Important Information regarding the Update of Parameter sets

Dear customer

with DIGSI 4 – from version 4.30 onwards –the ability to adapt existing parameter sets to new firmware is provided. This process is called "updating". Updating of parameter sets is helpful if already existent default or customised parameter sets must be used in devices with a newer firmware version, or when a device firmware is updated from an old version to a new one, and has to be used with the existing settings.

For particular devices, the function „Updating a parameter set" was already available in DIGSI previously. This was however only applicable to "small" changes. Such "small" changes applied to development stages that did not contain any significant increase of functionality (e.g. change from 7SJ62 V4.21 to 7SJ62 V4.27). With the new DIGSI version, it is also possible to carry out parameter set updates that involve a significant change (delta). For this purpose the new device drivers (e.g. for 7SJ62 V4.4) must first be installed, following which the upgrade is possible from the older version (e.g. 7SJ62 V 4.27 to the new version V 4.40). The update process cannot always be fully automised. The parameter set must in some cases be manually changed after updating. Of course new functions, if they are to be used, must be set manually in their entirety. Following the update, a report is generated by the update program. This report contains information that assists with the checking and correction (if required) of the updated parameter set.

The update applies to all the setting and routing parameters contained in the parameter set. Naturally CFC-charts and user defined information/objects are also maintained.

The following SIPROTEC 4 parameter sets may be updated at this time:

Device	Parameter set versions that may be updated [1]	Updating to parameter set version	Required device firmware
7SA522 / 7SA6	All V4.1 and V4.2	V4.2 or V4.3	V4.2 / V4.3
7SD52	V4.11	V4.2	V4.2
7SD610	All V4.0	V4.2	V4.2
7SJ61 / 62 / 63	All V4.2	V4.4	V4.4
7UM62	All V4.0	V4.1	V4.1
6MD63	All V4.2	V4.4	V4.4

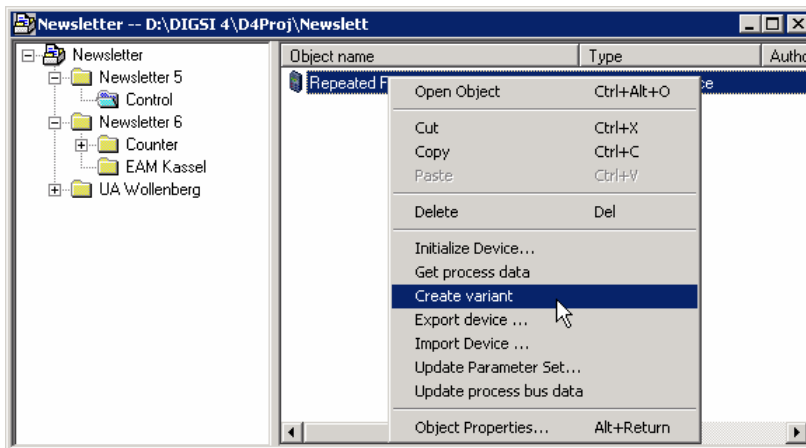1) Other parameter sets cannot be updated at present

Hereunder the updating process is described, and clarification is given regarding the annunciation provided by the updating program.

Note: With DIGSI 4.40 and new device drivers, the upgrade functionality was significantly improved. Errors of the previous versions were remedied and unnecessary information in the report was suppressed.
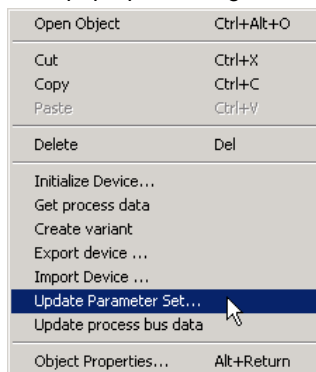
[A] Before updating:

1) Functions that are de-selected in the scope of functions (disabled) of the device that is to be updated are not updated. If the settings contained in such de-selected functions must be maintained during the updating, then please proceed as follows :
   - Open the device in the offline mode.
   - Activate the affected function in the scope of functions.
   - Save the changes and exit the device dialog.
2) Make a copy of the parameter set that will be updated for future reference:
   - Click on the relevant device with the right mouse button in the DIGSI 4 manager.

