



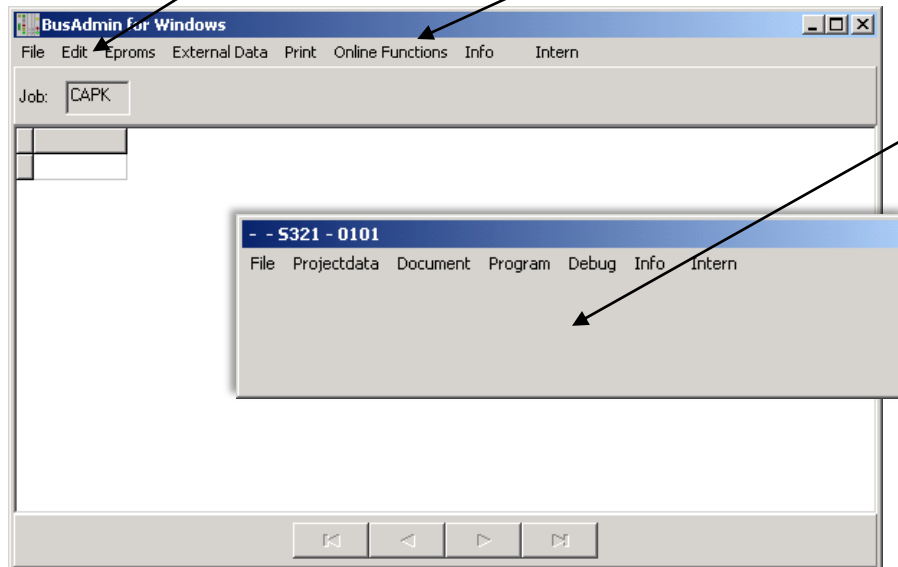
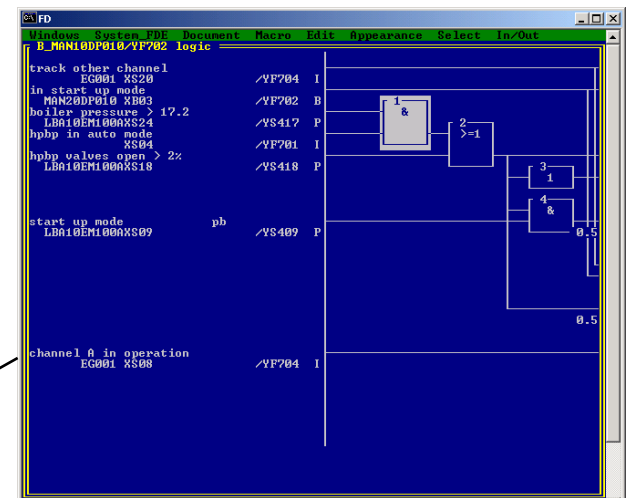
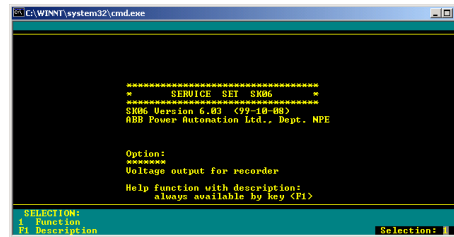
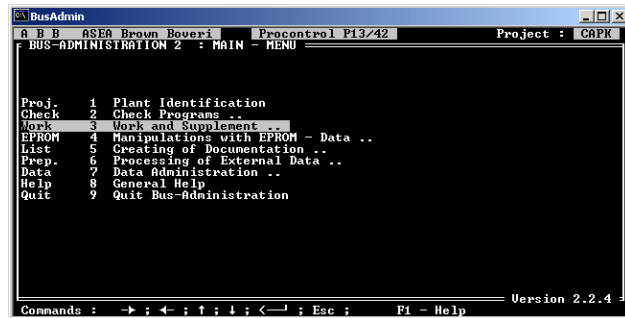
BU Power Generation, ABB Switzerland Ltd

Procontrol P13/42

Progress 3: Tool Upgrade Overview

Introduction: One P13 Tool fits All

Progress 3: Tool Upgrade Overview



Former engineering and maintenance tools

- BusAdmin
- Progress 2
- SK06 (and more)

are now combined into **one** Tool with **one** Database.

Runs on normal Windows PC or Notebook.

Menu for Hardware Definition & Signals

Progress 3: Tool Upgrade Overview

The screenshot displays the BusAdmin for Windows interface, which is used for configuring hardware and signals. The main window shows the 'Hardware Data' tab, where the 'Subbrack' is set to 'B_CBA01CA' and the 'Station' is 'S321'. The 'Hardware Data' table lists various modules and their addresses.

The 'Signals' window is open, showing a list of signals for the selected hardware. The signals are defined as follows:

| Pin | B | W | Kks | Sig | Text | Status | IdLoop |
|-----|---|----|--------------|------|------------------------|--------------|--------|
| 25 | 0 | E0 | B_LBA01EM120 | XQ05 | cold rh steam press. B | Periph Value | B_LBA |
| 75 | 0 | E1 | B_LBA01EM120 | XQ06 | rh attemp.inlet temp.B | Periph Value | B_LBA |
| 33 | 0 | E2 | B_LBA01EM120 | XQ07 | cold reheate temp B | Periph Value | B_LBA |
| 83 | 0 | E3 | B_LBA01EM120 | XQ08 | hpbp outlet temp C | Periph Value | B_LBA |

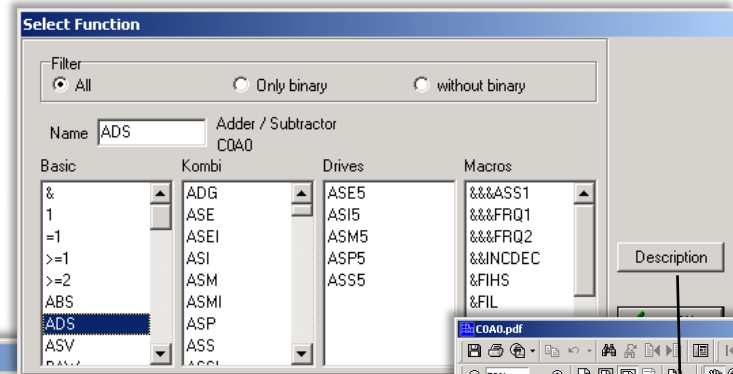
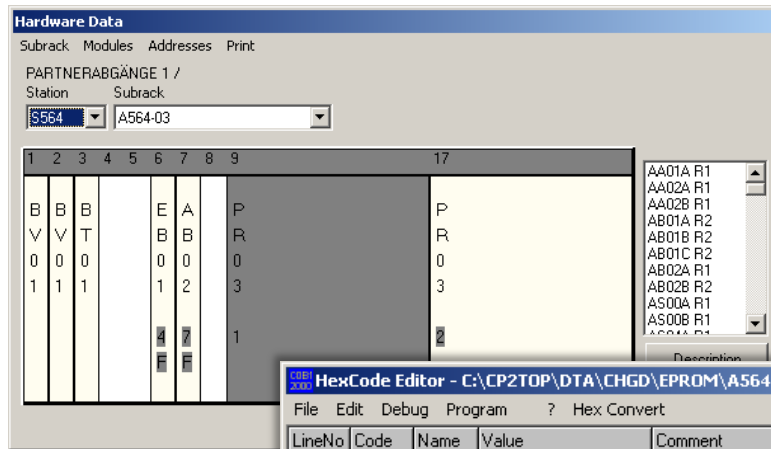
The 'Signaldata' window is also open, showing the details for the selected signal 'cold rh steam press. B'. The signal is defined as a 'Periph Value' with a value of '1001' and a 'Mod' of '2'.

