

Internal

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Subject: PCD1.M1xx FW VERSION <u>V084</u>		
Doc #: D1M1x0_084_overview.doc		

PCD1 SUMMARY OF FIRMWARE VERSIONS

This summary presents a short description of all firmware versions used with the PCD1 in production (official versions and exceptionally some intermediate \$ versions).

Concerning corrected / known bugs:

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

FEATURES OR RESTRICTIONS SPECIFIC TO PCD1

General

- Default PGU mode is S-BUS parity
 Therefore PG5, PG4 from version V1.3 upward, PG3 from version β2.0 upwards or P100 programming unit with FW \$301 has to be used.

Memory

- User memory:

User prg mem.	HW	System Memory	FW	Default Memory configuration
None		17kBytes		4k prg lines, 1k txt
RAM (/EPROM) 1Mbits	≥C	128+13kBytes	≥002	4k prg lines, 1k txt
			≥070	24k prg lines, 32k txt, 13k ext.
FLASH 1Mbits	≥C	112+13kBytes	≥002	4k prg lines, 1k txt
			≥070	21k prg lines, 28k txt, 13k ext.

Note:

- The memory available in the equipped RAM is: 17KBytes
- On the memory socket, possibility to put up to:
 RAM / EPROM / FLASH 1Mbits HW≥C
- At first memory configuration the FW makes an allocation with the maximum space available depending on the RAM/EPROM/FLASH chip. V070
- 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 5 non-volatile user registers.

Instructions

- All illegal instructions call up the XOB 8 and the message "INVALID OPCODE" will be placed in the history list. Illegal instructions on the PCD1 include all LAN-2 instructions and on FW V001: STXM/I/X/= / SRXM/I/X/= / SCHON/X/= . At the end of an XOB 8 an automatic restart cold is performed (as at the end of the XOB 0).
- SYSRD/SYSWR
 - SYSRD/SYSWR/SYSCMP/DEFTR instructions. V001
 - SYSWR 1000, system watchdog. V001
 - SYSRD/SYSWR 7050 to 7081. V070
 - Function to read and write the different elements of the clock.
 - SYSRD 7090, coordinated universal time. V070
 - Function that returns the number of seconds elapsed since 00:00:00; January 1; 1970 (), according to the system clock.
- Mul, Mulx and Div, Divx.
 - Instructions are up to 10 times faster. V070
- SASI
 - Text accepts \$R parameters. V070
 - 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)

Communication

- Serial communication
 - MC0/1/2/4 V001
 - MC5 mode that deactivate RS-485 drivers directly after completion of transmission. V080
 - MD/SD HW ≥C V002
- S-Bus:
 - Parity and break modes as slave. V001
 - Data-mode as slave. V002
 - Parity, break and data-mode modes as master. V005
 - Gateway (GM/GS). V005
 - Modem+ V001
 - New S-Bus configuration data handling (Station no., config. S-BUS) when inserting a programmed user memory (EPROM/FLASH). V006
- S-RIO as master (slave V001): V005
 - 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 DP: V006

master mode with PCD7.F750 and PCD1 HW \geq C3.
 slave mode with PCD7.F77x. and PCD2 HW \geq C3.

- LON is integrated. PCD7.F80x and PCD1 HW \geq C3 are necessary:
 - Base functionality V070
 - LON enhancement with new functionality poll and alias (LON 1.5). V080
- Communication on TCP_IP with PCD7.F650 and PCD1 HW \geq C3: V080
 - S-Bus over IP
 - "Open data mode" over IP
- MM4, LAN2 and PROFIBUS FMS not implemented
- PGU switches automatically to 38.4 kBds (requires PG5 V1.2). V081
- Up to 2 ports could be configured/assigned at 38.4 kBds at the same time. V081
- It is possible to configure/assign port 0 (or 1) at 38.4 kBds and port 1 (or 0) at 19.2 kBds. V080

Miscellaneous

- New features for PG5 V1.0. V070
 - 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 20, 25: interrupt inputs XOB's V001
 - XOB 17, 18, 19: User XOB's V001
 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 V001
 - XOB 14/15: Cyclic XOB's
 can be executed from 10 ms to 1000s with 10 ms steps V001
 can be executed from 5 ms to 1000s with 1ms steps V070
 - New XOB handling. V070
 During the execution of a XOB other XOBs are queued and executed at the end of the first one.
 - XOB 2: Battery or super-Cap supervision. HW \geq C. V002
- Calculation of week and day number V006
 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. V001

V084

Major corrections

- Modem applications (Fupla Modem library) don't work correctly if the PCD also contains a modem configuration (SWER 1459).

