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| From: TT.Huynh / R.Beck | Tel.: 530 | Date: 02/12/2009 |
| Subject: PCS1.Cxxx | FW VERSION V0F0 | |
| Doc #: PCS1Cxx0_0F0_Overview.doc | | |

PCS1.CXXX SUMMARY OF FIRMWARE VERSIONS

This document summarizes the changes of all firmware versions that are liberated on the PCS1.Cxxx for production.

Concerning corrected / known bugs:

Only important bugs are listed here. For other bugs, please refer to the file COMSWER.XLS that contains more information about known bugs.

FEATURES OR RESTRICTIONS SPECIFIC TO PCD2.M150/250

General

- **FW update:**
 The FW can be updated with the FW downloader. To start this program click "PCD FW downloader" in the "tools" menu from the PG5 Saia Project Manager.
 The FW update can only be done through the PGU port (port 0).
 On PCS1 HW version D (PCS1 delivered with FW V090 booter V\$87) or older, it is not possible to use the standard FW update procedure. To proceed to a FW update, please download the special FW update pack from our internet site.
- **PGU**
 Default PGU mode is S-BUS parity therefore PG5, PG4 from version V1.3 upward or PG3 from version β2.0 upwards have to be used.

Memory

- **User memory:**

| User prg mem. | HW | System Memory | FW | Default Memory configuration |
|---------------|-----|-----------------------------|-----|---|
| --- | < E | 240kB FLASH + 128kB RAM | --- | 45klines prg, 60kB txt, 128kB ext. |
| --- | ≥ E | 1008kB FLASH + 896kB RAM | 0A0 | 189klines prg, 252kB txt, 896kB ext. |

- **EEPROM:**
 - The S-Bus configuration is automatically saved in the EEPROM, this means that even if the battery becomes discharged the S-Bus configuration will be safe.
 - There are 50 non-volatile user registers (< V0A0: 5 non-volatile user reg.).

Instructions

- NOP
 - Instruction set to ~5µs for FB's compatibility V090
- LD=/LDX=
 - FB's parameters can be use on the LD and LDX instructions. V0B2
- SASI
 - Text accepts \$R parameters. V090
 - E.g: "UART:\$Ra,\$Rb,\$Rc,\$Rd;MODE:\$Re,\$Rf;DIAG:F\$Rg,R\$Rh;"
 - a Baudrate 110...38400 (numerical value)
 - b Bits 7,8 (numerical value)
 - c Parity E,O,N (ASCII coded)
 - d Stop 1 or 2 (numerical value)
 - e Mode 'MC0', 'SM2', etc. (ASCII coded)
 - f Station Reg. with S-Bus station (numerical value)
 - g Diagnostic flags Reg. with the base diag. flag nbr (0..8191 num. value)
 - h Diagnostic register Reg. with the diag. register nbr (0..4095 num. value)
- SYSRD/SYSWR
 - SYSRD/SYSWR/SYSCMP/DEFTR instructions. V090
 - SYSWR 1000: System watchdog V090
 - SYSRD 660x for serial port mode read back added V0B0
 - SYSRD/SYSWR 7050 to 7081 V090
 - to read and write the different elements of the clock.
 - SYSRD 7090 V090
 - Function that returns the number of seconds elapsed since 00:00:00;
January 1; 1970 (coordinated universal time), according to the system clock.
- SF
 - Application library V0B0
 - including SFs "CopyText", "InitDB", "CopyDB2Registers", "CopyRegisters"
 - New "CopyBytes" SF V0F0

Communication

- Serial communication
 - MC0/1/2/4 V090
 - MC5 mode that deactivate RS-485 drivers directly after completion of transmission. V090
 - Freeze function for the MC mode to ensure that no inter-character delay take place during the transmission of a frame. V0F0
 - MD/SD, MM4, LAN2 not implemented
- S-Bus:
 - Data and parity modes as master and slave. V090
 - Secure Data Mode V0C0
 - Option to disable the S-Bus secure data mode V0F0

