GE VERNOVA

MiCOM P40 Agile

P741, P742, P743

Version History
Busbar Differential Protection Relay

Hardware Version: P (P742) and M (P741, P743)
Firmware Version: 91
Publication Reference: P74x-VH-EN-Pd8.2

1 HARDWARE AND SOFTWARE VERSION HISTORY

S/W Version Major	S/W Version Minor	H/W Version	Original Date of Issue	Description of Changes	S1 Compatibility	Technical Documentation
00		B	February 2003	▪ Original issue ▪ First release to production	V2.07	P740/EN xx/D22
31	C3.4	J or K	May 2006	▪ Original issue ▪ P741 and P743 Evolution with extended User Interface ▪ (32 Controls Inputs, 10 Function Keys and 18 tricolour LEDs) ▪ P742 evolution with new user interface (32 Controls Inputs) ▪ Control input status stored in FLASH memory ▪ 10 maintenance records instead of 5	V2.12 Patch 31	P740/EN xx/E33
31	C3.5	J or K	December 2006	▪ The Delta I criterion did not block the trip: The 87BB protection trips even if only one variation of current is detected ▪ Isolators were considered closed when a status alarm occurred even when the auxiliary voltage supervision was used. The last position of the isolator is used ▪ Check zone and circuitry fault with bias characteristic ▪ New mode for circuitry fault and PU error ▪ Different commissioning modes	V2.13	P740/EN xx/E33
32	C3.7	J or K	January 2007	▪ Spurious error codes do not appear any more during power up of the P741 ▪ The Ethernet board and the coprocessor board are compatible ▪ The thresholds ID>2, IDCZ>2 or IBiasph> can be set higher than 6kA ▪ Display of MEASUREMENT 2 is MEASUREMENT 2 in Russian language	V2.13 Patch 32	P740/EN xx/F44
33	C3.8	J or K	April 2007	▪ First events following power up are tagged with the right date & time ▪ When using the default PSL, there is a DR after a 50BF back trip through an opto input of the CU ▪ The latched function key DDB signals are correct on relay power up ▪ Uncompressed disturbance record pre-trigger is calculated correctly ▪ When using S1 to connect to the relay and activating the settings group by right clicking on the group, the relay does not reboot ▪ If the time delay of the overcurrent protection in PU is set to 0ms, then the overcurrent protection does not mal trip during its power on	V2.13 Patch 33	P740/EN xx/F45
33	C3.9	J or K	January 2008	▪ The status of the trip relays 1, 2, 3 is stored in BBRAM even if the “Trip Latched” function is disabled in the column “CB Control”	V2.14 Patch 33	P740/EN xx/H65

S/W Version Major	S/W Version Minor	H/W Version	Original Date of Issue	Description of Changes	S1 Compatibility	Technical Documentation
33	C3.9	J or K	January 2008	▪ The status of the trip relays 1, 2, 3 latched in the PU will not open in case of loss of communication with the CU ▪ The CU->PU signals are not received in the PU if there is no CT in the topology of this PU (PU in charge of an isolator bus section) ▪ The Control Input values are correct after the reboot of the protection	V2.14 Patch 33	P740/EN xx/H65
40	D2.2	J or K	July 2007	▪ Addition of the Ethernet/IEC61850-8-1 protocol option ▪ Addition of the Demodulated Irig-B option	V2.14 Patch 40	P740/EN xx/H65
40	D2.3	J or K	February 2008	▪ The status of the trip relays 1, 2, 3 is stored in BBRAM even if the “Trip Latched” function is disabled in the column “CB Control” ▪ The status of the trip relays 1, 2, 3 latched in the PU will not open in case of loss of communication with the CU ▪ The CU->PU signals are not received in the PU if there is no CT in the topology of this PU (PU in charge of an isolator bus section) ▪ The Control Input values are correct after the reboot of the protection	V2.14 Patch 40	P740/EN xx/H65
40	D2.5	J or K	October 2008	▪ The behavior of the “Out of Service” Led is different between P74xxxxxxxxx0xx and P74xxxxxxxxx5xx ▪ The Delta I Algorithm has been removed	V2.14 Patch 40	P740/EN xx/K96
40	D2.6	J or K	September 2009	▪ Correct the display of Idiff and Ibias by zone in P742/3 (zone Z01, Z03, Z05 or Z07) with topology having odd number of zones. Correct the displayed values of Idiff and Ibias by zone in P742/3 with CT secondary of 5 (coefficient of 5 too much). The problems were limited to the current display, the protection was not affected ▪ Enhancement on Circuitry Fault SEF supervision to be blocked by the phase bias current ▪ Correction of CZ function when the CZ setting is mode ‘No Block’ (both Circuitry Fault and PU Error), to operate for the check zone and for the zone when we have a manual command of reset ▪ Enhancement of IEC61850 model when a DDB event is filtered	V2.14 Patch 40	P740/EN xx/K96
41	D3.1	J or K	February 2008	▪ Initial software release with the second rear port & interrupt driven interMiCOM for the P741 and P743 and PSL Enhancement Positional Data and SR Latch Gates	V2.14 Patch 41	P740/EN xx/I76
42A	D4.0	J or K	March 2008	▪ Initial software release with the addition of the Px40 Remote Read Only Mode (allow or block the modification of the settings & the commands via a rear port)	V2.14 Patch 42	P740/EN xx/J86
42B	D4.1	J or K	March 2011	▪ Rebranded to Alstom	V2.14 V3.1 (studio) Patch 42	P740/EN xx/J86