Modifications realized by SWER number

1459

Modem applications (Fupla Modem library) don't work correctly if the PCD also contains a modem configuration.

1458

The read/write text Sbus commands should also be supported in Sbus reduced mode.

1456

Read EEPROM from S-Bus over IP through a gateway fails.

1455

In CSF for "E-mail" or "Copy texts", text ≥ 4000 containing @@ or \$\$ result in a text that is 1 character too long.

1450

In CSF for "E-mail" or "Copy text", text ≥ 4000 including formatting information are not handled correctly. The formatting information is ignored. E.g.: "\$%08dREGISTER 10: \$R0010<10><13>".

1448

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

1447

S-Bus communications (configured) fails after a few minutes if DP slave communication is assigned but no master is on the bus.

1446

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

1425

In mode MC1 during STXT / STXD the XBSY /TBSY flag is sometimes cleared though the port is still sending characters.

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_084.hex	A346	PCD1.M1.. V084	27C4002 / 4 502 7178 0

V083

Major corrections

- A lot of corrections and improvement was done on IP (see SWERs 1428, 1427, 1426, 1418, 1391, 1388, 1363, 1354, 1352, 1342, 1334)
- Introduced a CSF for the Ethernet PHY-Chip configuration.

Modifications realized by SWER number

1428 – 07.12.04

Implemented the CSF for IPSetLocalConfig incl. update of the Extended Header. Introduced the function IpAddrToStrConfig for the case that a register with value 0 is passed as an IP-parameter.

1427 – 07.12.04

Lose data in Open Data Mode when more data is read from the socket than memory is available to save the data.

1426 – 07.12.04

Problem with detecting the end of a serial line test on the PCD7.F650.

1424 – 08.11.04

In mode MC1 during STXT / STXD the XBSY / TBSY flag is sometimes cleared though the port is still sending characters.

1422 – 12.11.04

Sasi off on port SBUS PGU (slave) is possible.

1421 – 11.11.04

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".

1418 – 27.10.04

The gateway on S-BUS UDP responds to requests even if the addressed station in the S-BUS serial network is not present. This issue generates some kind of "phantom" telegrams.

1417 – 19.10.04

After XOB 0 execution the RESI /RST pin is not pulled. LON did not restart.

1407 – 03.08.04

EEPROM access over gateway failed.

1399 – 11.05.04

Access to flashcard over gateway fails.

1398 – 11.05.04

Firmware Download over gateway fails.

1392 – 11.05.04

Webserver communication is not possible over gateway.

1391 – 11.05.04

In TCP Open Data Mode, the commands "SendData", "SendDataRev", "ConnectTCP" and "DisconnectTCP" use the same intern variable for the Port & Node. Conflicts and phantom telegrams can result.

1388 – 30.07.03

In S-Bus over IP, the special SRXM call k5xxx is not working.

1376 – 28.01.04

CSF set-/getEEPROM doesn't detect that the EEPROM is missing on the PCD7.F650.

1373 – 21.01.04

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 – 15.01.04

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).

1364 – 13.11.03

Implemented a CSF for PHY-Chip configuration of the PCD7.F650.

1363 – 13.11.03

On S-Bus and Open data mode over IP an indication, if the physical link is present, is wished (for example with XBSY flag).

1354 – 20.10.03

In Open Data mode over IP, it should be possible to send a text formatted with TAG, to include in it media value or clock.

1335 – 26.05.03

New DBX SEG to hide functions or a whole user program.

1334 – 25.04.03

Limit the TCP/IP Open Datamode ports to 32 (PCD1=16).