The 'B_CBA01CA11' window is open, showing the configuration for the selected module. The module is identified as 'HESG 446409 R1' and is configured for 'Input module for 2-wire transducers (x4)'. The 'Lbst' is set to 'S321' and the 'Drawingnumber' is '410321'. The 'J1 - J24' section shows the configuration for the transducers, with 'S21=' and 'S32=1' set to '1'.

The 'Description' window is also open, showing the details for the selected signal. The description is 'cold rh steam press. B' and the 'IdLoop' is 'B_LBA'.

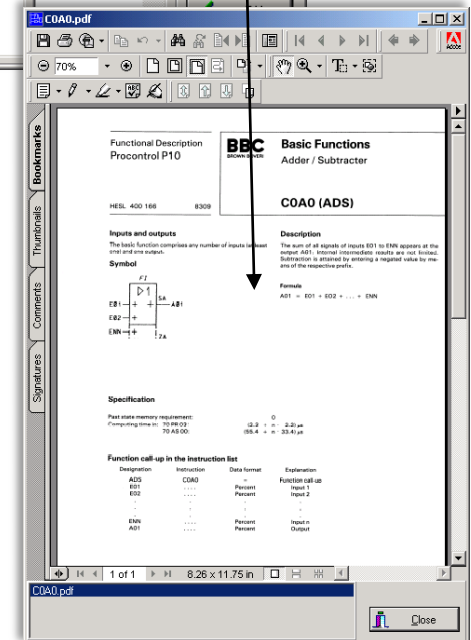
HEX-Editor

Progress 3: Tool Upgrade Overview



HexCode Editor - C:\CP2TOP\DTA\CHGD\EPROM\A564-030.9

| LineNo | Code | Name | Value | Comment |
|--------|------|------|-------|--|
| 0011 | C0B1 | & | | And Gate FName: & |
| 0012 | 20ED | | | |
| 0013 | 2100 | | | |
| 0014 | AAEF | | | |
| 0015 | C0B2 | >=1 | | Or Gate FName: >=1 |
| 0016 | 204F | | | |
| 0017 | 4830 | | | |
| 0018 | A6ED | | | |
| 0019 | C0BF | TKG | | T Flipflop FName: TKG |
| 001A | 26ED | C | | |
| 001B | 2EEF | R | | |
| 001C | A9ED | | | |
| 001D | C0B2 | >=1 | | Or Gate FName: >=1 |
| 001E | 39ED | | | |
| 001F | 4E31 | | | NETZREGLER 1 ANWAHL AGCX_PA_DUMMY XC00 |
| 0020 | A1EE | | | |
| 0021 | C0B1 | 1 | | Repeater Bit or Word FName: 1 Binary |
| 0022 | 21EE | | | |



online values

Function Chart Editor

Progress 3: Tool Upgrade Overview

The screenshot displays the BusAdmin for Windows software interface, which is used for configuring and managing industrial control systems. The main window shows a function chart editor for a specific process, with a table of functions and a list of available functions.

Job: CAPK

Select Processor

| Lbst | Location | Module | LdmNo | PL | DocNo | Function | Idf |
|------|-------------|--------|-------|----|-------|-------------|-----|
| S321 | B_CBA01CA34 | PR05A | 0101 | PL | 1001 | _CKQ01RU001 | YP |
| S322 | B_CBA02CA34 | PR05A | 0112 | PL | 1002 | _CKQ01RU002 | YP |
| S323 | B_CBA03AA35 | PR05A | 0123 | PL | 1003 | _CKQ01RU003 | YP |

- S321 - 0101

File Projectdata Document Program Debug Info Intern

B_MAN10DP020 / YF701

Document Edit Macro Appearance Select In/Out Zoom Window

The function chart editor shows a complex logic diagram with various inputs and outputs, including a function block labeled "ADS" (Adder / Subtractor).

Select Function

Filter: ☒ All ☐ Only binary ☐ without binary

Name: Adder / Subtractor
COA0

| Basic | Kombi | Drives | Macros |
|-------|-------|--------|-----------|
| & | ADG | ASE5 | &&&ASS1 |
| 1 | ASE | ASI5 | &&&FRQ1 |
| =1 | ASEI | ASM5 | &&&FRQ2 |
| >=1 | ASI | ASP5 | &&&INCDEC |
| >=2 | ASM | ASS5 | &FIHS |
| ABS | ASMI | | &FIL |
| ADS | ASP | | &FIS |
| ASV | ASS | | &LVMIR |

Description:

OK Close

COA0.pdf

Functional Description
Procontrol P10

BBC Basic Functions
Adder / Subtractor
COA0 (ADS)

Inputs and outputs
The basic function comprises any number of inputs (at least one and one output).

Symbol

Specification

Function call up in the instruction list

| Description | Instruction | Data format | Explanation |
|-------------|-------------|-------------|------------------|
| ADS | COA0 | = | Function call up |
| E01 | ... | Percent | Input 1 |
| E02 | ... | Percent | Input 2 |
| ... | ... | ... | ... |
| EN | ... | Percent | Input n |
| AD1 | ... | Percent | Output |

Loading and PR05 Status

Progress 3: Tool Upgrade Overview

The image displays three overlapping windows from the 'BusAdmin for Windows' application, illustrating the process of loading and checking the status of PR05 modules.

Top Window: Select Processor

| Lbst | Location | Module | LdmNr | PL | DocNo | Function | Idf |
|------|-------------|--------|-------|----|-------|-------------|-----|
| S321 | B_CBA01CA34 | PR05A | 0101 | PL | 1001 | _CKQ01RU001 | YP |
| S322 | B_CBA02CA34 | PR05A | 0112 | PL | 1002 | _CKQ01RU002 | YP |
| S323 | B_CBA03AA35 | PR05A | 0123 | PL | 1003 | _CKQ01RU003 | YP |

Bottom Left Window: Load Processor

Processor Addr. Rubr. 70PR05A 0.10.1 0101

Bk03 in right Station ?!