S/W Version Major	S/W Version Minor	H/W Version	Original Date of Issue	Description of Changes	S1 Compatibility	Technical Documentation
42C	D4.2	J or K	November 2014	▪ Enhancement on CTS alarm ▪ Update Platform to fix Px40PL-33 - SRAM alarms ▪ Enhancement on DR including Frequency and Russian translations ▪ Correct LED behaviour in latched states ▪ IEC61850 model improvements ▪ Bug fixes	V2.14 V3.1 (studio) Patch 42	P740/EN xx/J86
51	E2.0	J or K	January 2010	Hardware: ▪ P742/P743: new options with 4 or 8 high break relays, 8 or 16 outputs and 8, 16 or 24 inputs, ▪ P741/P743: Redundant Ethernet board in option ▪ Software: ▪ No blocking mode" of a zone in case of circuitry fault added ▪ The differential current can be set to display 0A when current is not significative ▪ External voltage criteria: – CU logic, VT connected to the bus, with two bus section included in the current node: a voltage criterion will confirm a fault detection – PU logic, VT connected to the line, with some Pus connected to a P923; The voltage criteria can block a PU ▪ The 87BB trip time (CU & PU) can be delayed with a settable time delay ▪ The 200ms drop-off timer in the Central Unit has been replaced by a 200ms dwell timer ▪ CB supervision time delay is settable ▪ I0 supervision with neutral current measured can block 87BB protection ▪ CT supervision with max (IA, IB, IC) > 10IN and 50% max (IA, IB, IC) > min (IA, IB, IC)	V2.14 V3.1 (studio) Patch 42	P740/EN M/LA7
51A	E2.0	J or K	January 2010	Software (cont'd): ▪ 87BB PU fault record: starting phase and faulty zone is indicated ▪ 50BF fault and manual zone tripping: only the zone is available in the PU fault record ▪ I>2 & IN>2 have 87BB/P, 87BB/N, I(N)>2&87BBP, I(N)>2&88BBN blocking options ▪ New DDB to block overcurrent and earth fault protection ▪ IEC 61850 phase 2	V2.14 V3.1 (studio) Patch 42	P740/EN M/LA7
51B	E2.1A	J or K	February 2011	▪ Correct the local time offset range ▪ Correct the phase angle display ▪ Improve the DR in P742/3	V2.14 V3.1 (studio) Patch 42	P740/EN M/LA7