- Modem+ V090
- Gateway (GM/GS). V090
- Possibility to do a SASI off on a S-Bus PGU port (like on PLM) V0B0
- S-RIO as master and slave. not implemented
The S-RIO master task assumes the communication and the refresh of the process image. The RIO task is activated by a SASI instruction. The SAIA configurator automatically generates the SASI text, the configuration and messages DB. For more information please read the document "Remote I/O with SAIA S-Bus" 26/751 F2.
- PROFIBUS FMS with PCD7.F700: not implemented
- PROFIBUS DP: not implemented
- LON with PCD7.F80x:
 - Base functionality V090
 - LON enhancement with new functionality poll and alias (LON 1.5). V090
- Communication on TCP_IP with PCD7.F650/F652: not implemented
- Web-Server (max. RAM disk 8KB) V0A0
 - S-Web Alarming V0C0
- PGU switches automatically to 38.4 kBds (requires PG5 V1.2). V090
- Up to 2 ports could be configured/assigned at 38.4 kBds at the same time. V090
- It is possible to configure/assign port 0 (or 1) at 38.4 kBds and port 1 (or 0) at 19.2 kBds. V090
- Port 0 (PGU port) can be used as a "standard" communication port (possibility to configure port 0 as S-Bus PGU) by using the SYSWR k 9002. V0A0

Miscellaneous

- New features for PG5 V1.0. V090
 - New OUTL and OUTLX instructions
 - New synchronization for a bloc downloads in mode "RUN"
 - Possibility to upload data (SEdit and SFUP) in a synchronized manner.
- XOB
 - XOB 17, 18, 19: User XOB's V090
This XOB's which can be provoked via S-BUS telegram (STXM chan, 0, k 4000, k 17..19) or SYSWR command (K4017..K4018). The XOB's are only executed if the CPU is in RUN or CONDITIONAL RUN.
 - XOB 7: System overload XOB V090
 - XOB 14/15: Cyclic XOB's
can be executed from 5 ms to 1000s with 1ms steps V090
 - New XOB handling. V090
During the execution of a XOB other XOBs are queued and executed at the end of the first one.
 - XOB 2: Super-Cap supervision. V090

- Calculation of week and day number V090
The PCD compute the day and the week number based on the date using the same algorithm as in the PG. The command 'Write Clock' corrects automatically the week number or day number if they are wrong.
- Password mechanism. V090

V0F0

Major corrections and changes

- New option to deactivate the S-Bus secure data mode.
- Freeze function for the MC mode to ensure that no inter-character delay takes place during the transmission of a frame.

Modifications realized by SWER number

1551

WEB: In a specific Web application "WEB stack overflow" occurs (KR-PC-09-034). Web stack size is now about twice as big.

1550

Crash: Stack was not stored at the correct address for the diagnostic file ("Srec_S1C8xx.dba" batch).

1548

Interpreter: If the INI/DEI operand is outside the valid range, the index register is not incremented/decremented and the ACC is set. This can result in an endless loop. ACC has to be reset in this case.

Example: INI R xxxx [>8191]
 JR H -1

1547

Serial communication: Introduce a new option to deactivate the S-Bus secure data mode.

1546

Interpreter: Get instruction doesn't work when the source is a text and the destination is the last register (R 4095).

1545

Interpreter: Add a new SF to transfer byte between Register, DBs or Texts (the number of DB and Texts has to be bigger than 4000).

1544

Serial communication: In an S-Bus data mode request telegram, special characters (=>B5 and C5) in the "secure" header are not replaced by the DLE sequence. This result that on 2 / 255 telegrams no response is send back + some specific telegrams with length B5 or C5.

1543

Crash: The PLC crashes (bus error) when a user attempts to read 255 elements from DB over S-Bus.

Note: Rcount is now limited to 0x64.

