# Snapshot-XPS-RL-D-USB_N16108 (2026/17/08)

***Hardware***

- XPS-RL-D-USB model.

***Firmware:*** *XPS Unified V1.10.1*

***Web site:*** XPS-D 2.6

***XPS-Unified Package:*** *Version #56-20260817*

***Stage data base:*** V4.3.18 (December. 17th 2024 - ECO5940)

- Refer to document "XPS-D-RL-StageDataBaseHistory.pdf"

***TCL interpretor:*** *1.10.x*

- Based on TCL library 9.0
- Can execute an obfuscated TCL script (generated by 'TCL Script Obfuscator.exe' tool)

***Software drivers:***

- ".NET" assembly for Windows x86 and x64: DLL.NET V2.5.1
- EDHO374En1011 (XPS-RL – Software Drivers Manual)

***Manuals:***

- XPS Unified – Programmer's manual: EDH0373En1050
- XPS-RL-D – Start-Up Manual: EDH0420En1021
  - Fix wrong reference for 2 axes CIE board in order to use Biss-C absolute encoder : E5770C1 -> E5770C2
- XPS-D – User Interface Manual: EDH0405En1030
- XPS-D – Configuration Manual: EDH406En1031
  - Fix wrong reference for 2 axes CIE board in order to use Biss-C absolute encoder : E5770C1 -> E5770C2
- XPS-D – Features Manual: EDH407En1060
- PSO multi axes User Guide_Rev1
- TCL Script Obfuscation Tool – User's Manual_Rev1

# Snapshot-XPS-RL-D-USB_N16107 (2026/10/07)

***Hardware***

- XPS-RL-D-USB model.

***Notes:*** Add default TCL scripts deployed at each boot

- MKS_GetTCLLibraryVersion.tcl
- MKS_CalibrateGPIOEncoder.tcl

***Firmware:*** *XPS Unified V1.10.1*

- Add forward compatibility feature.
- Add RollingGatheringRun action
- Add new PDSA APIs:
  - MultipleAxesPDSACircleExecution
  - MultipleAxesPDSALineExecution
  - MultipleAxesPDSACustomExecution
  - GroupMaximumThresholdSet
  - GroupMaximumThresholdGet
- Add BiSS-C absolute encoder
- Add AnalogGPIOPosition encoder
- Fix XYMultiAxisPSOAbsoluteLoadFromLineArc issue when used with not expected group.
- Fix issue causing communication loss when calling TCLScriptExecuteAndWait API intensively.
- Fix issue with the HexapodMoveIncremental API: when a call to this API follows a previous unsuccessful call, the movement from the failed call is also executed.
- Fix issue causing memory error (-100) when using EventExtendedWait API intensively.

***Web site:*** XPS-D 2.6

***XPS-Unified Package:*** Version #54-20260710

***Stage data base:*** V4.3.18 (December. 17th 2024 - ECO5940)

- Refer to document “XPS-D-RL-StageDataBaseHistory.pdf”

***TCL interpretor:*** *1.10.x*

- Based on TCL library 9.0
- Can execute an obfuscated TCL script (generated by ‘TCL Script Obfuscator.exe’ tool)

***Software drivers:***

- ”.NET” assembly for Windows x86 and x64: DLL.NET V2.5.1
  - Add new PDSA APIs
  - Add PositionerEncoderBiSSBreak API
  - Migrate from .NET framework 4.7.2 to 4.8.1
- EDHO374En1011 (XPS-RL – Software Drivers Manual)

***Manuals:***

- XPS Unified – Programmer’s manual: EDH0373En1050
  - Add new PDSA APIs
  - Add PositionerEncoderBiSSBreak API
  - Update GatheringDataMultipleLinesGet API
  - Update GroupPositionCurrentGet API
  - Update HexapodMoveAbsolute API