S/W Version Major	S/W Version Minor	H/W Version	Original Date of Issue	Description of Changes	S1 Compatibility	Technical Documentation
51C	E2.2A	J or K	September 2011	▪ Improve the trip logic for busbar differential ▪ Rebranded to Alstom	V2.14 V3.1 (studio) Patch 42	P740/EN M/LA7
51D	E2.3A	J or K	January 2012	▪ Correction DR for 60Hz ▪ Enhancement on CU displaying for Diff and Bias current	V2.14 V3.1 (studio) Patch 42	P740/EN M/LA7
51E	E2.4A	J or K	March 2012	▪ Dual ethernet PRP option ▪ Correction of status report over IEC61850 ▪ Correction of DR analogue signals magnitudes	V2.14 V3.1 (studio) Patch 42	P740/EN M/LA7
51	F	J or K	July 2013	▪ IEC61850 interoperability enhancements	MiCOM S1 Agile V1.0.0	P740/EN M/LA7
51	G	J or K	November 2013	▪ Fix display of In and In derived ▪ Fix reset of OC output ▪ IEC61850 bug fix ▪ KEMA certification	MiCOM S1 Agile V1.0.0	P740/EN M/LA7
51	H	J or K	January 2014	▪ Correct the behaviour of DDB294 during a blocking using this DDB	MiCOM S1 Agile V1.1.0	P740/EN M/LA7
51	I	J or K	September 2014	▪ Level A CPRI conformance ▪ Update the platform to fix Px40PL-33 - SRAM alarms ▪ Fix GOOSE subscribing input quality flag in P741 ▪ Correct downloading setting files process ▪ IEC 61850 bug fixes	MiCOM S1 Agile V1.1.0	P740/EN M/LA7
51	J	J or K	October 2015	▪ Fix the indication of protection status in P741	MiCOM S1 Agile V1.2.0	P740/EN M/LA7
51	K	J or K	February 2017	▪ Option to disable fibre comm error alarm ▪ Correct the setting group change in P742/3 when using opto inputs in the PSL	MiCOM S1 Agile V1.3.1	P740/EN M/LA7
53	A	J or K	November 2019	▪ Isolator + CB Status option added for CT in zone function ▪ Dead-zone disabled for overhaul mode ▪ CB Supervision time setting increased to 60sec	MiCOM S1 Agile V2.0	P74x/EN M/Pb7

S/W Version Major	S/W Version Minor	H/W Version	Original Date of Issue	Description of Changes	S1 Compatibility	Technical Documentation
60	A	J or K	July 2013	▪ Cyber Security implementation ▪ Support for NCIT (9-2LE interface) in P741/3	MiCOM S1 Agile V1.0.0	P743-92LE-TM-EN-001
70	A	J or K		▪ The version supersedes 53A version as a starting point ▪ This version is able to manage new Ethernet boards ZN0087 for option R, S, T ▪ Fixed defect in 61850 protocol the internal buffer size is limited resulting in some buffered reports not being sent ▪ Fixed defect for SR latches in the PSL, will reset on any setting change if previously a change setting group has occurred ▪ Fixed defect for unexpected differential current (13% Primary) detected for specific topology configuration	MiCOM S1 Agile V2.0	P74x/EN M/Pc7
70	B	J or K		▪ KEMA Level B certificate ▪ Fixed defect use of 01,02...09 numbering in LN IEC61850 model can affect configuration	MiCOM S1 Agile V2.0	P74x/EN M/Pc7
91	A	M or P	October 2020	▪ Switchable IEC 61850 Edition 1 & 2 - with support for Ed 2 test modes for online testing ▪ IEEE 1588 Precision Time Protocol - efficient time synchronizing direct from the substation LAN ▪ New Ethernet Board improved traffic density handling, PRP, HSR and RSTP supported in the same order option for standardization ▪ Editable Logical Nodes/Devices - customise the IEC 61850 modelling: maximum interoperability ▪ Cyber security enhancements: ▪ Role based access control (RBAC) for centralised authentication ▪ Authorization and account management via RADIUS, and directly on the relay ▪ Security Event Management via Syslog ▪ Duplicate GOOSE rejection defence against incorrect publishing of out-of-sequence or duplicated GOOSE messages by other devices on the network ▪ SNMP version 2c and cybersecure v3 - network management tools can monitor protection IEDs ▪ Bug fixes as 51/53 and 70 versions	MiCOM S1 Agile V2.0	P74x/EN M/Pd8
91	B	M or P	May 2023	▪ Default relay address changed to 1 from 255 ▪ DDB input added in PU to block CBF back trip sent by CU (DDB INP Blk CBFBackT)	MiCOM S1 Agile V2.0	P74x/EN M/Pd8.1