- In the following pop-up-menu select "create variant" (Should the device already be a variant, please use the functions copy & paste).
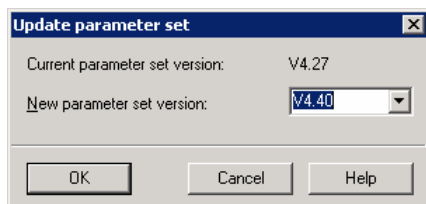

[B] This is how the existing parameter set is updated:

1) Open the pop-up menu again. Now select "Update parameter set....".

If several updates are shown, then they must all be carried out, starting with the oldest (lowest number) version. In the **example „7SJ633 V4.21"** this should be done as follows:
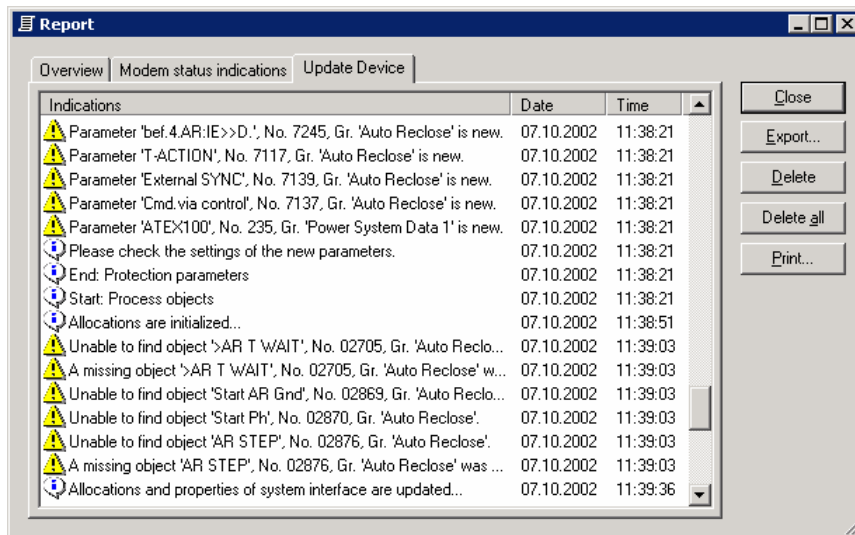
- Initially update from V4.21 to V4.27.
  For this purpose select the parameter set version 4.27 in the scroll window and confirm with "OK".
  The report generated here is of an informative nature and does not require any further attention.

- Subsequently update from V4.27 to V4.40.
  For this purpose select the parameter set version 4.40 in the scroll window and confirm with "OK".

2) The parameter set is now converted to the new version with the expanded scope of functions. During the update, the report window is shown. All steps are recorded therein. All the necessary manual changes that are still required are registered.

Important: "Export " and/or print the protocol in the report window, so that manual changes can be carried out once the update procedure is completed.

The routing and allocations (I/O matrix) is updated in three steps. During the first step, it is checked that the set signal routing matches the new parameter set version suitability. During the second step, the routing allocation of the old parameter set is transferred to the new one. During the third and final step, a further check of the defined routing is done in conjunction with the system interface. It is possible that a warning is indicated in conjunction with an annunciation.

As the signal routing to the system interface must be given special treatment during updating, two sections of the report file refer thereto:

- The first begins with „Allocations and properties of system interface are updated..." and contains annunciations that occur during the actual updating.
- The second begins with „Allocations and properties of system interface are examined..." and contains annunciations that occur during comparison of the old and new parameter set.

Certain entries may therefor be duplicated.

3) When the update is completed, the modified parameter set may be accepted or alternatively the changes may be rejected.
   Comment: If the original parameter set must be recovered after acceptance of the updated parameter set, the variant that was created at the start (refer to [A]), or an automatically created back-up in the file system, may be used for this recovery (refer to [E]).

4) After the parameter set has been accepted, certain corrections to the updated parameter set are necessary (refer to [C]).