Information for PROM programming.			
Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_083.hex	9DCC	PCD1.M1.. V083	27C4002 / 4 502 7178 0

V081

Major corrections

- If a PCD7.F650 module is used no bus quit failure will occurred at power on, independent of the HW of the IP Module (SWER 1368).

Modifications realized by SWER number

1368 – 01.12.03

On PCD1.M130.F650 and PCD2.M150.F650, depending of the HW of the IP Module, a bus quit failure can occur at power on.

1365 – 21.11.03

It should be possible to use the 2 serial ports of PCD1 at 38.4kBd and PGU port should switch to 38.4kBd.

1352 – 10.10.03

In Open Data mode over TCP/IP if an Accept should done it can happen that a new telegram is received during process the accept. Then the accept gives an error and the communication does no more work correctly.

1343 – 18.06.03

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

1342 – 17.06.03

STXM/SRXM on S-Bus over IP: destination (for STXM) or source (for SRXM) media is tested with the limit of the station and if it doesn't fit, the command isn't executed and error flag is set. i.e. PCD1 cannot send to outputs > 61.

1341 – date: 12/06/03

- 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.

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_081.hex	B1DA	PCD1.M1.. V081	27C4002 / 4 502 7178 0

V080

Major corrections

- The serial communication, especially at 19.2 or 38.4 kBauds, sometimes blocks particularly when LON or Profibus DP is also active (SWER 1288).
- Various Profibus DP corrections were done (SWERs 1300, 1267, 1241, 1199, 1171).
- LON corrections and modifications were done (SWERs 1303-1298, 1250, 1222, 1190).
- The software watchdog functionality was improved. Now, the PCD always disables the software watchdog when it is switched in STOP or CONDITIONAL RUN. Also at each watchdog failure an entry is done in the history table (SWER 1270).
- MC mode
No more character will be lost during SASI off if TBSY is low.
By sending character check TFUL (and not TBSY) in order to not have a delay between each character (SWER 1235).

Modifications realized by SWER number

1324 – 26.03.2003

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

1312 – 29.11.2002

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

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.

1288 – 19.07.2002

The serial communication (S-Bus, MC, ...) on COM 2, 3, ... sometimes blocks when LON or Profibus DP is also active. After a restart it works again for a while.

1281 – 27.06.2002

Reset IO signal is being activated for at least 1ms for projects with PCD3.LIO.

1276 – 23.05.2002

S-Bus configuration (Gateway, modem, TCP/IP) should not put the PCD in Halt if there is not enough memory space in the EEPROM for the data.

1274 – 15.05.2002

The command "Display CPU-Status" in the SAIA debugger returns only 1 line of information (CPU number, platform and FW version) over Master Gateway. The PRODUCTION INFORMATION (System ID, Hardware Version, Modifications, Fab. Date) is not returned.

1270 – 07.05.2002

If the software watchdog is activated and the PCD is set into the STOP state, then it restarts because of a watchdog failure. Also a history entry is only made when XOB 0 exists and the SYSWR 1000 with the option 2 was executed.

The PCD should always disable the software watchdog when it is switched in STOP or CONDITIONAL RUN and at each watchdog failure an entry should be done in the history table.

1267 – 01.05.2002

Profibus DP Master doesn't work on some PCDs. Sometimes the data transfer is not done.

1263 – 15.04.2002

If you put an EPROM (or a FLASH), which has an S-Bus configuration and a password protection, on a PCD that has no S-Bus setting, the result is "no-S-Bus" instead of the S-Bus setting present in the EPROM.

The S-Bus setting will be enabled if you write a station number (eg. with Write s-bUs-station cmd or syswr K 6000) on this system.

1258 – 01.03.2002

Downloading a DB in run causes a 68k Address Error.

1250 – 13.02.2002

Error at some specific LON connection binding: Unacknowledged / repeated. LON did not work if trying to use it.

1248 – 13.02.2002

It is now possible to configure/assign one port at 38.4 kBds and the other at 19.2 kBds on the internal DUART (port 0 & 1).

It is possible to configure/assign the 2 ports of a DUART at 38.4 kBds but the number of ports at 38.4 kBds are limited to number of ports for the system divided by 2 (PCD1 can only have 1 port at 38.4 kBds at the same time).