Date Idx from LdmNr

| EEProm | RAM | TCD |
|---------------------|---------------------|---------------------|
| 2005-05-15 20:12:49 | 2005-05-15 20:12:49 | 2005-05-15 20:12:49 |
| USC | USC | USC |
| 0101 | 0101 | 0101 |

Load: ☒ Full ☐ Increment

Lines: 2048

Service Command: ☒ Clear ☐ Block ☐ TCD->Ram ☐ Ram & Init ☐ Ram->Prom ☐ Ram no Init ☐ Prom->Ram ☐ Prom & Init ☐ Passive ☐ Prom no Init ☐ Reset

70PR05x-E: ☐ Sim ☐ Ram ☒ Clr ☐ Tra ☒ ReadOnly

1 A

Alarm Data Psv Sby Blk

Command Proc. Status

Bottom Right Window: Status Display

Proc.type LdmNr Rubr Date LdmNr from

70PR05A 0.10.1 0101 2005-05-15 20:12:49 0101 USC

Msta Mer1 Mer2 MSW

ERR Alarm Mer1 or Mer2 (DATA Led) EEPR EEPROM is used
ROK Module redundancy ok RDO ReadOnly on front or jumper
SBY Standby state (SBY Led) USM Multifunction used
ACT Active Status (ACT Led) RDY Module redundancy
RAM RAM is in Action (RAM Led)
PRM (E)EPROM is Active
SIGS Signal Simulated (SIM Led)
SIGF Signal Forced (SIM Led)
TRA Data transfer running (TRA Led)

Inputs Missing Disturbed Outputs Disturbed Dist.bit

B7 B9 BA BB C0 C1 C2 C3 C4

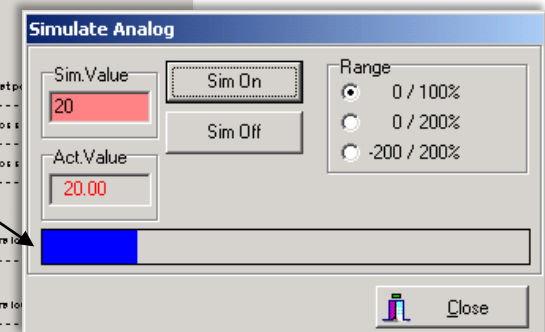
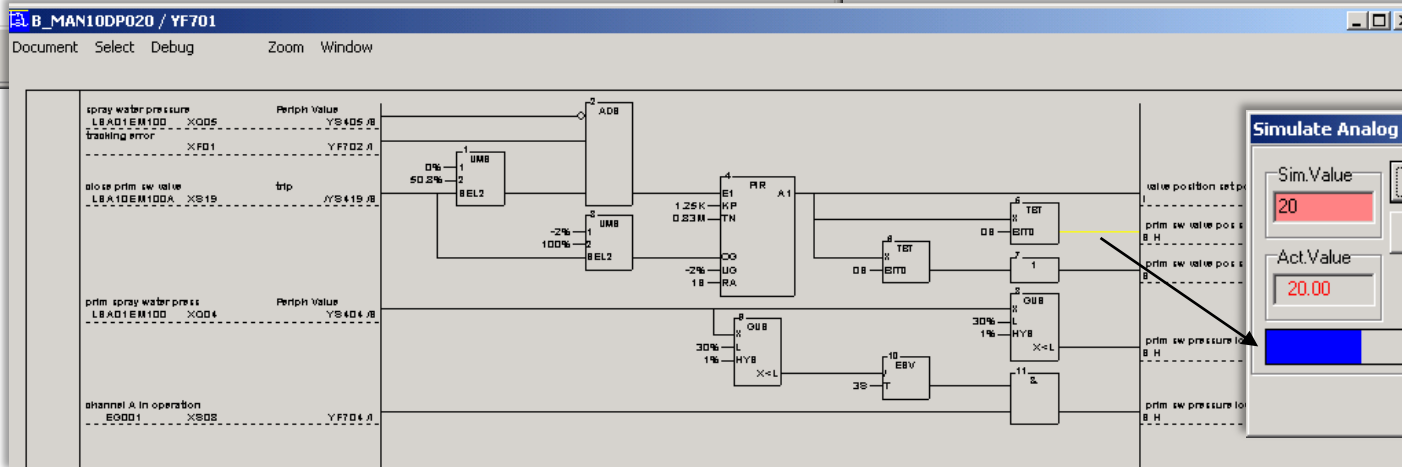
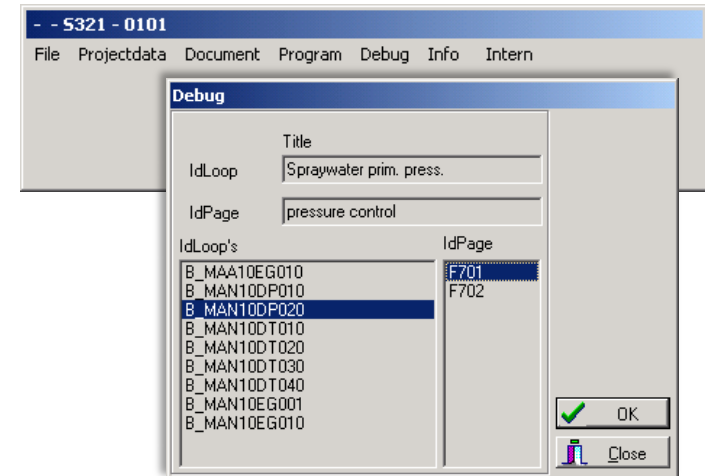
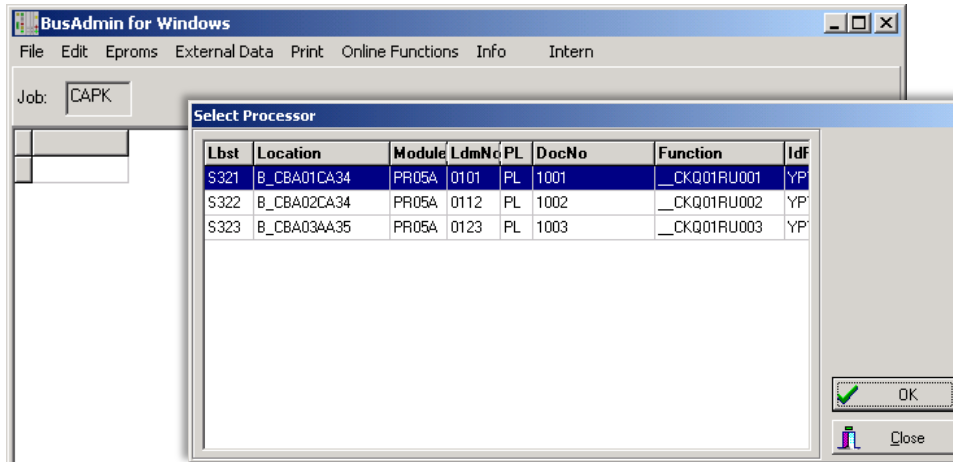
Update List

Firmware Version 1 Processor Number mS 16.20 Avail. processor time 148 Past Values

Close

Debugger & Simulation of Signals

Progress 3: Tool Upgrade Overview



Direct Simulation of Bus Signals

Progress 3: Tool Upgrade Overview

Hardware Data

Subrack Modules Addresses Print

PARTNERABGÄNGE 2 /

Station Subrack

| 1 | 2 | 3 | 5 | 7 | 8 | 9 | 11 | 13 | 17 | 21 | 23 |
|---|---|---|---|---|---|---|----|----|----|----|----|
| B | B | B | B | E | A | A | A | P | P | B | B |
| V | V | K | K | B | B | A | A | R | R | K | K |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 5 | 6 | 6 | 1 | 2 | 1 | 1 | 5 | 5 | 6 | 6 |
| | | 3 | 1 | 1 | 1 | D | D | 1 | | | |