S/W Version Major	S/W Version Minor	H/W Version	Original Date of Issue	Description of Changes	S1 Compatibility	Technical Documentation
91	B	M or P	May 2023	▪ Fixed issue where, when P741 87BBN was enabled after changing the active setting group in UI, it shows 87BBN is disabled ▪ Fixed issue where in P743, some of the extended DOs have IEC NS instead of GE NS ▪ Fixed issue in P741/3 IEC 61850 modelling, where the DO ordering for PIOC and PTRC logical nodes was not consistent with the standard ▪ Fixed issue where fault recorder in P742 & P743 shows currents with 1A CT Ratio reference ▪ Fixed issue where the 3I0 - IN Supervision element is not fulfilling the equation as given in the manual ▪ Fixed issue for undefined IEC 61850 enum entry in PhaseFaultDirectionKind ▪ Fixed issue to be able to change the counter source setting CounterSourcePSL with S1 Agile ▪ Fixed issue when sending an assign class request is immediately followed by a class poll where relay reboots ▪ Support added to pre-assign client for IEC 61850 Ed2 ▪ Config Rev of GoCB is returned to zero after a power cycle ▪ Fixed issue where IEC 61850 RCB owner attribute does not show correctly when reading the attribute from mms client ▪ IEC 61850 Controls - implemented MirrorBlockedCommand correctly when the Beh=Test-Blocked ▪ NestingLevel In IEC 61850 MMS association response will be >=6 when CDC CMV is present in model ▪ Mod/Beh/Health validity will always be good, quality test bit will not be set when the system\LLN0.Mod is changed to Test or Test-blocked ▪ Fixed issue where event list shows frequent logging of SNTP Alarms ▪ IEC 61850 LN numbering changed from 01, 02, 03 to 1, 2, 3 etc. Use of 01,02...09 numbering in LN IEC61850 model prevents some 61850 data attributes from updating correctly. ▪ Units of seconds added for LockOut Period setting ▪ Fixed issue with IEC 61850 Interoperability with Siemens clients. There is a mis match between the version number between the Siemens client and P40 relays ▪ Fixed issue where scaling factor is shown as secondary instead of primary in the comtrade CFG file and CT ratios are hard coded as 1:1 ▪ Fixed issue where IEC 61850 server has no respond for SetDataValues request on setSrcRef DA	MiCOM S1 Agile V2.0	P74x/EN M/Pd8.1

S/W Version Major	S/W Version Minor	H/W Version	Original Date of Issue	Description of Changes	S1 Compatibility	Technical Documentation
91	B	M or P	May 2023	▪ Fixed issue where System Frequency was locked at 50Hz. This can now be set to 50 or 60Hz ▪ Fixed issue where cancelling an SBo command will incorrectly wait for select time out to expire ▪ Fixed issue where file size is incorrectly calculated when extracting a disturbance record over IEC 61850 if the number of channels selected is over 16 ▪ Fixed issue where the IED stops IEC 61850 MMS reporting after sequences of IEC 61850 MMS controls to PloGGIO/SPCSO Controls Inputs, if these are configured with either: (1) SBO with enhanced security or (2) Direct Control with enhanced security ▪ Fixed issue where client's encoding of x02 for a value of TRUE for Direct operate enhanced/ SBO enhanced Control command is not accepted by the server ▪ IEC 61850 Association ServiceSupportedCalled supports obtainFile ▪ Fixed issue where relay should not send out CommandTermination - when the operation is positive, and the value is changed in IEC 61850 DOes and SBOes ▪ Fixed issue where the control will now correctly fail when the device is in On Mode and the Control comes with the Test flag set	MiCOM S1 Agile V2.0	P74x/EN M/Pd8.1
91	C	M or P	March 2024	▪ Bus Zone Blocking and IEC 61850 Modes. In P74x, when the Bus Zone 1 is put in Out of Service, it affects the IED Mod which means that all signals in the IED are in Test Mode. Now when Bus Zone 1 is Out of Service, only signals in ProtBBZ1 will be in Test mode and not any other logical device ▪ Fixed issue where incorrect Courier Cells are mapped to IEC 61850 measurements in TrpPhsPDIF2 ▪ Fixed issue related to NIC No Response and NIC MemAlloc Fail Alarms if dataset contains CF elements	MiCOM S1 Agile V2.0	P74x/EN M/Pd8.1
91	D	M or P	March 2024	▪ Corrected ‘Overcurrrent’ spelling mistake for the Overcurrent protection heading ▪ Fixed issue where quality of small number of IEC61850 data from CU is Invalid ▪ Increased the MMS_MAX_MSG_SIZE to 65536 from 16384. For V91 software IEDs, Multi Client Reports are supported and if a read is done on System LLN0, the server size may be exceeded	MiCOM S1 Agile V2.0	P74x/EN M/Pd8.1
91	E	M or P	August 2025	▪ Support for new Ethernet boards, U/W/Y options in the CORTEC order code ▪ Combined 2 instances of SNMP into one, updates network statistics to SNMP	MiCOM S1 Agile V2.0	P74x-TM-EN-Pd8.2