1533

Serial communication: New freeze function to ensure that no inter-character delay takes place during the transmission of a frame using STXD instructions in MC mode. The transmission of characters is stopped if the freeze flag (optional parameter in the mode definition) is set and restarted once it is reset. Eg: UART:115200,8,N,1;MODE:MC0,Fnn;DIAG:Fnn,R10;TBUF:512"

Information for FW Flash programming.

| FW-file | Check sum | Label |
|-------------------|-----------|--|
| PCS1_Cxx0_0F0.blk | --- | S1.Cxxx ex work: - BOOTER V0A4 - FW V0F0 |

V0E6

Major corrections and changes

- Write text not possible through the Web interface

Modifications realized by SWER number

1542

WEB: The PLC crashes (68k address error) when a user attempts to write a text ≥ 4000 from the WEB interface.

1540

RTC: It appends that the clock stays on 01/01/90 00:00:00 until the next power off/on.

1538

Serial communication: Exceptionally, on some CPU, it happens, on a channel assigned in MC mode, that characters are not sent. This occurs if an internal variable is no more correctly initialised after a RAM lost (eg. After deficient battery).

1536

Interpreter: Some SFs don't clear the error flag if executed successfully.

Information for FW Flash programming.

| FW-file | Check sum | Label |
|------------------|-----------|--|
| PCS1Cxxx_0E6.blk | --- | S1.Cxxx ex work: - BOOTER V093 - FW V0E6 |

V0C2/V0E3

Major corrections and changes

- Web server improvement

Modifications realized by SWER number

1530

WEB: Sometimes it's impossible for the browser to continue to load the pages because the web server is blocked, the response is always "NR"(not ready).

1529

WEB: At first Web server access after a PLC restart (or Web reset) the Web server keeps the hand much longer than specified in the configuration (20..300ms depending of the RAM disk size and the system).

1528

WEB: An "active and non ack" display filter is wanted.

1526

WEB: On the default WEB pages the new SAIA logo should be displayed (Control Systems and Components and no more Smart solutions for comfort and safety).

1524

Interpreter / SF: In the Application library the SFs ClearMem/ReadMem/WriteMem crash if the parameter is a DB instead of a Register.

1523

CSF: If the CSF function doesn't exist then the system crashes (e.g.: IP library, function IPSend).

| Information for FW Flash programming. | | |
|--|------------------|--|
| FW-file | Check sum | Label |
| PCS1Cxxx_0E3.blk | --- | S1.Cxxx ex work: - BOOTER V093 - FW V0E3 |

V0C1**Major corrections and changes**

- Web server improvement

Modifications realized by SWER number**1519**

System: The production information store in the EEPROM are overwritten by a short time Power down

1518

Serial communication: S-BUS PGU is not more reassigned when the timing interval between SASI off on assigned port and the SASI off on S-BUS PGU port is smaller than 1 second.

1517

Interpreter: The system crashes if going step by step with Graftec editor when no CSB is used in the user program.
The bug occurs with PG5 SP1.4.130 but not with PG5 1.3

1512

Alarming: In CGI Alarming the Auto mode option delete on OFF was not implemented

Information for FW Flash programming.

| FW-file | Check sum | Label |
|-----------------------|-----------|--|
| PCS1C6xx_C8xx_0C1.blk | --- | S1.Cxxx ex work: - BOOTER V093 - FW V0C1 |

V0C0

Major corrections and changes

- 1st version for PCS1.C4xx
- Alarming has been added.
- Secure S-Bus data mode has been added.
- Improvement of the PCD immunity against bus error.

Modifications realized by SWER number

1509

Interpreter: In CSF „Copy Text“ at the \$F, and \$I handling, Bit 7 was always 0 (not read).

1507

System: PCS1.C4xx IDs are wanted

1504

Interpreter: At the CSF “Copy Text“ function, at the source Txt and destination Txt/DB parameter, register indirect addressing is wanted.

1499

System: If a crash occurs while processing the XOB 0, the CPU goes in HALT even if the SW Watchdog is active.