AA01A R1
AA02A R1
AA02B R1
AB01A R2
AB01B R2
AB01C R2
AB02A R1
AB02B R2
AS00A R1

Simulate Analog

Sim.Value

Act.Value

Range
☒ 0 / 100%
☐ 0 / 200%
☐ -200 / 200%

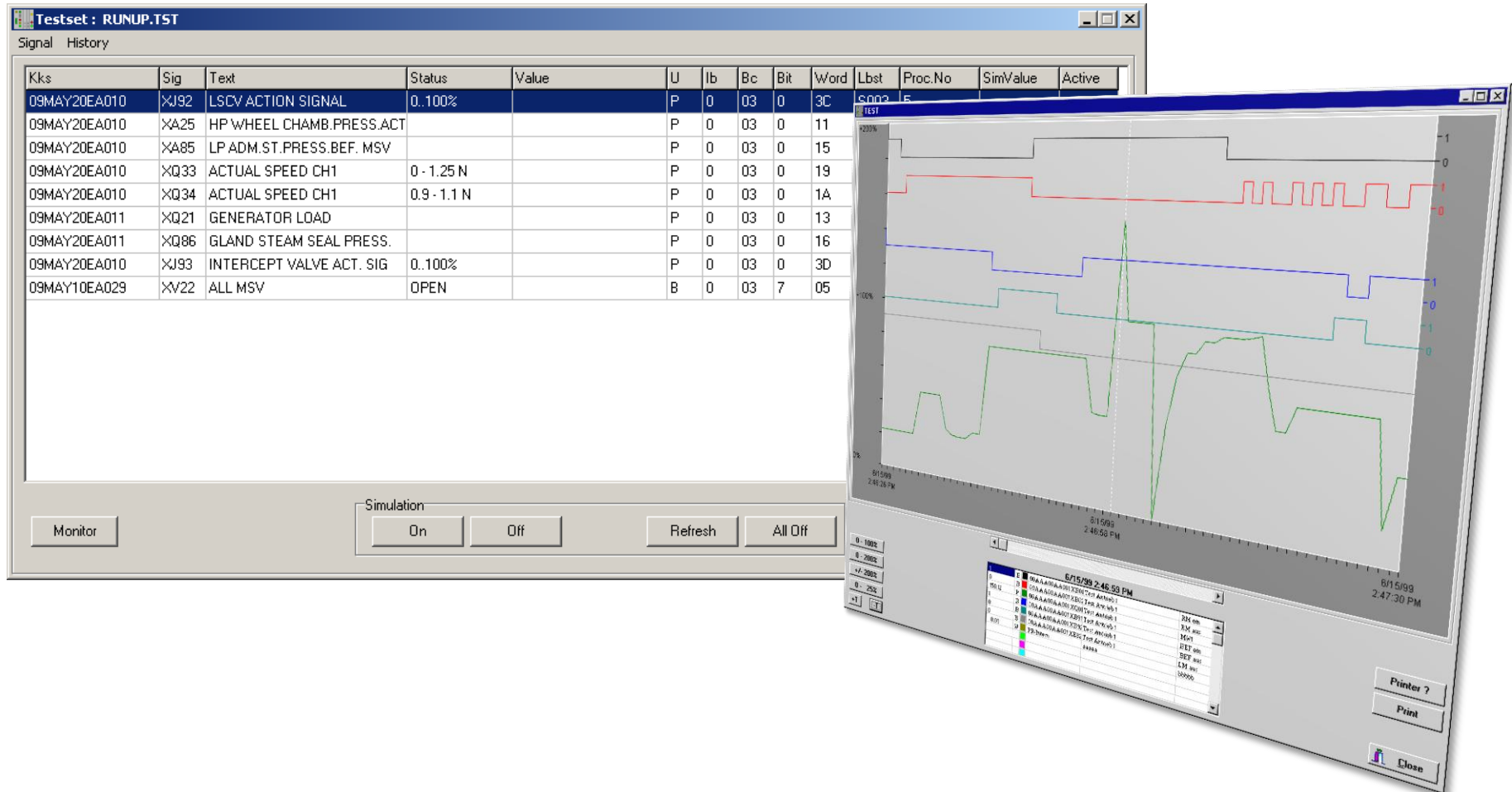
Signals

| Pin | B | W | Kks | Sig | Text | Status | IdLoop |
|-----|---|----|--------|------|----------|-------------|--------|
| 25 | 0 | D0 | A561A1 | XJ01 | Abgang 1 | -500..500MW | A561A1 |
| 75 | 0 | D1 | A561A2 | XJ01 | Abgang 2 | -500..500MW | A561A2 |
| 33 | 0 | D2 | A561A3 | XJ01 | Abgang 3 | -500..500MW | A561A3 |
| 83 | 0 | D3 | A561A4 | XJ01 | Abgang 4 | -500..500MW | A561A4 |

☐ Texts

Test Set (Display, Record, Simulate)