1247 – 13.02.2002

Possibility to switch the PGU port from 9.6 kBds to 38.4 kBds.

See DDEPFW6143.

1241 – 22.01.2002

Using heavily the SCON DP function, which then generate interrupt, was making too many interrupts and the system to handle them, was missing some, then it generates in the History "INTERRUPT ERROR".

1235 – 14.01.2002

In MC mode, the tbsy (or xbsy) flag is reset during the transmission of the 2 last characters, therefore these characters could be lost during a SASI OFF. !!! Now tbsy is reset at the end of transmission. This could result in a delay (at 9600 baud ,8bits,N,1stop : 2ms) between each character if communication is controlled with tbsy instead of tful.

1233 – 20.12.2001

After a restart on a password protected PCD, the PCD goes into reduced protocol after about from 5 to 10 minutes, and the password has to be entered again.

1230 – 13.12.2001

The function for PROFIBUS DP SCON x 3 1 doesn't work correctly. The PCD goes in HALT and the connection with debugger goes off.

1222 – 27.11.2001

Download of a LON project over Gateway by using PG4 Version 2.0.210 is not executed.

1214 – 10.10.2001

The last character of the module type (e.g. PCD2.M15ç or PCD2.M15`) is sometimes incorrect in the PG. PG displays six characters but only five characters are initialized in the PCD.

1212 – 01.10.2001

A Program that has more ST/TR than allowed in a system results in unpredictable problems.

The PG limited this to 2000 until now. However this has now been changed (PCS1.C8 max. 200 ST/TR, M170 max. 6000 ST/TR).

1199 – 30.08.2001

Profibus DP: If a slave is disconnected/reconnected to the master, then some times the input media's of the slave in the master are reset to 0 for a short time.

1190 – 14.07.2001

On LON broadcast explicit message read request (incoming) without explicit message configured an answer with empty message was returned. The PCD

/ LON should not respond. Same error than SWER 1177 (The original correction from IBT did not work).

1184 – 01.03.2001

The serial ports COM 2&3 on a LON module F802 or 804 doesn't work correctly, when the LON part of the module is configured.

1171 – 26.02.2001

If a SASI DP master is performed a second time the CPU blocks.

1168 – 20.02.2001

Customers using LON requested for polled Variables to be implemented.

Info:

The polling function is called with a pcd_send with the READ_IND service. A polled binding uses an address table entry at the receiver side. LON IBT V1.5 update with added SNET adaptations.

1167 – 20.02.2001

Customers using LON requested for Alias Variables to have the new binding constraints supported. LON IBT V1.5 update with added SNET adaptations.

1166 – 08.01.2001

A non-bound variable (NV Update) was sent unsolicited to the network. On a Neuron based node, unbound variables are not sent at all.

Info:

This was fixed in release 1.3 of the driver but not released by SAIA. The original specs intended to have the Application programmer deciding on sending a NV update or not.

1165 – 08.01.2001

Customers using LON requested Turnaround Binding features to have extended configuration features available.

1164 – 08.01.2001

With LON in certain sequences of loading backup data / tool updates, the selector table could be matched up. The problem can be solved in downloading a new unbound backup and by the use of the installation tools replace function.

Corrupted selector table => no more LON communication.

1163 – 08.01.2001

With LON PCD responds with nv_fetch response (code 0x33) instead of the expected nv_update as result of the poll request. If pcd_send finds state&0xff000000) != 0, a fetch response is sent, otherwise a poll response is sent.

1162 – 08.01.2001

LON customer requested to get control over the sender's address in relation with incoming messages.

1076 – 12.01.1999

PG5 has got the possibility to read the type of the modules that can be put on the slots B1 and B2.

1066 – 20.11.1998

MC4 mode does not deactivate RS-485 drivers directly after completion of transmission (like PCD4.MXX5 v\$4). Added new mode MC5.

Information for PROM programming.			
Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_080.hex	E6DA	PCD1.M1.. V080	27C4096-12 --- 4 502 7178 0

V075

Major corrections

- Corrected the PROFIBUS DP-MASTER SASI instruction which fails (PROF DP fail 2 in history) with FW version V074 (SWER 1213).