[C] Parameter set correction by means of the report files

Open the updated device offline.

Open the report file or refer to a print-out of the report file.

For corrections to the parameter set only the „Warnings" are relevant. They are designated by an exclamation mark in a triangle in the report file.

1) **Parameter**

The parameters are the first to be updated. Check whether there are any warnings regarding the parameter set updating. Typical warnings are:

- ***Cannot take over parameter 208 'Iee/Iph WDL', is no longer available or visible.***

- ***Parameter 'Sens. E Fault', No. 131, Gr. '' is new.***

These warning describe a change in the parameter set structure. The pre-update functionality is not affected, i.e. a parameter that no longer exists, is typically replaced by one or more parameters that have taken over its functionality.

The parameters that are designated as new must now be set in the updated parameter set. This must be done in accordance with the previous settings. If necessary, refer to the device variant created from the original parameter set.

In the event of new functions in the device, parameters, that are not existent in the old parameter set, will be designated as new. An example in relation to the 7SJ6 devices is the warning „***Parameter 'ATEX100', No. 235, Gr. 'Power System Data 1' is new.***" The corresponding DIGSI Text, in this example is „Storage of th. Replicas w/o Power Supply". This is usually sufficient to have a clear understanding of the parameter function. If this is not the case, the manual must be consulted to obtain further information regarding this parameter. If this functionality is not explicitly required, the pre-setting should be left unchanged.
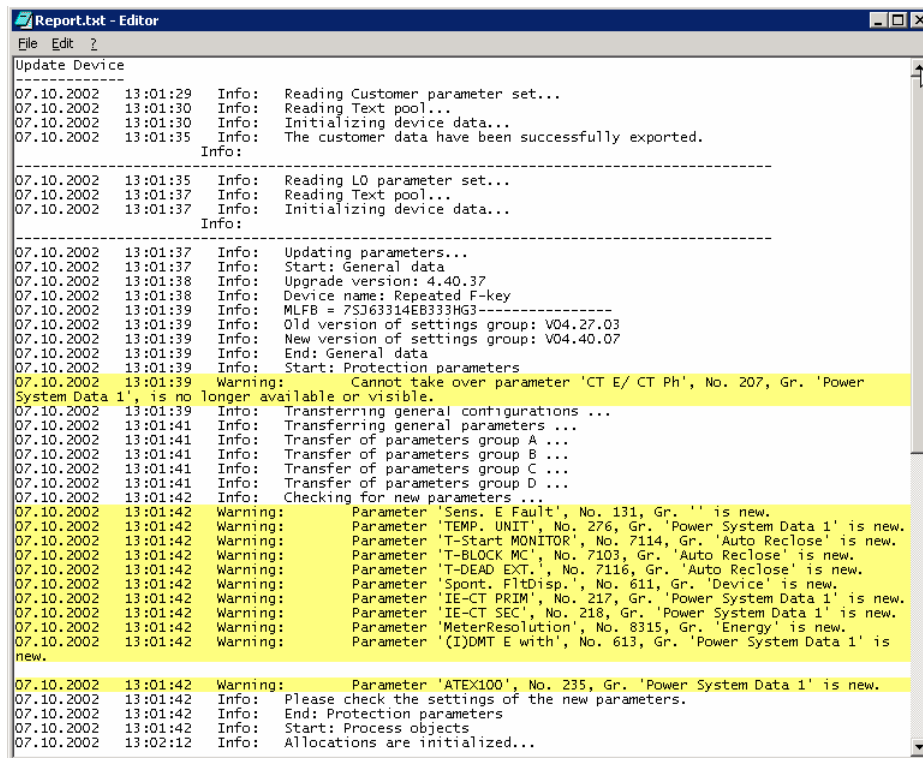
```
Report.txt - Editor                                                    _ □ X
File  Edit  ?
Update Device
------------
07.10.2002   13:01:29   Info:    Reading Customer parameter set...
07.10.2002   13:01:30   Info:    Reading Text pool...
07.10.2002   13:01:30   Info:    Initializing device data...
07.10.2002   13:01:35   Info:    The customer data have been successfully exported.
                        Info:
-----------------------------------------------------------------------------
07.10.2002   13:01:35   Info:    Reading LO parameter set...
07.10.2002   13:01:37   Info:    Reading Text pool...
07.10.2002   13:01:37   Info:    Initializing device data...
                        Info:
-----------------------------------------------------------------------------
07.10.2002   13:01:37   Info:    Updating parameters...
07.10.2002   13:01:37   Info:    Start: General data
07.10.2002   13:01:38   Info:    Upgrade version: 4.40.37
07.10.2002   13:01:38   Info:    Device name: Repeated F-key
07.10.2002   13:01:39   Info:    MLFB = 7SJ63314EB333HG3----------------