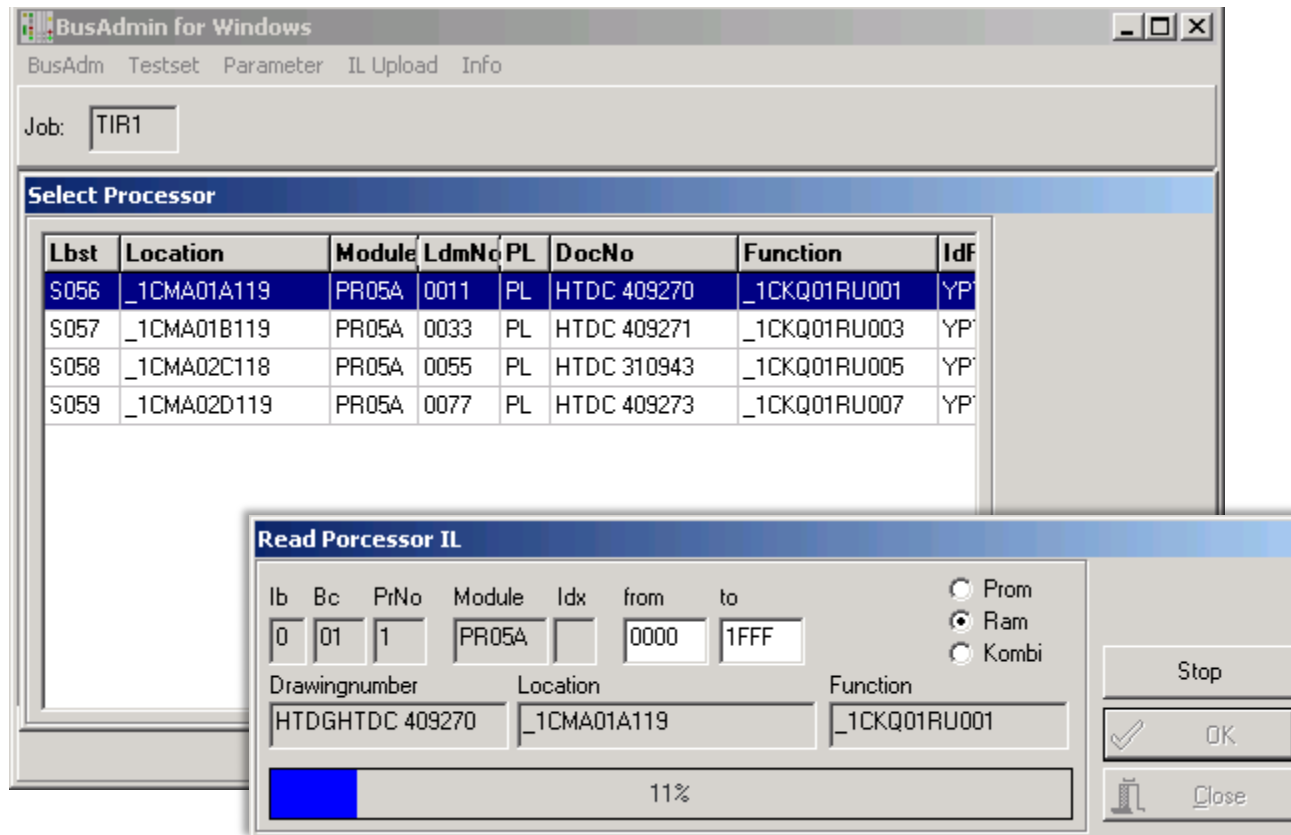
Progress 3: Tool Upgrade Overview



Online (Read code back from 70PR0x or 70ASx)

Progress 3: Tool Upgrade Overview

Code can be read from either RAM, EEPROM or even from Kombi EPROM



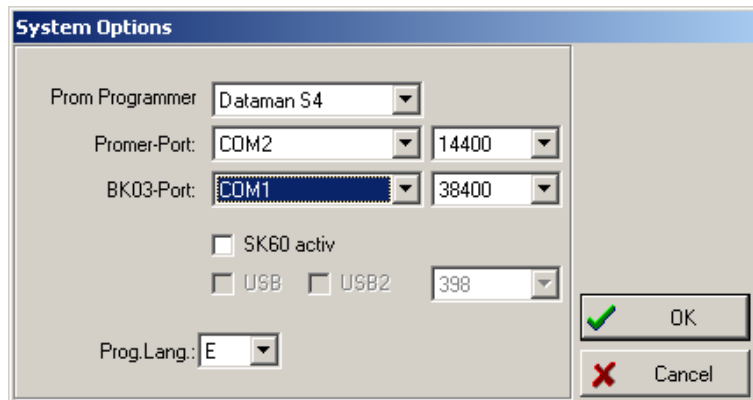
Connection to Control System: SK60/61/62

Progress 3: Tool Upgrade Overview

Connection to P13 boards by use of connector (direct local connection)

- SK60 built in a Desktop PC (ISA SLOT)
- SK61 external box for a Notebook PC (USB 1.1)
- SK62 external box for a Notebook PC (USB 2.0)

Setup in Progress 3



Procontrol P13 local bus with 70PR03 and PR05

| 1 | 6 | 10 | 11 | 12 | 13 | 15 | 16 | 24 |
|----------------------------|-----------------------|----------------------------|----------------------------|-----------------------|----------------------------|----------------------------|----|----|
| B K 0 2 0 4 | P R 0 5 1 | A B 0 1 6 0 | A A 0 2 8 0 | P R 0 3 2 | 7 0 S S 0 1 | 7 0 S P 0 2 | | |

Connected by the use of simulation memory 70SS01 and test memory 70SP02



Applicable for:

- 70PR02
- 70PR03
- 70PR05
- 70BK02
- 70FV01
- all 70ASxx

Connection to Control System: 70BK03

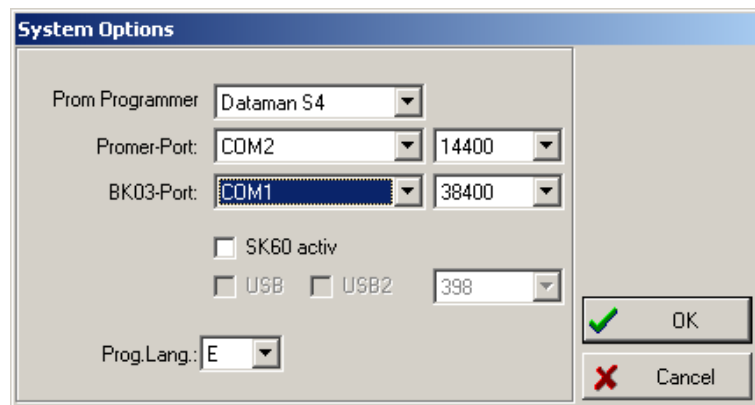
Progress 3: Tool Upgrade Overview

Connection to P13 boards from local bus (70BK03) to serial interface (PC)

Variants:

- 70BK03c-E/R1 RS232 connection
- 70BK03c-E/R3 RS485 connection

Setup in Progress 3



Simultaneous access to all local addresses resp. boards (local bus) possible

Procontrol P13 local bus with 70PR03, 70PR05 and 70BK02

| 1 | 6 | 10 | 11 | 13 | 15 | 16 | 24 |
|------------------|------------------|------------------|------------------|------------------|------------------|----|----|
| B K 0 2 | P R 0 5 | A B 0 1 | B K 0 3 | A A 0 2 | P R 0 3 | | |
| 0 4 | 1 | 6 0 | 8 0 | 2 | | | |