  - Update HexapodMoveIncremental API
  - Update *Action List* section
  - Update *Gathering Data Types* section
  - Update *Positioner Error List* section
  - Add documentation for LoginCheck API
- XPS-D – Start-Up Manual: EDH0395En1080
  - Add documentation about TCL script obfuscation in Programming with TCL section
- XPS-D – User Interface Manual: EDH0405En1030
  - Add documentation about forward compatibility in Controller – Firmware Update section
- XPS-D – Configuration Manual: EDH406En1030
  - Add Absolute Encoder BiSS-C section
  - Add Analog GPIO Feedback (AnalogGPIOPosition) section
- XPS-D – Features Manual: EDH407En1060
  - Update *Events* section
  - Update *Actions* section
  - Add documentation about *rolling gathering* in *Data Gathering* section
  - Add *Rolling Gathering* section
  - Add documentation about *TCL script obfuscation* in *Introduction to XPS Programming* section
  - Update *Photonics Device Search Algorithms (PDSA)* section
- PSO multi axes User Guide_Rev1
- TCL Script Obfuscation Tool – User's Manual_Rev1

# Snapshot-XPS-RL-D-USB_N16106 (2026/03/10)

***Hardware***

- XPS-RL-D-USB model.

***Firmware:*** *XPS Unified V1.9.1*

- Add multi axis PSO feature.
  - Refer to PSO multi axes User guide
- Fix race between SendResult2TCP/SendError2TCP and sendResponseToSocket.
- Enable pulse generation during XYZSpline trajectory
- Fix several XYLineArcTrajectory not working in parallel.
- Fix a crash when trying to enable a disabled group.
- Fix no error returned when trying to configure a gathering with a number of points <= 0 using EventExtendedConfigurationActionSet API.

***Web site:*** *XPS-D 2.4.6*

***XPS-Unified Package:*** Version #53-20260310

***Stage data base:*** V4.3.18 (December. 17th 2024 - ECO5940)

- Refer to document “XPS-D-RL-StageDataBaseHistory.pdf”

***TCL interpretor:*** *1.9.x Rev2*

- Fix issue with Gathering API.
- Add multi axis PSO feature.

***Software drivers:***

- ”.NET” assembly for Windows x86 and x64: DLL.NET V2.4.3
  - Add multi axis PSO feature
- EDHO374En1011 (XPS-RL – Software Drivers Manual)

***Manuals:***

- XPS Unified – Programmer’s manual: EDH0373En1046
- XPS-D – Start-Up Manual: EDH0395En1070
- XPS-D – User Interface Manual: EDH0405En1022
- XPS-D – Configuration Manual: EDH406En1021
- XPS-D – Features Manual: EDH407En1054
- PSO multi axes User Guide_Rev1

# Snapshot-XPS-RL-D-USB_N16105 (2024/08/28)

Improve configuration protocol security. Issue accessing the Public folder

***Hardware***

- XPS-RL-D-USB model.

***Firmware:*** *XPS Unified V1.8.6*

***Web site:*** *XPS-D 2.4.3*

***XPS-Unified Package:*** Version #47A-20240827

***Stage data base:*** V4.3.17 (September. 19th 2023 - ECO5770)

- Refer to document "XPS-D-RL-StageDataBaseHistory.pdf"

# Snapshot-XPS-RL-D-USB_N16104 (2024/06/25)

***Hardware***

- XPS-RL-D-USB model.

***Firmware:*** *XPS Unified V1.8.6*

- 1.8.6
  - Fix PSO timeflasher don't work with aquadB encoders.
  - Fix number of timeflasher pulses lower than awaited number of pulses.
- 1.8.5.3
  - Fix wrong value of ExternalLatchPosition when used with an AquadB encoder.
- 1.8.5.2
  - Fix PositionerPositionCompare APIs doesn't work.

***Web site:*** *XPS-D 2.4.3*

- The space characters contained in the default name of a TCL script generated from the terminal panel are replaced by underscore characters.

***XPS-Unified Package:*** Version #47-20240611

***Stage data base:*** V4.3.17 (September. 19th 2023 - ECO5770)

- Refer to document "XPS-D-RL-StageDataBaseHistory.pdf"

# Snapshot-XPS-RL-D-USB_N16103 (2023/08/16)

***Hardware***

- XPS-RL-D-USB model.