1498

Interpreter / Web: Alarming has been added.

1497

S-Bus: S-Bus Secure data mode has been added.

1495

Web: Text PPOs are limited to 32 characters. 64 is wanted.

1492

Interpreter: CSF “Copy Text” [6, 0] doesn't work correctly when the included text is empty. The converted text contains other characters.

1491

System: At bus error a retry is wanted before getting in halt.

Information for FW Flash programming.

| FW-file | Check sum | Label |
|-----------------------|-----------|--|
| PCS1C6xx_C8xx_0C0.blk | --- | S1.C8xx ex work: - BOOTER V093 - FW V0C0 |

V0B4

Major corrections and changes

- **Web server:** Stability problems with the Web Server at special user cases have been resolved (more details see below). All clients that use the Web server should update.
- **LON:** An error at alias use has been corrected. All clients that use LON alias should update.

Modifications realized by SWER number

1489

Interpreter: The handling of the refusal at access to text/DB with number ≥ 32768 (only possible with special tools) caused instabilities

1487

Interpreter: The outputs were always set back with a reset after a user program download: The clear output de-active setting at the download option did not work.

1485

Web server: Not all HTML form values are written to the PLC media.

1484

LON: At LON alias use LON transmission is slow, blocking, or blocks the whole PCD.

1483

Web server: Access to the default web pages some times cases a system crash.

1481

Web server: The CSF "Copy Text" doesn't work if an including text of the main text to convert is empty.

1479

Interpreter: The SICL DSR0 command returns 0 if no modem is connected. With SYSWR 9002, K 1 PGU mode is forced with new PGU DSR0 signalling on the SICL command. (New functionality)

| | | |
|--|------------------|--|
| Information for FW Flash programming. | | |
| FW-file | Check sum | Label |
| PCS1C6xx_C8xx_0B4.blk | --- | S1.C8xx ex work: - BOOTER V092 - FW V0B4 |

V0B2**Major corrections and changes**

- **S-Bus:** If on an S-bus slave ports two telegram are received directly one after another after the response of the first 3 or more byte junk data was sent (SWER 1464).
- **Web server:** Stability problems with web server restarts at high loading (web server overloading) and firmware download have been resolved.

Modifications realized by SWER number**1476**

Interpreter: Using the new CSF "Copy Text" command with count K 0 (parameter 3) setting sometime a crash occurred.

1475

Interpreter: A production and fabrication information read through CSF is wanted.

1474

Interpreter: LD= and LDX= is wanted.

1473

Interpreter: Register indexed RSB for Graftec is wanted.

1471

S-Bus: Multiple read and write medias (R,T,C,I,O,F) S-Bus telegrams are wanted, in "reduced" and broadcast mode not to be supported.

1469

Web server: The Web server doesn't response anymore after some time (Either NAK or Content not ready is displayed in Web Connect). The Web server reset has been reviewed and corrected. Automatic emptying of the ram disk is done when a ram disk overflow occurred.

1464

S-Bus: If on an S-Bus slave ports two telegram are received directly one after another after the response of the first 3 or more byte junk data has been sent.

The deactivation of the transmitter in polled mode directly after telegram finishing has been added and the "receive converter" has been deactivated. This works only if ONE telegram is sent during response sending.

1463

Web server: After downloading a new program, the web server got unreachable and the PCD had to be restarted. The ram disk in the web server is reset any time a program is downloaded.

1462

Web server: The Web server was unreachable after a long time usage. The reset function of the web server did not reset the file handle environment.

1461

PCD Start-up: A new start-up LED signalisation is used that is compatible with all other new PCD classic standard firmware versions.

Information for FW Flash programming.

| FW-file | Check sum | Label |
|-----------------------|-----------|--|
| PCS1C6xx_C8xx_0B2.blk | --- | S1.C8xx ex work: - BOOTER V092 - FW V0B2 |

V0B1

Major corrections and changes

- At power down the upper registers range (registers >~3770) are overwritten. (SWER 1457).

