenance personnel or operators
 - Less risk of problems after conversion
- Advanced features at no cost
 - Ethernet/routing is standard feature
 - Minimum user memory per SoftPLC is 64MB
 - PAC functions standard (*logging, email, internal database, Modbus/other drivers, more*)
 - More...

Why SoftPLC vs A-B



- Hardware Cost Savings
 - Smart SoftPLC w/ A-B RIO interface \$1500-\$2500
 - ControlLogix CPU, rack, P/S plus 1756-RIO minimum \$7000
- Common Solution for all applications
 - Same SoftPLC products can range from smallest to largest applications (*reduces inventory, training, software, etc cost*)
 - A-B has different products with unique physical structure such as I/O (*MicroLogix, CompactLogix, ControlLogix*)

Why SoftPLC vs A-B



- More options for future
 - SoftPLC is open architecture, multiple choices of vendor for I/O, networks, drives, etc.
 - Rockwell Automation solutions drive customer to all Rockwell products
- Reduce automation costs long term

Why SoftPLC vs A-B





SOFTPLC WEB STUDIO

HMI

Equipment Status

Real-Time Control

Data Acquisition/Reports

Recipes/Trends

Alarms

SCADA

Control Room

Product Scheduling

Yields and Throughput

Quality Control

Statistics



Manufacturing

SCADA
HMI

Enterprise

Web Studio spans applications from plant floor to control room to Enterprise.

Web Studio Applications



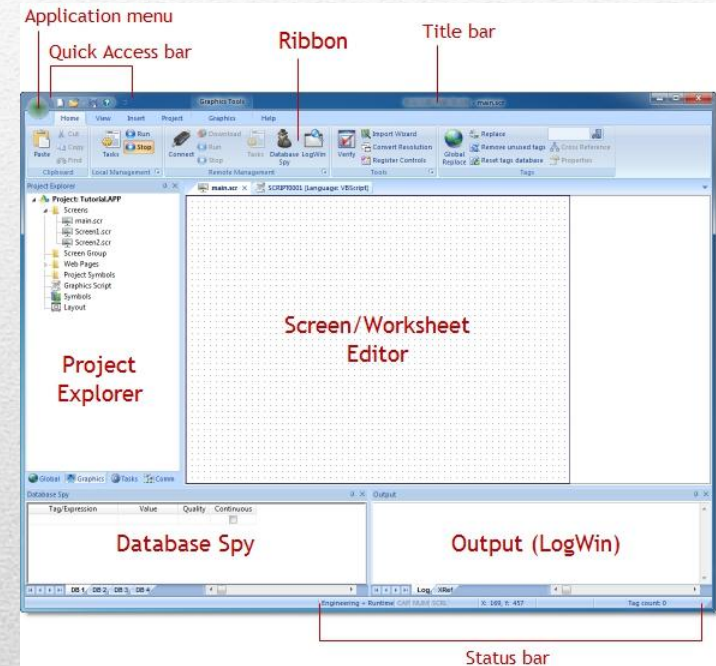
- Real-time graphical interface to develop industrial automation, instrumentation, and embedded systems
 - Over 150K installations world-wide in a wide range of applications and industries
- Runs on any Microsoft Windows operating system
 - Including mobile and embedded O/S
 - Conforms to industry standards such as OPC, ODBC, XML, ActiveX

Web Studio Overview

- Object oriented graphic displays
- Data logging & reporting, real-time & historical trending, alarms & recipe management
- Tag database with a wide variety of data types
- Programming via flexible scripting language
- Automatic language translation
- Multi-level application security
- Web-Enabled to run applications in a browser

Web Studio Functions

- Integrates seamlessly with other applications
 - Windows desktop applications (*e.g.: Word/Excel*)
 - 3rd party packages (*e.g.: C/C++, VB*)
- Online configuration, debugging
- Extensive support tools
 - Message register, error/event codes
 - Database Spy
 - LogWin
- Context sensitive help



Development Environment

- Create stand-alone & web applications from the same development environment
- Object oriented environment (screen/object re-usability)
 - Powerful/flexible tag database with Boolean, real, string & array tags, classes & indirect pointers
 - Advanced math library with >100 standard functions
 - Programming via flexible/easy-to-use scripting languages

Web Studio Features

- Create sophisticated interfaces with point & click, drag & drop
- Import graphics from >15 formats
- Full-featured screen objects & dynamics with customizable properties
 - Bar graphs, color, resizing, blinking, animation, scale, fill, positioning, rotation, commands, hyperlinks, combo-boxes, text input/output, and more
- Extensive symbol library

Web Studio Graphics

- Sophisticated alarms management system
 - Send alarms to screen/email/browser
- Free format alarm messages
- Archive alarms to file, printer, or database
- Filter, sort, or color sort alarms
 - Filter by category

Web Studio Alarm System

- Trending
 - Keep track of process behavior online or via historical data
 - Distribute information throughout network for easy monitoring on screens or web browsers
- Recipes & Reports
 - Create flexible, user-defined recipe groups
 - Import/export recipes, reports & real-time data in XML, text or user-definable database formats
 - Publish to web browsers

Data Acquisition

- More than 200 communication drivers to PLC's, I/O & other devices/networks
 - Supports OPC server & client
- Conforms to industry standards (*e.g.: .NET, OPC, ODBC, XML, SOAP, ActiveX*)
- SoftPLC Ethernet driver supports entire data table range

Input/Output

- Development Software
 - Non-modular – all functions & drivers included
 - Create applications for all target runtime hardware & O/S
- Offered by tag count
 - 1500, 4K, 16K, 32K, 64K, unlimited
- Combined Development/Runtime license available

Web Studio Products



- Runtime software
 - Includes runtime & (1) each Web/Thin/SMA clients
 - Additional clients can be added (up to 128/system)
- Available for WinCE, Win Embedded, or Windows
- Offered by tag count & number of communication drivers

Web Studio Runtime Licenses	
150 tags, 1 driver	16K tags, 5 drivers
300 tags, 1 driver	32K tags, 5 drivers
1500 tags, 3 drivers	64K tags, 8 drivers
4K tags, 5 drivers	“unlimited” tags, 32 drivers

Web Studio Products

- Touchscreen Panel PC's with Web Studio Runtime license factory installed
- 3.5" to 17" sizes available
 - Customized sizes/environmental/packaging also available on request
- All systems fanless, ruggedized hardware
- Ethernet, serial & USB ports



Web Studio HMI's



Thanks!

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