***Firmware:*** *XPS Unified V1.8.5*

- 1.8.5
  - Add a new parameter "**TrajectoryBufferSize**" in **GENERAL** section of **system.ref** file to resize PT/PVT trajectory buffer size. **Default value must be 100**.
  - Fix **PlusEndOfRunHomeSearch** issue. Bad computation of the offset of the home position.
  - Fix **PositionerPositionCompare** functionality which didn't work with AquadB encoders.
- 1.8.4
  - Fix **XYScanMoveAbsolute** API. The Y movement was done too early.
  - Add **AvailableRamMemory** gathering data.
- 1.8.3
  - Fix **XYZ** group inifinite initialization due to a missing timer **when initialization sequence is not "Together"**.

***Web site:*** *XPS-D 2.4.2*

- Fix relative move from tuning page.

***XPS-Unified Package:*** Version #43-20230816
***Stage data base:*** V4.3.16 (April. 17th 2023 - ECO5699)

- Refer to document "XPS-D-RL-StageDataBaseHistory.pdf"

# Snapshot-XPS-RL-D-USB_N16102 (2022/08/29)

***Hardware***

- XPS-RL-D-USB model.

***Firmware:*** *XPS Unified V1.8.2*

- Enable **PDSA** only if **PDSAInsputSensorBit** parameters exists in the first **MultipleAxes** group in **system.ini** -> **this change in previous version of main controller was not properly done**.
- **Fix crash** of the controlleur with **certain configurations** when **PDSA** is **enabled**.

***Web site:*** *XPS-D 2.4.0*

***XPS-Unified Package:*** Version #40-20220829

***Stage data base:*** *V4.3.13 (July. 1st 2022 - ECO5590)*

- Refer to document *"XPS-D-RL-StageDataBaseHistory.pdf"*

# Snapshot-XPS-RL-D_N16101 (2022/07/27)

***Hardware***

- XPS-RL-D model.

***Firmware:*** *XPS Unified V1.8.1*

- Enable **PDSA** only if **PDSAInsputSensorBit** parameters exists in the first **MultipleAxes** group in **system.ini**.

***Web site:*** *XPS-D 2.4.0*

***XPS-Unified Package:*** Version #39-20220727

***Stage data base:*** *V4.3.13 (July. 1st 2022 - ECO5590)*

- Refer to document *"XPS-D-RL-StageDataBaseHistory.pdf"*

***Manuals***

- EDH0373En1041 - V1.8.x (XPS Unified - Programmer's Manual)
- EDH0395En1051 (XPS-D - Start-Up Manual)
- EDH0405En1021 (XPS-D - User Interface Manual)
- EDH0406En1021 (XPS-D - Configuration Manual)
- EDH0407En1051 (XPS-D - Features Manual)
- EDH0374En1011 (XPS-RL - Software Drivers Manual)
- EDH0375En1011 (XPS-RL – Help file)

***File configuration***

- ✓ objects.ini: V4.3

# Snapshot-XPS-RL-D_N16100 (June. 2022)

***Hardware***

- XPS-RL-D model.
- Update from SATA technology to USB technology.