07.10.2002   13:01:39   Info:    Old version of settings group: V04.27.03
07.10.2002   13:01:39   Info:    New version of settings group: V04.40.07
07.10.2002   13:01:39   Info:    End: General data
07.10.2002   13:01:39   Info:    Start: Protection parameters
07.10.2002   13:01:39   Warning:        Cannot take over parameter 'CT E/ CT Ph', No. 207, Gr. 'Power
System Data 1', is no longer available or visible.
07.10.2002   13:01:39   Info:    Transferring general configurations ...
07.10.2002   13:01:41   Info:    Transferring general parameters ...
07.10.2002   13:01:41   Info:    Transfer of parameters group A ...
07.10.2002   13:01:41   Info:    Transfer of parameters group B ...
07.10.2002   13:01:41   Info:    Transfer of parameters group C ...
07.10.2002   13:01:41   Info:    Transfer of parameters group D ...
07.10.2002   13:01:42   Info:    Checking for new parameters ...
07.10.2002   13:01:42   Warning:        Parameter 'Sens. E Fault', No. 131, Gr. '' is new.
07.10.2002   13:01:42   Warning:        Parameter 'TEMP. UNIT', No. 276, Gr. 'Power System Data 1' is new.
07.10.2002   13:01:42   Warning:        Parameter 'T-Start MONITOR', No. 7114, Gr. 'Auto Reclose' is new.
07.10.2002   13:01:42   Warning:        Parameter 'T-BLOCK MC', No. 7103, Gr. 'Auto Reclose' is new.
07.10.2002   13:01:42   Warning:        Parameter 'T-DEAD EXT.', No. 7116, Gr. 'Auto Reclose' is new.
07.10.2002   13:01:42   Warning:        Parameter 'Spont. FltDisp.', No. 611, Gr. 'Device' is new.
07.10.2002   13:01:42   Warning:        Parameter 'IE-CT PRIM', No. 217, Gr. 'Power System Data 1' is new.
07.10.2002   13:01:42   Warning:        Parameter 'IE-CT SEC', No. 218, Gr. 'Power System Data 1' is new.
07.10.2002   13:01:42   Warning:        Parameter 'MeterResolution', No. 8315, Gr. 'Energy' is new.
07.10.2002   13:01:42   Warning:        Parameter '(I)DMT E with', No. 613, Gr. 'Power System Data 1' is
new.

07.10.2002   13:01:42   Warning:        Parameter 'ATEX100', No. 235, Gr. 'Power System Data 1' is new.
07.10.2002   13:01:42   Info:    Please check the settings of the new parameters.
07.10.2002   13:01:42   Info:    End: Protection parameters
07.10.2002   13:01:42   Info:    Start: Process objects
07.10.2002   13:02:12   Info:    Allocations are initialized...
```

Figure: Example report with warnings

2) **I/O matrix**

A number of the warnings regarding the signal routing are only of an informative nature . They do not require any changes to the updated parameter set:

The following warning indicates that an information (object) is no longer available in the new parameter set (in the new firmware) or is no longer generated. In addition this information was routed to the system interface.
Unable to find object 'AR STEP', No. 02876, Gr. 'Auto Reclose'.

A missing object 'AR STEP', No. 02876, Gr. 'Auto Reclose' was configured to system interface.