Direct serial connection (PC)
Identification of the boards by „code switch“



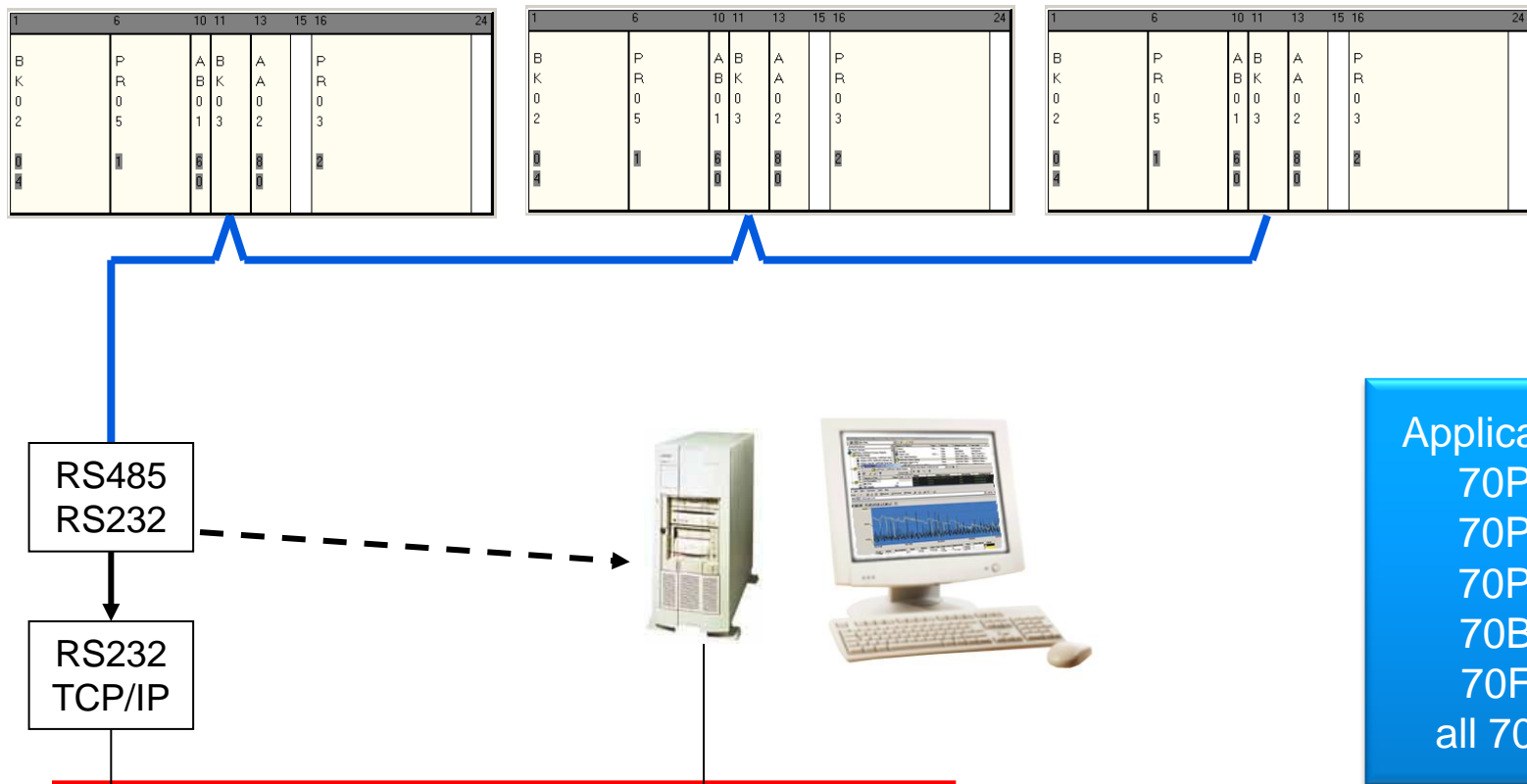
Applicable for:
70PR02
70PR03
70PR05
70BK02
70FV01
all 70ASxx

Connection to Control System: 70BK03

Progress 3: Tool Upgrade Overview

Connect to several local P13 stations

- Serial connection (PC) or „remote“ by TCP/IP → RS232 converter



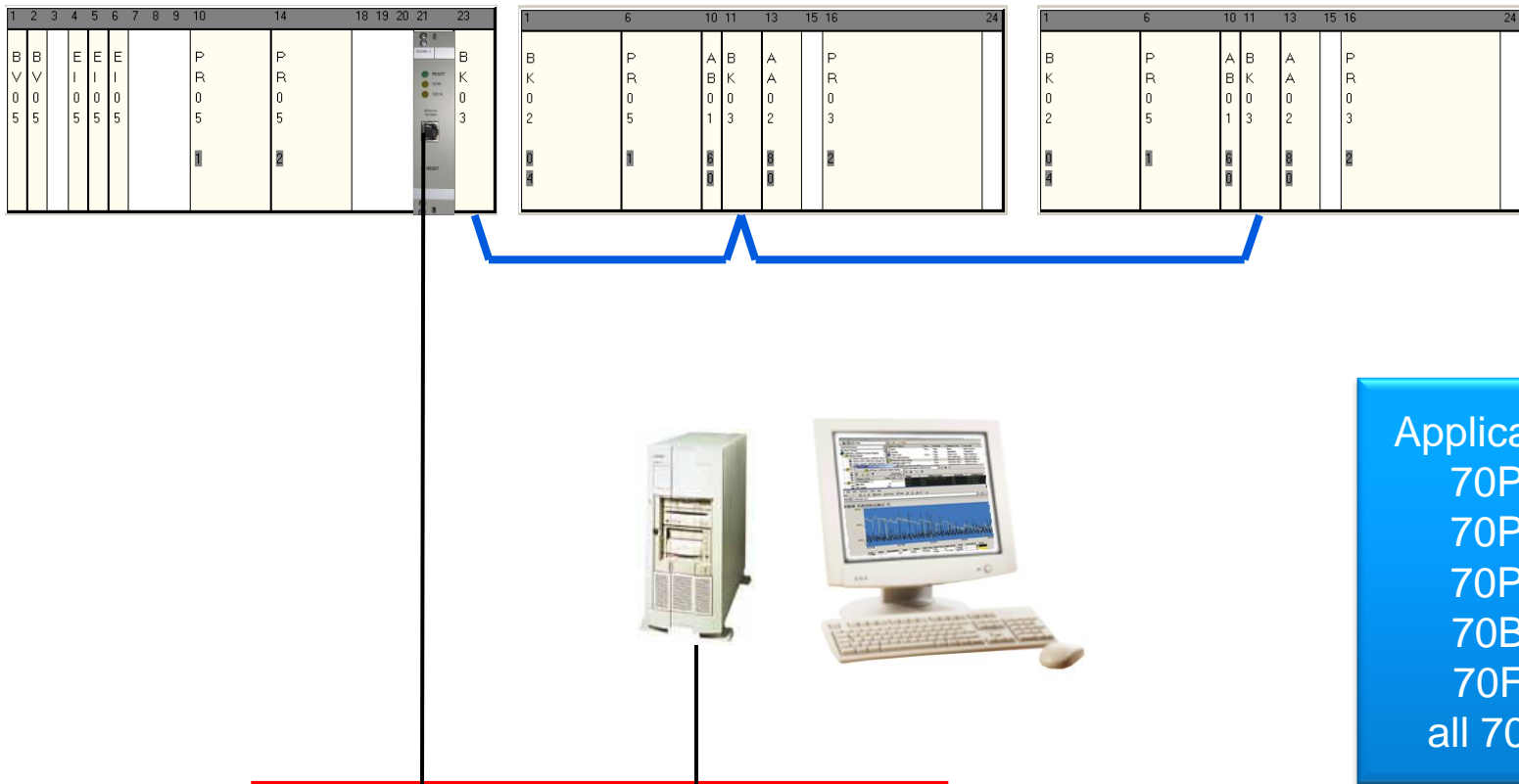
Applicable for:
70PR02
70PR03
70PR05
70BK02
70FV01
all 70ASxx