Modifications realized by SWER number

1213 – 24.09.2001

The SASI instruction with PROFIBUS DP-MASTER always fails (PROF DP fail 2 in history). Impossible to use this functionality.

Information for PROM programming.			
Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_075.hex	98CE	PCD1.M1.. V075	27C4096-12 --- 4 502 7178 0

V074

Major corrections

- PROFIBUS DP Master was no more working at 12Mbps with the new firmware V1.1 on modules PCD7.F750. It fails during the PROFIBUS SASI instruction (SWER 1195).

Modifications realized by SWER number

1196 – 13.08.2001

When error is happening in the XOB16, and then the function DIAG is used in the XOB13, the diag instruction will indicate a totally wrong line of the software.

1195 – 08.08.2001

PROFIBUS DP Master is not working anymore at 12Mbps with the new firmware V1.1 on the modules PCD7.F750. It fails during the initialization of the PROFIBUS (SASI).

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_074.hex	98D0	PCD1.M1.. V074	27C4096-12 --- 4 502 7178 0

V073

Major corrections

- If an error occurred in the XOB13 then the XOB was executed until its end and then restarted immediately, causing an endless loop if the error is still present (SWER 1181).

Modifications realized by SWER number

1189 – 04.06.2001

Before the PCD access the dual port RAM of the DP Master module, it locks the access and some time the locking was hold for a too long time, this was making a strange behavior on the PROFIBUS DP network.

1182 – 11.05.2001

Using the LDX instruction to set timer/counter causes a bus quit failure when the sum of the index register and the number of the timer/counter is bigger than 8191.

1181 – 10.05.2001

If an error occurred in the XOB13, then it was executed until its end and then restarted immediately, causing an endless loop (if the error was still present).

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_073.hex	96B6	PCD1.M1.. V073	27C4096-12 --- 4 502 7178 0

V072

Major corrections

- Some corrections were done in relation with the download in RUN and the synchronous dataview (SWERs 1174, 1172, 1170, 1160, 1159).

- Corrected the COB supervision time. In a program with only one COB, XOB 11 was called even if the supervision time wasn't exceeded (SWER 1151).

Modifications realized by SWER number

1174 – 05.03.2001

Download block in run from PG5 downloader doesn't work correctly.

- a) After download block in run, the PCD returns an error message to the PG, even though the telegram from the PG is correct.
- b) The "download block in run" deletes blocks, which are not used anymore. If the address of the block to be changed equals 0, the corresponding pointer in the block table is not cleared immediately.

1172 – 28.02.2001

In PG5 synchronous dataview (Saia II Editor) the ACU information is not correct. In fact it is the actual ACU (ACTA) and not the OR combination between actual ACU (ACTA) and OR ACU (ORA).

1170 – 23.02.2001

A download of a block while the PCD is running causes a timeout error in PG5 before the timeout has exceeded.

1160 – 26.01.2001

In the SAIA-debugger, the command " File Load Cob" of an additional COB causes a CPU crash (68k invalid address, 68k invalid OPC,...), only with PGU S-Bus protocol.

1159 – 10.01.2001

In synchronous dataview (Saia IL Editor) if the program has a jump forward then the buffer was not filled on the correct datas. The jump instruction has no data but the line before the jump entry has some datas.

1152 – 28.09.2000

SYSRD K 5210 must return back 70h and not 0 for FW-Version 070. A bug fix version must return a value too (#81 returns 81h).

1151 – 22.09.2000

XOB 11 is called, even if the COB supervision time has never exceeded. If the supervision time is 2s then the XOB 11 will be called every 2s. If there is one COB more (for example COB 1) then the XOB 11 will not be called anymore.

1148 – 21.08.2000

The instruction " DIAG " gives the wrong program line numbers of the block calls (Nesting level information) and entirely wrong information when the error occurred within XOB 16.

1147 – 03.08.2000

Instructions MOV (with digit), DSP and WTIME change P/N status flags. Instructions DIGO and DIGOR set the E and N status flags with negative values.