Modifications realized by SWER number

1458

The read/write text S-Bus commands should also be supported in reduced mode.

1457

At power down the upper registers range (registers >~3770) are overwritten. This doesn't happen if the XOB0 is programmed.

1455

In CSF "Copy Text", text >= 4000 containing @@ or \$\$ result in a text that is 1 character to long.

Information for FW Flash programming.

| FW-file | Check sum | Label |
|-----------------------|-----------|--|
| PCS1C6xx_C8xx_0B1.blk | --- | S1.C8xx ex work: - BOOTER V092 - FW V0B1 |

VOB0

Major corrections and changes

- Many improvements and extensions were done on the Web-server. It is now more robust (SWERs 1439, 1438, 1428, 1420, 1415, 1412, 1408, 1382, 1381, 1378, 1371, 1357).
- Different corrections on SYSWR instruction (SWERs 1448, 1446, 1372).
- Some Lon corrections were done (SWERs 1389, 1390, 1404, 1405).

Modifications realized by SWER number

1450 – 10.05.2005

In CSF for "Copy Text", text \geq 4000 including formatting information are not handled correctly. The formatting information is ignored.

E.g.: "\$%08dREGISTER 10: \$R0010<10><13>".

1448 – 28.04.2005

If user program is in FLASH or EPROM, the S-Bus station number, written using SYSWR 6000, is overwritten by the configuration after a restart.

1446 – 20.04.2005

Fatal errors (e.g. "bus quit failure", "68k address error", ...) can occur if using SYSWR 70xx.

1444 – 13.04.2005

The EEPROM sometimes could not be read back correctly, in this case the non-volatile registers and production information got erased.

1439 – 18.02.2005

The Web-Server should use less Ram Disk memory for temporary files.

1438 – 18.02.2005

The running Web project shows "No message" or "Ram Disk Overflow" on screen; even when the ram disk was enlarged.

1435 – 25.01.2005

PCD crashes after the IMaster and all teq files have been downloaded to the browser. Multiple 68K ADDR Error are displayed in the history.

1425 – 03.12.2004

In mode MC1 during STXT (/STXD) the XBSY (/TBSY) was sometimes cleared even though the port was still sending characters.

1424 – 08.11.2004

In mode MC0 during STXT (/STXD) the XBSY (/TBSY) was sometimes cleared even though the port was still sending characters.

1423 – 29.11.2004

Web pages are not correctly displayed on Windows CE.

1422 – 12.11.2004

Offer the possibility to do a SASI off on a port S-Bus PGU (like on PLM).

1421 – 11.11.2004

If the 1st or the 4th character of the projects name is a special character (ASCII code greater than 127) then the checksum is not correctly calculated:

With Flash/EPROM memory: PC goes in HALT and Sbug displays "checksum fail".

With RAM: PCD is not in Halt, but there is a history entry: "Modified Program".

1420 – 03.11.200

Using the Web-Server, it happens that the browser displays "Ram disk overflow" instead of the requested PDP values.

1419 – 02.11.2004

Add a CSF [lib 6, function 1&2] to copy byte by byte from a DB to registers and vice versa.

1417 – 19.10.2004

After XOB 0 execution the RESI /RST pin is not activated and therefore the (communication) modules are not properly reset. LON did not restart.

1416 – 19.10.2004

Optimize the CPU performance by using the serial communication.

1415 – 19.10.2004

Web-Server stack overflow causes PCD Halt (only FW PCS1 >x99).

Web-Server history entries only appear in the last status and not in the history list.

1412 – 02.09.2004

In the Web-Server the DB 4000 can not be used as PDP TAG. "AREA OVERFLOW" is return.

1411 – 30.08.2004

New SYSRD 660x instruction to read mode of port [0..6] which is assigned or configured on PCD. The mode is returned in a register in ASCII format.