Connection to Control System: 70BK03 & 70BI01

Progress 3: Tool Upgrade Overview

Connect to several local P13 stations

- Local or remote connection by TCP/IP with new 70BI01 Device



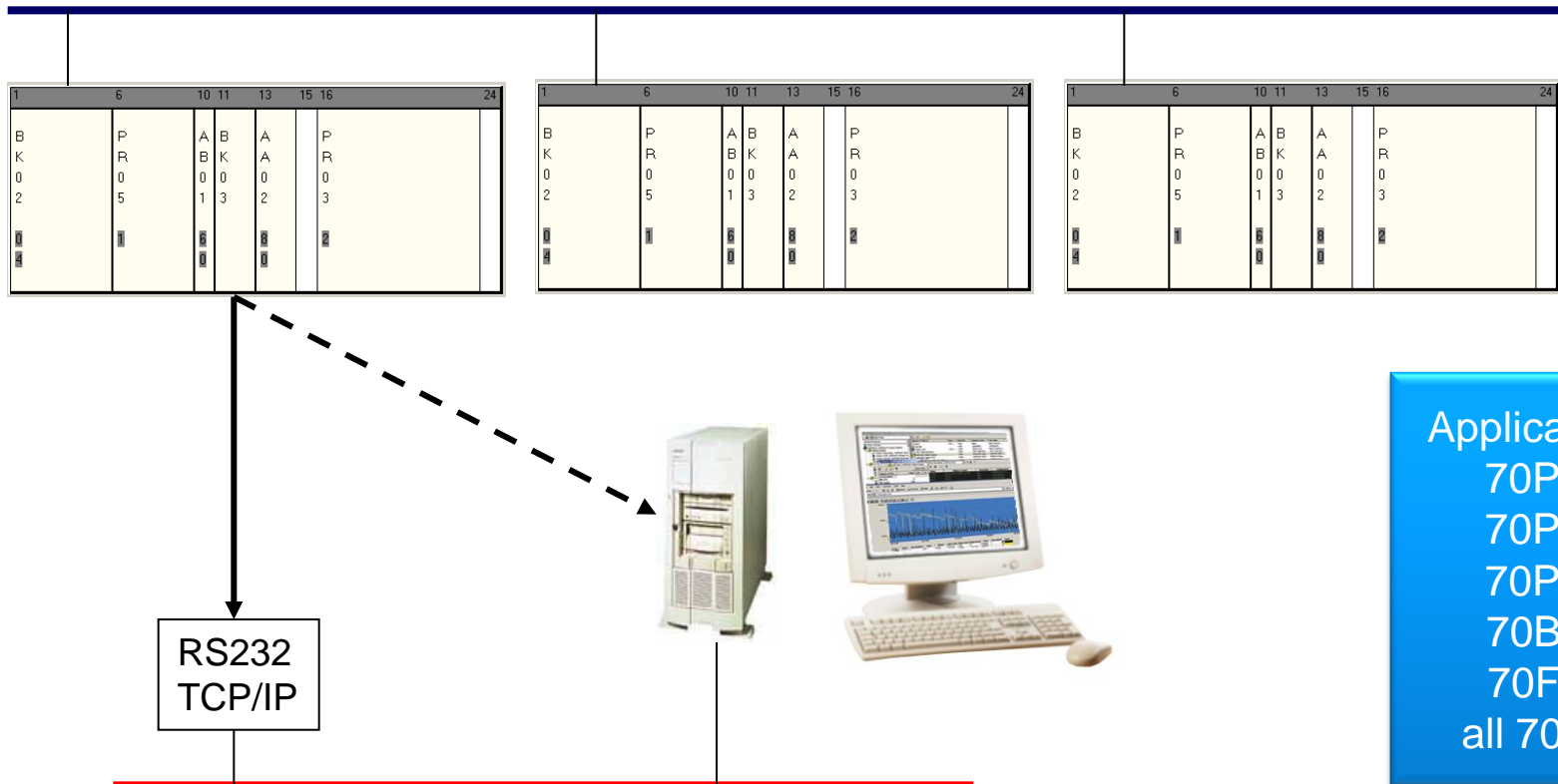
Applicable for:
70PR02
70PR03
70PR05
70BK02
70FV01
all 70ASxx

Connection to Control System: 70BK03

Progress 3: Tool Upgrade Overview

Connect to several local P13 stations via P42 intra-plant bus

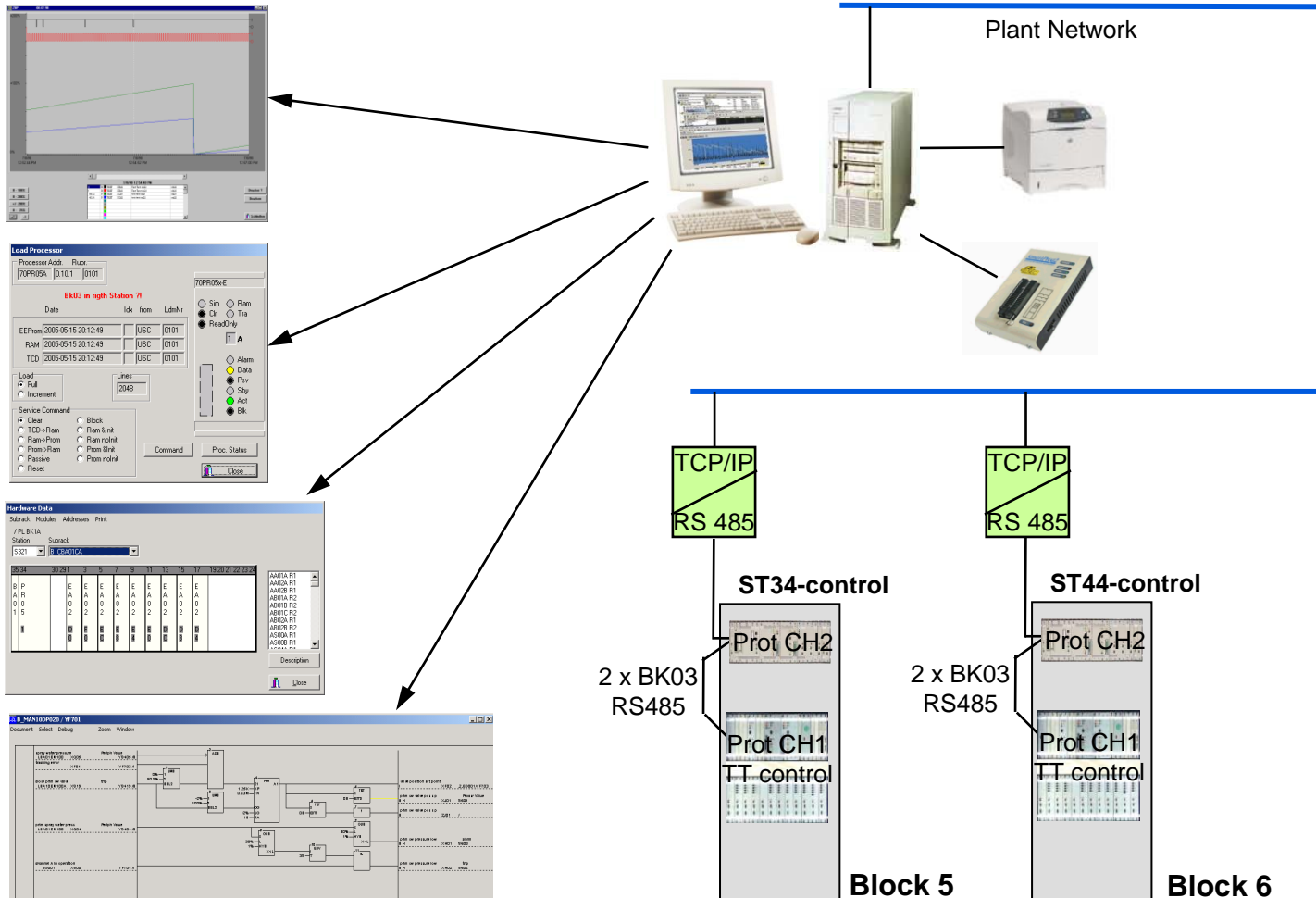
- Serial connection (PC) or „remote“ by TCP/IP → RS232 converter