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_072.hex	A924	PCD1.M1.. V072	27C4096-12 --- 4 502 7178 0

V070

Major corrections

- Test 400: The information of media corruption is now memorized until next TEST 400 and no more cleared by the start-up (SWER 1138).
- User program isn't modified anymore after an SRXM, STXM command on a MGWY port (SWER 1134).
- After use of FLASH and putting back RAM memory, the PCD can be in a state where each restart modifies the program. This result in "Invalid OPC" or at least wrong code. If no extended header is configured this appears at line 2630 and 5361 (SWER 1142).
- After a power up, sometimes when the battery is defect, the RTC is not reinitialized with the default time and date and it could be stopped (SWER 1115).

Modifications realized by SWER number

1144 – 09.05.2000

After a STH (or another bit instruction except ACC) a SOCL set the signal even if ACCU is low.

1143 – 09.05.2000

Each access to the EEPROM has tested the busy of it. But this does not work on PCD1 & M3 because there is no pull-up on the DIO pin of the EEPROM. Now the startup time is longer as before, because on each EEPROM access the timeout time of ~25ms is waiting.

1142 – 09.05.2000

In some case after each restart, value 0x55 is written at address 402AAA and 0x0A at address 405555. This causes "Invalid OPC" or at least wrong code at line 2630 and 5361 (if no extended header).

1139 – 17.04.2000

SNVTs are always sent as ACK'd service even if they were bound as UACK'd service.

1138 – 17.04.2000

The information of media corruption has to be memorized until next TEST 400 and not cleared by the startup.

1137 – 08.03.2000

Sending a lot of LON telegrams in // (>50) block the communications. The telegrams are no more sent.

1135 – 16.02.2000

In some cases, after a reset SB (RSB) in a parallel branch, the grafcet doesn't wait correctly the rendez-vous the next times this branch is executed.

1134 – 28.01.2000

User prog. is modified (invalid OPCODE) at line 118 after a SRXM, STXM command on a MGWY port.

1133 – 05.01.2000

Re-introduced the UNSYNC GCS (dp-scon function #16)
Previous dp-scon function #16 is now #18 (reading received master conf.).

1119 – 22.11.1999

Default initialization of empty extended header in the EEPROM is wrong. For the user the functionality is OK but at each power up the EEPROM is rewritten.

1118 – 27.10.1999

A DBX bigger than 3 gives a "HALT EVERYTHING IS OK" message on startup. The FW should ignore DBX bigger than dbxlimit.

1115 – 15.10.1999

After a power up, sometimes when the battery is defect, the RTC is not reinitialized with the default time and date and it could be stopped.

1109 – 13.08.1999

Introduce a new time function that returns the number of seconds elapsed since midnight (00:00:00), January 1, 1970, coordinated universal time, according to the system clock.

1105 – 10.06.1999

In the debugger connected with S-Bus, the command "Run To End_of_block" returns "Address outside code segment". This is due to tlg "Read bloc size" which give a wrong value back, except for text db and DBx.

1102 – 01.06.1999

When the Neuron Chip of the Lon card f80x is not on-line a Lon global diagnostic flag is set and reset when the neuron chip is on line.

1101 – 01.06.1999

A Lon global diagnostic flag is set when there is a new binding.

1100 – 01.06.1999

Lon communication was not really "stable" because the LON MIP was not called correctly

1099 – 01.06.1999

Interrupt comint was not cleared safely when channel 9 status was not active

1089 – 30.04.1999 (only on version \$61)

RAM 64K is not supported.

1085 – 21.04.1999 (only on version \$61)

If external user memory is RAM, a Download give a "write error", if the memory allocation was made with a old FW version. And a program can give an Invalid opcode.

1082 – 09.02.1999

Trace mode in the PG4 Debugger provokes:

- Some 68K ADDR ERR
- Some strange steps (for example program line 12 to program line 65?)

Same problem when asking GET STATUS:

- The line displayed at "stopped at" is sometimes completely out of range?

The command 'Display Program (COB, XOB,...) Refresh' provokes the same error

1059 – 17.11.1998

New S-Bus telegrams cannot be accepted via gateway into slave PCD if these new functions are not implemented in the FW of the Gateway station.

1029 – 02.04.1998

The instruction witch follows the NCOB is sometimes executed before the switching of COB.

1014 – 20.02.1998

For the online debugger we need the possibility to up load data in a synchronized manner.