1408 – 04.08.2004

Access to a Web-Server in a sub-station over gateway doesn't work if timeout is set to default and if the gateway baudrate is 9600 or less.

1407 – 03.08.2004

EEPROM access over gateway failed.

1405 – 04.07.2004

At very heavy LON loading and using 38,4 kBd / 19,2 kBd in parallel on the serial ports and 38,4 kBd on PGU, LON is not starting up properly getting repeatedly in resynchronisation and on the 38,4 kBd port, frame / break errors occurred.

1404 – 04.07.2004

At very heavy LON loading and using in parallel serial ports at 38,4 kBd / 19,2 kBd (2ports, PGU included), LON is not starting up properly getting repeatedly in resynchronisation. On the 38,4 kBd port frame / break errors occurred.

1401 – 07.07.2004

Introduce the possibility to have a serial number and mechanism related with (e.g. "check licence" CSF).

1400 – 27.04.2004

New CSF "Copy Text" implemented:

The function "Copy Text" copies a text into a text or db.
The formats (@,\$,...) are supported in a source text as well.

1399 – 11.05.2004

Access to flashcard over gateway fails.

1398 – 11.05.2004

Firmware Download over gateway fails.

1390 – 29.04.2004

At LON broadcast domain wide use a second and all further message are only sent once.

1389 – 29.04.2004

At LON broadcast / alias use a binding problem with multiple selector use (tool error) causes loss of transmission. All second and further NV on a single selector are only sent once.

1385 – 25.03.2004

FW must be able to work with FLASH from other manufacturers than Macronix. AMD, Fujitsu and ST flash must be supported.

1382 – 02.03.2004

When using the RAM disk of the WEB-Server and doing many downloads of the program and restarting the PCD, a crash happens with the history entry "address error" or "bus quit failure".

1381 – 02.03.2004

In the Web-Server the text 4000 can not be used as PDP TAG. "AREA OVERFLOW" is return.

1378 – 09.02.2004

When a file downloaded from the WEB-Server has a size exactly divisible by the size of the send buffer, then the last telegram is not transmitted correctly.

1373 – 21.01.2004

Especially with external interrupts (e.g. XOB 20/25), in some circumstances the system indicates a system overload (XOB 7) even if this is not the case.

1372 – 15.01.2004

Some SYSWR instructions (7000, 7001, 7050...) expect a register as 2nd parameter. If that parameter is a constant (K) various failures are possible, for example:

- Program stops, RUN LED remain turned on.
- Communication is lost.
- A valid result is not available (no register for the return value).

1371 – 08.01.2004

A new TAG format for the WEB-Server is necessary to show the time clock of the FBOX CVC setting and to modify them.

1357 – 23.10.2003

From the Web-Server, it should be possible to read a text formatted with TAG, to include in it media value or clock. Like in the Mode C send text.

Information for FW Flash programming.

| FW-file | Checksum | Label |
|----------------|----------|--|
| S1C8xx_0B0.blk | --- | S1.C8xx ex work: - BOOTER V092 - FW V0B0 |

VOA1

Major corrections and changes

- Our FLASH supplier has change and this FW version has been made in order to work with these new devices.

Modifications realized by SWER number

1385 – 25.03.2004

FW must be able to work with FLASH from other manufacturers than Macronix. AMD, Fujitsu and ST flash must be supported.

Information for PROM programming.

| Hex file | Checksum | Label |
|----------------|----------|--|
| S1C8xx_0A1.blk | --- | S1.C8xx ex work: - BOOTER V091 - FW V0A1 |

A booter update is mandatory to be able to work with these new devices.

VOA0

Major corrections and changes

- Improve the communication reliability (SWERs 1359, 1343, 1341, 1311).
- LON corrections and modifications were done (SWERs 1303-1298).