S/W Version Major	S/W Version Minor	H/W Version	Original Date of Issue	Description of Changes	S1 Compatibility	Technical Documentation
91	E	M or P	August 2025	▪ Added LCCH logical node for IEC 61850 Ed1 and Ed2 data models for link status of Ethernet ports (NP2A, and NP2B) for the new Ethernet boards ▪ Added two DDBs to show link status of NP2A and NP2B ports ▪ Configuration of HSR/PRP/RSTP/Failover for new Ethernet boards is via S1 Agile IED configuration tool over MCL ▪ Ethernet traffic overload improvements ▪ Fixed issue with ICD file for IEC 61850: 'valKind' of all 'ctlVal' should be "Set", not "RO" ▪ Fixed issue with reporting of LLN0.ST.Mod. Change of the IED Mode causes two IEC 61850 reports generated, first one with wrong timestamp and second one with correct timestamp ▪ Fixed issue with PTP Failure Alarm set and reset when there is single Link fail in PRP Network ▪ Fixed issue with malformed packet from P40 IEDs. One of the IEC 61850 Clients can occasionally give up the association with a P40 relay - in most cases this is observed after a control action from the client ▪ IEC 61850 LN numbering changed from 01, 02, 03 to 1, 2, 3 etc. Use of 01, 02...09 numbering for IEC 61850 LNs can prevent some 61850 data attributes from updating correctly ▪ Fixed cyber security vulnerability in TMW Library for DNP3.0 ▪ Fixed IEC 61850 interoperability issue with Siemens clients ▪ Fixed issue where IEC 61850 Server has no respond for SetDataValues request on setSrcRef DA ▪ Fixed issue where frequency setting - (courier cell [0009]) cannot be set to 60Hz from the default 50Hz value ▪ Fixed issue where some data changes are not reported via IEC 61850 if 'BufTm' is set > 0 ▪ Fixed issue with IEC 61850 Ed2 where SBO Cancel request is not processed when IED mode is Test blocked ▪ Fixed issue where when the stNum of a 'duplicate' GOOSE that is being published without Sim Flag goes > the stNum of the 'real' GOOSE Publisher, the P40 subscriber switched over to the new stNum ▪ Fixed issue where the IED stops IEC 61850 MMS reporting after sequences of IEC 61850 MMS controls to PloGGIO/SPCSO Controls Inputs, if these are configured with either: (1) SBO with enhanced security or (2) Direct Control with enhanced security ▪ Fixed issue with IED losing MMS Communication when EntryID/Buffer Overflow is selected for URCB ▪ Fixed issue with GOOSE Control Block (GCB) enable and CSWI controls which are failing when initiated only from "UniGrid" conformance test tool	MiCOM S1 Agile V2.0	P74x-TM-EN-Pd8.2

S/W Version Major	S/W Version Minor	H/W Version	Original Date of Issue	Description of Changes	S1 Compatibility	Technical Documentation
91	E	M or P	August 2025	▪ Fixed occasional Ping Loss on the IEC 61850 IED ▪ Fixed issue with COMTRADE Format for MMS which shows "1997" - should be "1999" ▪ Increased the MMS_MAX_MSG_SIZE to 65536 from 16384. For V91 software IEDs, Multi Client Reports are supported and if a read is done on System LLN0, the server size may be exceeded ▪ IEC 61850 Association ServiceSupportedCalled includes support for obtainFile ▪ Fixed issue where relay should not send out CommandTermination - when the operation is positive, and the value is changed in IEC 61850 DOes and SBOes ▪ Fixed issue where the control will now correctly fail when the device is in On Mode and the Control comes with the Test flag set ▪ Fixed IEC 61850 Ed2 issue where for a free BRCB, ResvTms must be >0 value if client does not write it ▪ Fixed issue to be compliant to IEC 61850 Edition 2.1, where for LPHD.Sim and Mod, the test flag should be ignored, and the command should be executed with or without the test flag. Previous implementation of Edition 2 required the test flag to be present when LLN0.Mod is in Test for LPHD.Sim to be active ▪ Fixed issue where with the device in Test/Blocked Mode and user sends a control with the test flag the user gets a message saying the control has executed, but there is no change in status of the Control Inputs or outputs ▪ Fixed issue where the IRIG-B Status changes to 'Card Failed' from 'Signal Healthy' over a long connection ▪ Fixed issue with frequent logging of short duration 'SNTP Failure' Alarms ▪ Fixed issue related to NIC No Response and NIC MemAlloc Fail Alarms if dataset contains CF elements ▪ Fixed issue where if a user creates a dataset and adds SI units' data attributes under the CF functional constraint and configures the RBCB with that dataset and Enables RBCB with IED scout the connection to the relay is lost ▪ Fixed issue with DST setting, the time is shifted by 60 minutes as per DST offset setting, but the 'Summertime' bit flag in IEC 103 protocol is not set ▪ Fixed issue with reset of User Alarms - Incorrect reset through Function Key when Binary Input is still energized ▪ Fixed issue with VLAN priority online value is different to the configuration file for non-configured GOCB ▪ Fixed issue with Error Code and Reboot initiated if user copies the settings from Group1 to any other Group through the HMI	MiCOM S1 Agile V2.0	P74x-TM-EN-Pd8.2

