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Information Bulletin

GCP 4000 Hardware and Firmware Updates

26th April 2018 TTTBLXP076 Issue 2.0

1 Applicability

All existing and new GCP 4000 Grade Crossing Predictors.

2 Information

This bulletin advises of some hardware changes resulting from component obsolescence and new releases of firmware (MEF and MCF files) to enhance the operation of the system. We are notifying you of these changes as required by AS 7702 and possibly your type approval requirements.

2.1 80418 Track Module (A80418) Hardware

The track module hardware has been updated to version L to replace an obsolete FPGA. The specification, function and interfaces of the track module are unchanged. Version L track modules **must use** track gcp04_30 MEF or later, which include information for the new FPGA.

Siemens will supply the new version L (or later) track modules for future delivery.

You cannot downgrade the MEF of version L track modules below gcp04_30 MEF, as these MEFs do not have the new FPGA information.

You can use the gcp04_30 MEF and later in all track modules.

You can mix old and new track modules in one GCP, even if they are using different MEFs.

You must use DT version 5.8.0 or later to load the gcp04_30 or later MEF.

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2.2 Track Module 80418 MEF

Our last Bulletin advised of gcp03_90 MEF. The current version is gcp04_50. The changes since then are:

gcp03_80	Prevents any possibility of a short warning time occurring by continued restart of prediction Prevents false Ex process predictions
gcp03_90	Stores calibration parameters in the NV RAM on track module and does not send to CPU Removed erroneous GCP CAL message that shows up on 4 character display when only module island is used
gcp04_00	Improved detection and handling of failed FETs in the transmitter circuit
gcp04_20	Corrected an Ex too high with 286 Hz Corrected LoEz lockout error on 86, 285, 348, 645 & 970 Hz frequencies Improved handling of inbound poor shunt recovery Corrected a rare error of Ex locked to illegal value on outbound move
gcp04_30	Suits new version of track hardware (revision L, see section 2.1). **Previous versions of the MEF are incompatible with this hardware.** This version of MEF is compatible with earlier hardware 4 character display now shows MEF name on start-up Added 141, 149, 237, 239 and 249 Hz frequencies Added logging to show cause of predictor de-energised Prevents restarting of Low Ez detection timer Adds time and date to last island calibration Fixed issues in clearing High Check Ez and High Ez diagnostic messages Fixed issues with an intermittent shunt resulted in early pickup of a DAX Added features used in GCP 5000
gcp04_40	Fixed issue where vital outputs can be in failure mode for 5 s when powered on
gcp04_50	Supports GCP 3000+ and GCP 4000+ No impact on standard GCP 4000

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2.3 MCF

The last advised MEF was gcp-t6x-02-5. The subsequent changes are:

gcp-t6x-02-6	Includes additional parameters in OCCN Fixed gate delay timing Fixed chassis selection problems Fixed template pre-emption page with new A80485 Allows external SSCC IV to be used with internal SSCCs
gcp-t6x-02-7	Supports MS 4000 Enabled a new SEAR IIi CDL command for OCCN changes Added new Enhanced Detection parameter to menu (removed in next release) Changed default island length from 199 to 120 feed Ignores GPs coupled parameter when only one SSCC3i is used Changes Train History Log, Event Log and SEAR Log to show individual train moves as well as the crossing move and speeds **We recommend that you don't use this release**
gcp-t6x-02-8	Resolved compatibility issue with old track MEFs by removing enhanced detection parameter from menu
gcp-t6x-02-9	Allows selection of which gate down inputs are used in gate down output logic Hides Advance Pre-emption timer option when Gate Down Logic is used Fixes issue with Gate Down Logic when no GDs are assigned to SSCC2i Fixes issue with Mute Bell on Gate Down Logic if no GDs are defined Adds GCP frequencies 141, 149, 237, 239 and 249 Hz Fixes bobble if an output is assigned to AND1 or T1 Prime when Advance Pre-emption Health input is used Changes range of Remote Activation Cancel time to 1 – 15 minutes

2.4 Diagnostic Terminal (Computer software)

The latest version is 5.8.1.

You can continue to use the Diagnostic Terminal with the new A80485 Display Module or you can connect a PC running a web browser (with no other specific software) to the Ethernet connection on the 80485 Display Module.

Changes to the DT are included in the release notes that come with the software. Recent changes are:

5.7.1	Corrected errors in generating XML file
5.7.2	Siemens rebranding

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5.7.3	Fixed a VB subscript installation issue
5.7.6	Added support for software update to the 'Track card rev K'
5.8.0	Added support for Windows10 Fixed software update of HD Added support for track card A80418 rev L track module
5.8.1	Fixed crash when exiting DT Changed default SIN for GEO

2.5 Diagnostic Terminal A80407 (Module software)

No changes.