Applicable for:
70PR02
70PR03
70PR05
70BK02
70FV01
all 70ASxx

Diagnosis by Progress 3 Tool *for information*

Progress 3: Tool Upgrade Overview



- Remote
- Engineering & Monitoring
- Diagnosis of the Control systems



Diagnosis by Progress 3 Tool *for information*

Progress 3: Tool Upgrade Overview

Bus Configuration

Station

5124 1.04

5708 1.05

Disturbance Annunciations of :5708

Select disturbance indication

- BQF Bit Source Error
- SME1 Input module disturbed
- SME2 Module disturbed
- SME3 System redundancy dist.
- SMT Temperature inadmissible
- SMS Simulation
- SMV Local manipulation
- SMD1 Different status
- SMD2 Redundant input disturbed
- SMZ Tolerance time exceeded
- SMP1 Transmitter disturbed
- SMP2 Sensor disturbed**
- SMP3 Contact disturbed
- SMM
- SMR
- SMA

Acknowledge

Status

Stop

SMP2 Sensor disturbed

Temp Brg 1 0-1000degC

| Kks | Sig | CSig | Ib | Bc | W | Bit | Mod | Location | |
|---------------|------|------|----|----|----|-----|------|-------------|---|
| 44MKD11CT002 | XQ01 | XW69 | 0 | 05 | AE | 0 | EA04 | 44CBA08CA12 | 0 |
| 44MKD11CT002 | XQ01 | XW69 | 0 | 05 | AF | 0 | EA04 | 44CBA08CA12 | 0 |
| 44MKD21CT002 | XQ01 | XW69 | 0 | 05 | B0 | 0 | EA04 | 44CBA08 | |
| 44MAA10CT006A | XQ01 | XW69 | 0 | 05 | B9 | 0 | EA04 | 44CBA08 | |
| 44MAA11CT001A | XQ01 | XW69 | 0 | 05 | BE | 0 | EA04 | 44CBA08 | |
| 44MKD11CT001A | XQ01 | XW69 | 0 | 05 | BF | 0 | EA04 | 44CBA08 | |
| 44MKD21CT001A | XQ01 | XW69 | 0 | 05 | C0 | 0 | EA04 | 44CBA08 | |
| 44MAA10CT005 | XQ01 | XW69 | 0 | 05 | C1 | 0 | EA04 | 44CBA08 | |
| 44MAW10CT002 | XQ01 | XW69 | 0 | 05 | C2 | 0 | EA04 | 44CBA08 | |

Testset : EA04.TST

Signal History

| Kks | Sig | Text | Status | Value | U | Ib | Bc | Bit | Word | Unit | Proc.No | SimValue | Active |
|---------------|------|-------------------------|--------------|---------|---|----|----|-----|------|------|---------|----------|--------|
| 44MAA10CT005 | XQ01 | HP hub starting probe 1 | Periph Value | ? | P | 0 | 05 | 0 | C1 | 5708 | | | |
| 44MAA10CT006A | XQ01 | HP hub starting probe 2 | Periph Value | 0.00 | P | 0 | 05 | 0 | B9 | 5708 | | | |
| 44MAA11CT001A | XQ01 | Temp Brg 1 0-1000degC | Periph Value | * 10.16 | P | 0 | 05 | 0 | BE | 5708 | | | |
| 44MAA11CT001A | XQ02 | temperature bearing 1 | Periph Value | ? | P | 0 | 04 | 0 | E9 | 5124 | | | |
| 44MAA11CT002 | XQ01 | Temp Brg 1 0-1000degC | Periph Value | 0.00 | P | 0 | 05 | 0 | AE | 5708 | | | |
| 44MAA11CT002 | XQ02 | temperature bearing 1 | Periph Value | ? | P | 0 | 04 | 0 | D9 | 5124 | | | |
| 44MAA10CT002 | XQ01 | glnd atm temp 0-1000deg | Periph Value | ? | P | 0 | 05 | 0 | C2 | 5708 | | | |
| 44MKD11CT001A | XQ01 | Temp Brg 2 0-1000degC | Periph Value | ? | P | 0 | 05 | 0 | BF | 5708 | | | |
| 44MKD11CT001A | XQ02 | temperature bearing 2 | Periph Value | ? | P | 0 | 04 | 0 | EA | 5124 | | | |
| 44MKD11CT002 | XQ01 | Temp Brg 2 0-1000degC | Periph Value | 0.00 | P | 0 | 05 | 0 | AF | 5708 | | | |
| 44MKD11CT002 | XQ02 | temperature bearing 2 | Periph Value | ? | P | 0 | 04 | 0 | DA | 5124 | | | |
| 44MKD21CT001A | XQ01 | Temp Brg 3 0-1000degC | Periph Value | ? | P | 0 | 05 | 0 | C0 | 5708 | | | |
| 44MKD21CT001A | XQ02 | temperature bearing 3 | Periph Value | ? | P | 0 | 04 | 0 | EB | 5124 | | | |
| 44MKD21CT002 | XQ01 | Temp Brg 3 0-1000degC | Periph Value | * 50.01 | P | 0 | 05 | 0 | B0 | 5708 | | | |
| 44MKD21CT002 | XQ02 | temperature bearing 3 | Periph Value | 0.00 | P | 0 | 04 | 0 | DB | 5124 | | | |

Simulation

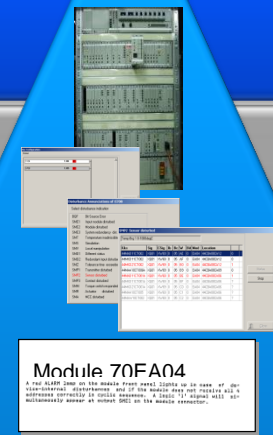
On Off Refresh All Off Save Close

Plant Diagnostics Level

- Plant-wide diagnostic alarm overview
- Detailed diagnostic displays
- Acknowledge diagnostic alarms

Plant Maintenance Level

- Detailed graphical diagnostic displays
- Display diagnostic messages
- Display analog and digital values
- Trend display analog values
- Debugging functionality



Power and productivity
for a better world™



Revision Index

Progress 3: Tool Upgrade Overview

Document: 2VAA002154_en_Progress 3 Overview Presentation

| Rev. | Description | Date / Dept. |
|------|---|----------------------|
| - | Initial release for external distribution | 2012-06-19 / PSP-PRU |