316 – 02.05.2000

When a PCD that works with S-BUS has a BUS Quit Failure, the failure affects the whole S-Bus.

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_070.hex	E660	PCD1.M1.. V070	27C4096-12 --- 4 502 7178 0

V063

Major corrections

- If a system error occurs (bus error, 68k address error, ...) and the software watchdog with XOB 0 call (syswr k 1000, k 2) is enable, the PCD goes in halt just after XOB 0 start (SWER 1095).

Modifications realized by SWER number

1112

RTC access (RTIME, WTIME, ...) on PCD without RTC blocks the system (end less loop on a semaphore).

1106

If SYSCMP is call after an OR or XOR sequence with the first conditions at true (ORA=1) then the result is always ACC high even if the time is elapsed.

1103

There is a memory corruption if you execute the command PUT/GET with a register into/from a DB in extension memory of 0 bytes (DB[0]).

1095

If a system error occur (bus error, 68k address error, ...) and the software watchdog with XOB 0 call (syswr k 1000, k 2) is enable, the PCD goes in halt just after XOB 0 start.

1094

Tlgs from a S-BUS/PGU or GS port are sending without TS delay on a MG port.

1093

In some case we have a conflict between RTC and EEPROM access. This could result in bad time values (maybe EEPROM values).

1091

Handling of the error #9 of Profibus-DP master provoke sometimes bus error

1090

TEST 10 instruction left the CS of the RTC set.

1083

In the History line 13 "Batt fail" is overwritten if more than 13 error messages are in the list.

1080

DB in extension memory defined with a size of 0 bytes provoked errors, when the program is in a FLASH or EPROM. The extension memory was not recreated after a BATTERY failure.

1079 – 28.01.1999

If there is a shutdown directly after the flash was erased, S-Bus configuration is corrupted and provokes some firmware errors. The SASI instruction with PROFIBUS DP-MASTER always fails. Impossible to use this functionality.

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_063.hex	7C86	PCD1.M1.. V063	27C4096-12 --- 4 502 7178 0

V060

Major corrections

- Many corrections were made on S-Bus and especially on gateway (SWERs 1070, 1067, 1053).

Modifications realized by SWER number

1077 – 20.12.98

S-Bus Gateway : It is not possible to connect to the slave station via the gateway master port the for a certain time if the slave doesn't answer to a request from the master (time out). This occurs only with parity mode or break mode.

1075 – 24.12.1998

If a PCD is configured as Profibus-DP Slave with a large Profibus-DP configuration (172 modules) :

When the Slave is switched on without a connection to the master , then the outputs and the mapped profibus flags are set to a random state.

1073 – 18.12.1998

On PCD1 without extended RAM programs or texts are sometimes not downloaded correctly.

1071 – 16.12.1998

It is not possible to connect to slave stations via a gateway master station when the GM port is in Data mode and that the PGU is in another mode (e.g. PGU Parity mode). The error occurs only if the slaves stations are assigned (SS2) but not if they are configured as PGU Data mode.

1070

Assignment of an S-Bus PGU and a MGWY give no errors back if the baudrates are not compatible (38.4bd/38.4bd, 38.4/19.2, ...) on the port 0/1 (respectively 2/3).

1069

Sending of DB's via S-Bus sometime doesn't work.

1067

GWY System with an S-Bus communication from the master to the slaves: Not possible to make an S-Bus connection with the debugger from external master to a Slave, if one Slave is not connected to the network.

1064

Broadcast S-Bus telegrams with slow baudrates (ex: 300 Bauds) doesn't work.

1063 – 20.11.1998

S-Bus with slow baudrates (ex: 300 Bauds) doesn't work correctly.

1062 – 20.11.1998

TFR instruction could provoke a "Bus error" if position is given with a value bigger 65535

1054 – 03.11.1998

GWY System with Broadcast message on the GWY Master port and on the GS Port: After an irregular time the PCD goes in halt and the run and error led blinks.

1053 – 03.11.1998

Broadcast messages on a S-Bus are always repeated tree times.