[D] Questions & Answers

1) A user defined annunciation was not taken over by the updated parameter set. Why not?

Answer: If this annunciation is of type "Event", it was not taken over, as this type of annunciation is no longer available in the new version.

If this is not the case, the annunciation may have been routed to the IEC interface without defining the function type and info number. In this event the annunciation must be newly created, routed and, if required in the CFC chart, integrated in the new CFC logic.

2) A CFC-chart was not taken over by the updated parameter set. Why not?

Answer: The CFC-chart in the original device data set was not compiled and/or saved as part of the parameter set. In this case the chart must be newly created, or the original parameter set must be re-established (refer to [E]).

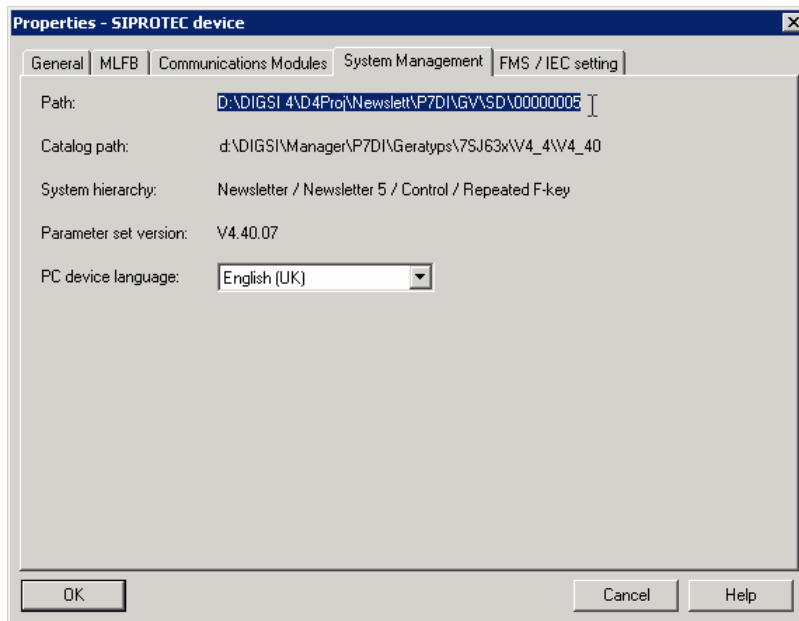3) After the parameter set upgrade, some CFC-blocks are no longer visible. Why?

Answer: In this case, the CFC blocks have to be updated. Please open any CFC-plan and select "Block Types…" under "Options". After this, the missing CFC-blocks will again be visible.

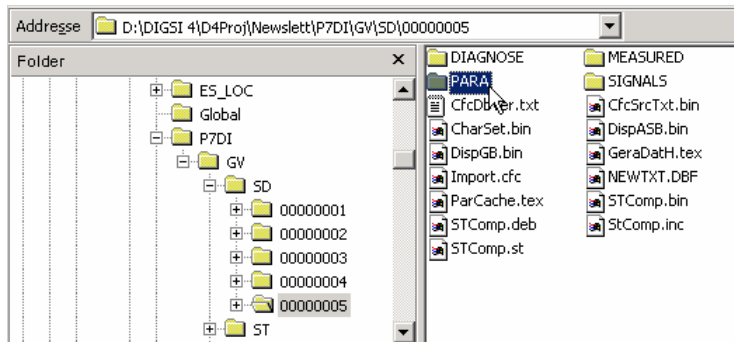**[E] How to re-establish the original parameter set (Undo):**

Should a situation arise, where the original parameter set must be re-established after the update process is completed, then two alternatives exist:

Either the variant that was created before the update process was initiated is used, or the automatically generated back-up is employed:
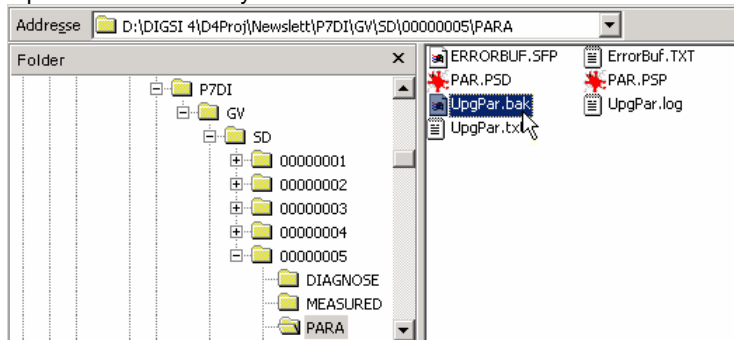
1) Select the device in question in the DIGSI manager and open "Object Properties". On the index "System Management" retrieve the storage path in the file system. Select and copy the path with (<Ctrl>+<C>).

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2) <Open the MS Explorer and insert the path with (<Ctrl>+<V>).

3) Open the sub-directory "PARA".

4) Re-name the file "PAR.PSP" (e.g. "PAR.BAK").

5) Re-name the file "UpgPar.bak" to "PAR.PSP".
Comment: Now the device will again contain the original parameter set.

Further question?

If any of your questions remain unanswered, or other problems during updating of the parameter sets arise, please contact our customer care centre. The hotline may be reached as follows:

- Tel.: +49 180 5247000
- Fax: +49 180 5242471
- Mail: services@ptd.siemens.de.

Wishing you much success with SIPROTEC and DIGSI.

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(Gunther Reichenbach, Product Manager PC-based software for SIPROTEC)

Known errors in previous versions of the upgrade function
Note: This information is only of interest if you have not yet installed DIGSI 4.4.

In previous versions of the upgrade function errors arose. For example too many redundant warnings were issued in the protocol. The information provided was not clear.

In this case please install DIGSI version 4.40 or newer.

Previous Warning in the Protocol

a) Warnings of a purely informative nature – no checking or correction required

1) Warning „*Cannot Tranfer ‚Source system interface' for ‚DataStop*"
   This warning is issued in conjunction with T103-System interfaces, as the information regarding the data unit function type and information number is not known. The data cannot be set but is fixed in the SIPROTEC device.

2) Warning „*Cannot remove ' Source system interface' for 'SynchClock', because not modifiable*."
   This warning is issued in conjunction with T103-System interfaces, as the information regarding the data unit function type and information number is not known. The data cannot be set but is fixed in the SIPROTEC device.

3) Warnings like
   - „*Cannot set , Destination event log ' for ' >AR ON' to ' ', because not modifiable*"
   - „*Cannot set ' Destination network fault buffer' for ' AR is NOT ready' to 'OO', because not modifiable*"
   are only of an informative nature. Fixed routings were changed in the new firmware. Changes in the I/O matrix are not necessary and **not** possible. Warnings of this nature may be ignored.

4) The following warning indicates that an information (object) in the new parameter set (in the new firmware) is no longer available or is no longer generated. This information was also routed to the system interface.
   „*Cannot set , Destination event log ' for ' >AR ON' to ' ', because not modifiable*"
   „*Cannot set ' Destination network fault buffer' for ' AR is NOT ready' to 'OO', because not modifiable*"

b) Warnings that require checking and possibly correction

Warnings such as
- „*Unable to find object ' Start AR Gnd*"
- „*A missing object ' Start AR Gnd ' was configured to system interface*"
indicate the following situation: pre-defined information/objects (e.g. annunciation or command) in the old parameter set were deleted by the user, as these were not required in the pre-defined form. The updating procedure has re-installed these elements and routed them to the system interface.
This information/objects should be identified and erased in the updated parameter set.

Note! If a new object had been defined (e.g. a command), and this utilised the same binary outputs as those occupied by the object re-installed by the update procedure, it may happen that the binary output routing is not re-established, as conflicts may arise. This is indicated in the report file. In any event the binary output routing of user defined objects should be checked and correct if required.

Note! The situation may arise that two information elements in the updated parameter set have identical names, namely the new user defined information in the old parameter set, and the information introduced by the update procedure. Identify by means of the information type which one should be deleted, and delete it. Check the routing of the user defined information elements.