***Firmware:*** *XPS Unified V1.8*

- 1.8
  - Fix run away during initialization for **XY**, **MultipleAxes** and **XYZ** group. For **XYZ** group, the run away is not fixed for together initialization.
  - Fix **XYLineArcVerification()**. When the API returned an error, future calls to this API returned the same error even if the trajectory is correct.
  - Add **CRC** error.
    - Edit **STR_DRV_STATUS_TG_OPEN** : "TG is opened or no stage connected or command CRC error"
  - Fix **GatheringExternalStopAndSaveAPI()** : external gathering was saved in gathering.dat instead of gatheringExternal.dat.
  - Fix the error that if the API did not exist for the required group, it was indicated that the API did not exist. Even though it existed perhaps for another group.
  - Fix the error that if the API was used with bad condition (Secondary positioner, config standard instead of Precision platform …), it was indicated that the API did not exists. Even though it existed perhaps for another group.
- 1.7.2.9
  - Fix slope issue in **Sgamma** profiler to enable **PostKFeedForward.**
- 1.7.2.8
  - Fix **FatalFollowingError** issue while moving for a long time (ex. Spindle mode) due to CIE position counter overrun.
  - Add possibility to read configuration parameter in simple **mathematic expression format** (m*n/p/q*r*s/t*u/v....) .
  - Add **new API error** codes:
    - **-86**: “Home search index error”.
    - **-220**: “Number of TCL script files exceeds limit”.
    - **-221**: “Number of trajectory files exceeds limit”.
    - **-222**: “Action not allowed because the positioner corrector is in Option 0”.
  - Returns error **-36** (“Unknown TCL file”) if TCLFileName or TaskName contains any spaces or tabulation, for the following APIs:
    - **TCLScriptExecute().**
    - **TCLScriptExecuteAndWait().**
    - **TCLScriptExecuteWithPriority().**

- **GatheringDataMultipleLinesGet()** returns error **-3** ("String too long") if the data collection buffer exceeds **65535** bytes.

- Change error code from **-8** to **-222** ("Action not allowed for secondary positioner that is in Option 0") for the APIs:
  - **PositionerExcitationSignalSet().**
  - **PositionerExcitationSignalCorrectorOutSet().**

- Correct output data of the API **EventExtendedGet()**.

- Add new line in /Admin/Public/system.ref to configure **DebugTraceCommunication** feature:

```
[GENERAL]
DebugTraceCommunicationTraceAll = ; Enabled or Disabled
```

- The **gantry index** difference is calculated in relation to Encoder positions instead of Corrected SetPoint positions.

- Improve **GroupPositionCurrentGet()** to make it working with XY gantry configuration.

- 1.7.2.62
  - Add **MotionDoneCumulativeConfirmationTime** parameter in GENERAL section of firmware.ref. Calculate motion done time as SPX version.
  -
- 1.7.2.5
  - Fix problem of data lost with API **GatheringDataMultipleLinesGet()**.
  - Fix problem of file saving synchronization with API **GatheringStopAndSave()**.
  - Add APIs:
    - **PositionerMagneticTrackPositionAtHomeSet()**.
    - **PositionerEncoderLinearCorrectionGet().**
    - **PositionerEncoderLinearCorrectionSet().**
- 1.7.2.2
  - Improve API **GatheringDataMultipleLinesGet()**: create a thread to not disturb ISR interrupts during API execution.
  - Improve API **GatheringStopAndSave()** and **GatheringDataMultipleLinesGet()**: make API waiting until data getting or saving end before return to user.
- 1.7.2.1B
  - Add a new gathering data:
    - **TimeFromBoot**: The time in second from the boot of the XPS.

***Web site:*** *XPS-D 2.4.0*

- *2.4.0*
  - *Fix display of TCL response in FunctionalTest graph (manual change not in SVN).*
  - *Fix endless loading of documentation page.*
- *2.3.9*
  - *Fix "Front Panel" page display problem.*
- *2.3.7*
  - *Fix "Lissajous" page display problem.*
- *2.3.6*
  - Fix problem of files / configurations files / load config and save config.
  - Fix problem of result data display in "Functional Test" page.

- Fix problem of special character used in TCL programs.

***XPS-Unified Package:*** Version #38-20220624

***Stage data base:*** *V4.3.12 (June. 24th 2022 - ECO5574)*

- Refer to document *"XPS-D-RL-StageDataBaseHistory.pdf"*

***Manuals***

- EDH0373En1041 - V1.8.x (XPS Unified - Programmer's Manual)
- EDH0395En1051 (XPS-D - Start-Up Manual)
- EDH0405En1021 (XPS-D - User Interface Manual)
- EDH0406En1021 (XPS-D - Configuration Manual)
- EDH0407En1050 (XPS-D - Features Manual)
- EDH0374En1011 (XPS-RL - Software Drivers Manual)
- EDH0375En1011 (XPS-RL – Help file)

***File configuration***

- ✓ objects.ini: V4.3