1050 – 30.10.1998

The S-Bus communication don't work correctly if in a GWY system a BITO instruction is performed before the SASI instruction (The output of the BITO

instruction are the diag-flag from the SASI instruction)

1043 – 11.08.1998

In S-Bus communication with more than one station, the destination number for the slave is sometimes not coherent with the message.

1042 – 11.08.1998

On the CPU with EEPROM we have to change the handling of S-BUS header configuration (Station no., config. S-BUS). We need a mechanism which allow to chose the S-Bus config. from the EEPROM or from the EPROM. For more information see the description "ddpf6063.doc".

1035 – 09.06.1998

Broadcast telegram (address 255) disturbs the following telegram.

1023 – 23.03.1998

With very fast interrupts and XOB20/21 missing, the PCD crash.

306 – 05.06.1997

If in the XOB 11 the COB who's produce the XOB is stopped then the program never return in the COB.

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_006.hex	3004	PCD1.M1.. V060	27C4096-12 --- 4 502 7178 0

V005

Major corrections

- Some corrections on the RTC were done (SWERs 1031, 1030, 1007, 1006).
- Simultaneous access on the EEPROM doesn't give invalid values anymore (SWER 304).

Modifications realized by SWER number

1031

The instruction WTIME doesn't accept bad entries for the day number and week number. If so, then the PCD sets the Error Flag and does not update the time.

1030

On PCD 1, the RTC sometimes returns a bad date/time.

1021

If a S-BUS telegram provoked a bus error (with display/write byte or erase flash) the PCD stay in an end less loop.

1020

A programmed FLASH inserted in a new PCD (never equipped with FLASH) could provoke a bus error if you try to erase the device.

1019

Gateway system with parity and data-mode. If the response of a slave contains the FS-character then this answer will not be transmitted from GWY to the PC.

1007

A display clock on a PCD1 without RTC give random values instead of 1/1/90 0:0:0.

1006

Bad calculation on week number, when 1st January is on Thursday like in 1998.

1005

Crash (68k add error) with user interrupts (XOB20/25).

318

Port #1 S-BUS PGU not possible in RS-422 while SOCL instruction isn't allowed on S-BUS PGU port.

311

Problem with instruction STXT on displays if format is with leading zeroes. I.e value -01.1 is displayed as 0-1.1

309

Implement the S-Bus data mode in the command SYSRD 6050 (Read S-Bus PGU mode).

308

Command 'Write Clock' doesn't correct automatically the week number or day number if they are wrong.

307

Bad calculation of week number when 1 January is a Tuesday. Week number calculated is 53 instead of 1.

304

Simultaneous access on the EEPROM gives invalid values.

303

Error LED isn't set if XOB20/25 aren't programmed but are provoked.

296

S-BUS PGU and S-BUS PLM doesn't give the same diagnostic on restart if F1xx module is missing.

294

Extension Memory initialization failure on partial text.

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
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D1M1xx_005.hex	B5E3	PCD1.M1.. V005	27C4096-12 --- 4 502 7178 0
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V004

First 4Mbit version, only for internal test.
Should not be used.

V003

Does not exist. Foreseen for internal use.

V002

Major corrections

- The serial communication was completely disabled during full read of RTC 4513 (about 800µs every minute). The consequence was that some communications overruns occurred at 38,4 kBds, due to the fact that transmitted characters were lost during the 800µs. The new version always allows communication, and avoids overruns.
- EM perturbations have put the Error LED's in bad states, due to the hardware. Now, the firmware refreshes status LED's every 250ms.

Modifications realized by SWER number

291

After a irregular time the instruction RTIME returns a false time value. This has now been corrected.

21

Refresh the status LED every 250ms. This has been corrected.

13

To implement FLASH EPROM, MD/SD mode, and the Memory extension into the PCD1. These developments will be made after version V001.

11

Reintroduce XOB2 in PCD1 FW for M130.

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_002.hex	9E4D	PCD1.M1.. V002	M27C1024 --- 4 502 7155 0

V001

This is the first official version for PCD1.M1xx

Information for PROM programming.

Hex file	Checksum	EPROM Label	EPROM type / art n°
D1M1xx_001.hex	Unknown	PCD1.M1.. V001	M27C1024 --- 4 502 7155 0