S/W Version Major	S/W Version Minor	H/W Version	Original Date of Issue	Description of Changes	S1 Compatibility	Technical Documentation
91	E	M or P	August 2025	▪ Fixed issue where change of the IED's LPHD1.PhyHealth causes two IEC 61850 reports to be generated, the first one with the wrong timestamp and the second one with the correct timestamp ▪ Fixed issue where when the stNum of a 'duplicate' GOOSE that is being published without Sim Flag goes > the stNum of the 'real' GOOSE Publisher, the P40 subscriber switched over to the new stNum ▪ Fixed issue with the Security Bypass DDB which is available (#384) but it is not being updated. ▪ Fixed issue where P743 fault current values (A/B/C) are not updating in IEC 61850 MLFR Logical Node ▪ Port 23/TCP was left open. Usually, port 23 is used for Telnet. This port is now closed. ▪ Fixed issue where in the P742, P743 some of the configured disturbance record channels in the settings file are not saved in the IED ▪ Added missing cell for "IRIG-B type" (cell 08 1F)	MiCOM S1 Agile V2.0	P74x-TM-EN-Pd8.2
92	B	M or P	October 2024	▪ Added support for special characters for RBAC login ID. Special characters are already supported for the password. The support for special characters is while accessing through HMI, RBAC server or S1 tool and is the same through any mode of login ▪ Bus Zone Blocking and IEC 61850 Modes. In P74x, when the Bus Zone 1 is put in Out of Service, it affects the IED Mod which means that all signals in the IED are in Test Mode. Now when Bus Zone 1 is Out of Service, only the signals in ProtBBZ1 will be in Test mode and not any other logical device ▪ Fixed issue where incorrect Courier Cells are mapped to IEC 61850 measurements in TrpPhsPDIF2	MiCOM S1 Agile V2.0	P74x/EN M/Pd8.1

2 SOFTWARE VERSION COMPATIBILITY

IED S/W Version	Setting File Version	Menu Text File Version*[8]	PSL File Version
31	31, 32, 33	31, 32, 33	31, 32, 33
32	31, 32, 33	31, 32, 33	31, 32, 33
33	31, 32, 33	31, 32, 33	31, 32, 33
40	31, 32, 33, 40	31, 32, 33, 40	31*, 32*, 33*, 40
41	31, 32, 33, 40, 41	31, 32, 33, 40, 41	41
42	31, 32, 33, 40, 41, 42	31, 32, 33, 40, 41, 42	41, 42
51	31, 32, 33, 40, 41, 42, 51	31, 32, 33, 40, 41, 42, 51	51
53	31, 32, 33, 40, 41, 42, 51, 53	31, 32, 33, 40, 41, 42, 51, 53	53
60	31, 32, 33, 40, 41, 42, 51, 53, 60	31, 32, 33, 40, 41, 42, 51, 53, 60	53, 60
61	31, 32, 33, 40, 41, 42, 51, 53, 60, 61	31, 32, 33, 40, 41, 42, 51, 53, 60, 61	61
70	31, 32, 33, 40, 41, 42, 51, 53, 60, 61, 70	31, 32, 33, 40, 41, 42, 51, 53, 60, 61, 70	70
91	31, 32, 33, 40, 41, 42, 51, 53, 60, 61, 70, 91	31, 32, 33, 40, 41, 42, 51, 53, 60, 61, 70, 91	91
92	31, 32, 33, 40, 41, 42, 51, 53, 60, 61, 70, 91, 92	31, 32, 33, 40, 41, 42, 51, 53, 60, 61, 70, 91, 92	92

* P742 and P743

GE VERNOVA