The last advised DT version was 4.3.2. Details of the changes are included in the release notes that are distributed with the software files. The subsequent changes are:

4.6.0	Changed installation media
4.7.5	Added support for HD/Link (Not applicable to GCP) Added new check numbers and checks
4.8.8	Updated DT to detect corrupted files Updated DT to detect and correct disk full Added option to reformat Flash Fx
5.0.7	Added support to display PSO info Added support for displaying check numbers Changed toolbars, flags, and download functionality
5.2.1	Added support for PSO facility Provides ability to save configuration in Excel format that allows reading by OCE Disables SSCC buttons when SSCC is not used
5.2.3	Rebranded to Siemens

2.6 CPUII+ A80403 Vital MEF

The changes to the firmware are:

vph04_10	Fixed a cold boot issue below -30°C
vph04_20	Displays MEFs during start up Support for GCP 5000 added
vph04_40	Added ability to send alarms when OCCN parameters change Changed default island length to 120 feed Corrected logic when only one SSCC is used Re-instated logging of individual train moves

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vph04_50	Eliminated possibility in Rev H of shutdown due to channel mismatch
vph04_60	Supports Wayside Inspector (no impact to GCP 4000)
vph04_70	Added support to a 3 track GCP Supports Wayside Inspector
vph04_80	Adds support for GCP 3000+. This is not used in Australia
vph04_90	Logs events in display module if fitted Fixed issue with CCN not matching offline DT when passwords enabled Fixed issue with MS 4000 programming (not relevant to GCP 4000)

2.7 CPUII+ A80403 Communications MEF

ncg04_20	Displays MEF version on start-up Supports GCP 5000
ncg04_50	Enables sending alarms when OCCN parameters change Changed default island length to 120 feet Corrected logic when only one SSCC is used Re-instated logging of individual train moves.
ncg04_60 (70)	Supports interface to Wayside Inspector
ncg04_70	Updated to support a 3 track GCP
ncg04_80	Supports GCP 3000+ Supports train history log in A80485 Both A80485 and MEFs are installed
ncg04_90	Logs events in display module if fitted Fixed issue with CCN not matching offline DT when passwords enabled Fixed issue with MS 4000 programming (not relevant to GCP 4000) Supports GCP 5000

2.8 SSCCIIIi A80405 Crossing Controller

There are no changes.

2.9 Office Configuration Editor (computer)

The Office Configuration Editor (OCE) can be used as an off-line tool in lieu of the DT to generate PAC files and has a display similar to the new A80485.

You can work off-line using the Offline Configuration Editor (OCE) and a web browser. The current version is 2.6.3 and we have not provided any earlier versions.

2.10 Display module (New) A80485

There are multiple changes to the **new** display module. This module uses a keypad rather than a touch screen display. Very few, if any, are in use in this territory. This display module is compatible with earlier versions of GCPs.

Please contact us if you are using this module. We will advise of changes from the version you have.

The display module includes an MEF, binary boot (Uboot) and Linux Kernel. The kernel must first be updated where a MEF older than n5gk_mef_1.4.1r is being updated. This requires serial access to a header on the circuit board. Please discuss with us before attempting such updates.

The off-line tool that supports generation of the PAC files is the OCE.

2.11 Compatibility

We can supply compatibility information where you are using a mixture of older files. This information is too big to add to this bulletin. Wherever possible, new firmware is backward compatible with existing hardware.

3 What do I need to do?

3.1 Track Module

You will receive new, version L, track modules with new GCPs and for spare parts ordered. There is no need to upgrade older track modules in the GCP to the new MEF, although you could consider doing so for consistency.

You **must NOT downgrade the MEF in hardware version L or later track modules** below gcp04_30. They will not work! Users who have a restriction on using these later track modules MEFs should consider how to manage this.

3.2 Other Modules

We will supply latest versions on future orders. These will normally give the best performance.

You may wish to roll back versions to manage consistency of installations and spares. You should confirm compatibility if you do this, and understand that earlier versions do not include the latest fixes

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4 Type Approvals

These changes are minor in both hardware and firmware. The impact on your usage is minimal, but any need to update type approvals will depend on how you manage them. Railways who limit the use to specific, approved versions should look at updating their approved versions.

You should consider whether these changes constitute an *Assessable Change* as defined by AS 7702 and its Code of Practice and whether there is an impact on your type approval.

Please contact us if you require more information including compatibility table. We will assume that this bulletin is adequate advice unless we hear from you.

5 Further Information

Please contact your sales representative, who will arrange to provide copies of MEF or MCF files or arrange to have one of our experts to discuss the content and implications of this bulletin with you.

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