Modifications realized by SWER number

1369 – 10.12.2003

Increase the number of non-volatile registers from 5 to 50.
1MB user flash (1008K code/text mem.) and 1MB RAM (896K ext. mem.) must be supported

Notes:

The old FW don't support the new memory chips. Therefore modification was done in the booter (V090) that the download of old FW (<V\$9x) are not allowed on new HW (HW ≥E) (the system will stays in booter => red led blinks).

1359 – 31.10.2003

With high baudrates (especially 38.4kBd) it happens that communication made retries due to overrun error.

1343 – 18.06.2003

If an S-Bus (DATA mode) response telegram is corrupted that the last byte is equate to C5 then a retry is done but the answer will not be correctly interpreted. (B5 will be put in the msB of the answer).

1341 – 12.06.2003

1) After execution of instruction TEST 20 (serial channels) the gateway (configuration) doesn't work until a restart cold.

2) The PCD goes off line if TEST 20 is executed continuously.

To reproduce this bug: configure S-BUS at 38400baud on port 0 or 1 and after a few seconds the system goes to off line.

1330 – 26.08.2002

Add the SYSWR K 9002 instruction that port 0 (PGU port) could be used as a "standard" serial port (possibility to configure port 0 as S-Bus PGU).

1329 – 11.06.2002

LED sequence in start-up should be completely redesign that SAV can debug PCD using it.

1328 – 22.04.2003

Port 0 provides now S-Bus communication. S-Bus on port 0 is enabled when bit 7 on address 0x300001 is set. Modem is enabled (and S-Bus disabled) when the bit is cleared. The bit is readable and writeable by using call68 instructions.

1325 – 26.03.2003

The CPU's internal status register SR, saved in berr_info in the case of a CPU crash, is not overwritten anymore after a restart of the PCD.

1324 – 26.03.2003

In the case of a CPU crash the stack will be copied to get more informations about the crash.

1315 – 20.11.2003

FW update fails when the FW is bigger than 234kB (booter error). This problem can occur when the Web-Server is implemented in the FW.

1312 – 29.11.2002

A "bus quit failure" occurs if in the TFRI instruction the source or destination register / timer / counter) is negative. E.g. TFRI DB DB_pnt, R R_pos, R R_Dst_pnt with R_Dst_pnt = -1.

1311 – 22.11.2002

A SASI GM on port 0 or 1 can cause any kind of problems. Known effects are:

- CPU crash
- Loss of S-Bus communication on port 2 or 3.

1308 – 29.10.2002

Graftec: Download block on run is not possible if COB 15 is used (COB 15 is running). A Message Box appears: Timed out waiting for blocks to be switched.

1303 – 02.10.2002

LON: At message sending with an out of range CodeID the LON-driver is hanging up.

1302 – 02.10.2002

LON: The use of a not bound message tag sets the new “non-bound message tag” bit 27 instead of the 'interface error' bit 16 in the diagnose register.

1301 – 02.10.2002

LON: Message Tag doesn't work with the new SNET, Fupla and LonMaker. The address table index is kept to 0x0f, LonMaker does not update it when it writes the address table info.

1300 – 02.10.2002

LON: At first use after a new program download at unbound value the driver is still called. The transmit LED lights up but nothing is sent and a NAK is returned. LON should return an unbound diagnosis without a driver call. After commission with an unbound value the problem is gone.

1299 – 26.09.2002

LON: At NV out ring buffer use overflow caused diagnose register Bit 'interface error' setting with transmission loss without any warning before.

1298 – 26.09.2002

LON: The use of a not bound NV sets the new “not bound NV out” bit 19 instead of the 'interface error' bit 16 in the diagnose register.

Information for PROM programming.

| Hex file | Checksum | Label |
|----------------|----------|--|
| S1C8xx_0A0.blk | --- | S1.C8xx ex work: - BOOTER V090 - FW V0A0 |

V090

This is the first official version for PCS1.C8xx

Information for PROM programming.

| Hex file | Checksum | Label |
|----------------|----------|---|
| S1C8xx_090.blk | --- | S1.C8xx ex work: - BOOTER V\$87 - FW V090 |