

# SOFTWARE DATABASE DOCUMENTATION

**HYDRO***pro*<sup>™</sup>

Version 2.32  
Revision A  
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### **Release Notice**

This is the February 2008 release (Revision A) of the HYDRO*pro* Software Database Documentation. It applies to version 2.32 of the HYDRO*pro* software.

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# The HYDROpro Software Database

All of the HYDRO*pro*™ software's working and acquired data is stored in an industry-standard, relational database format.

Data storage formats have traditionally been subject to change as software products proceed through their life cycles. In addition, proprietary database formats have tended to exclude users from accessing data themselves. The HYDRO*pro* software attempts to minimize these issues, by storing all working and acquired data in an industry standard relational database format.

Each project in the HYDRO*pro* software is stored in a **single** Microsoft® Access database file, but with an .hpo file extension. It contains several tables for storing project configuration information, as well as collected real-time survey data. Working data—such as project details, vessels, guidance objects, and event configurations—are all stored in this file.

This schema represents Database Version: 108, 12 February 2008.

The tables, indexes, and some of the default entries are pre-created in the *Template.hpo* file. The application uses the *Template.hpo* file to create new projects.

This document describes:

- [The ODBC Interface, page 3](#)
- [Table Names and Categories, page 4](#)
- [Table Definitions, page 7](#)

## The ODBC Interface

Microsoft's Open Database Connectivity (ODBC) interface to its Access database manages the HYDRO*pro* software's project relational databases. This gives the HYDRO*pro* software a multi-user, relational database engine with an integrated query processor, security, and remote data access.

The native storage format is Microsoft's Access Database (.mdb). The HYDRO*pro* software uses this format. This leads to a major advantage for HYDRO*pro* software users, in that you have complete access to your data through DBMS software such as Microsoft Access and Visual Basic. You can access, process, and graph your data.



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**WARNING** – As many of the database tables contents are linked to other tables, any changes may affect the integrity of the links. This document provides an outline of the tables and their content. It is intended to give you a guide as to what fields to extract. Trimble recommends that you do **not** edit these database tables.

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*Note* – When the HYDRO*pro* software is active, it creates a Microsoft Database Record-Locking Information file (.ldb). This is created for the corresponding open project file (.mdb) and is used to keep track of locked records in the .mdb file.

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## Table Names and Categories

The project database may contain any of the following tables. They are listed below under their respective category headings. The table names are listed in the left column, with a brief description in the middle column, and a page number for more information listed in the third column.

Table 1.1 Database Administration tables

Table Name	Description	See ...
DatabaseVersion	The project's database version is updated whenever the schema is changed or extended.	<a href="#">page 7</a>
General Store	General user configuration information.	<a href="#">page 7</a>

Table 1.2 Display Configuration tables

Table Name	Description	See ...
DisplayFrames	Configured display frames and settings.	<a href="#">page 8</a>
Displays	Configured real-time displays within each other.	<a href="#">page 8</a>
DisplaysList	Configured real-time displays with customized settings.	<a href="#">page 8</a>

Table 1.3 General Configuration tables

Table Name	Description	See ...
ProjectDetails	Textual project details.	<a href="#">page 8</a>
DisplayUnits	Project default display units.	<a href="#">page 9</a>
DisplayFormats	Time and coordinate settings.	<a href="#">page 9</a>
Timestamping	General configuration tracking.	<a href="#">page 9</a>
GlobalSettings	Project global settings.	<a href="#">page 10</a>
CoordinateSystem	Coordinate system selection and CSIB.	<a href="#">page 10</a>
MasterServices	Master time and tide services.	<a href="#">page 10</a>

Table 1.4 Vessel Configuration tables

Table Name	Description	See ...
Vessels	Configured vessels.	<a href="#">page 11</a>
VesselShapeLines	Vessel shape lines.	<a href="#">page 11</a>
VesselShapeProperties	Vessel shape properties.	<a href="#">page 11</a>
VesselOffsets	Configured vessel offsets.	<a href="#">page 12</a>
VesselOffsetProperties	Vessel offset properties.	<a href="#">page 12</a>
VesselDynamics	Vessel dynamics.	<a href="#">page 12</a>

Table 1.5 Equipment Configuration tables

Table Name	Description	See ...
Equipment	Configured equipment.	<a href="#">page 13</a>
EquipProperties	Equipment properties.	<a href="#">page 14</a>
EquipPortSettings	Equipment communication port settings.	<a href="#">page 14</a>
EquipServices	Equipment services.	<a href="#">page 15</a>

Table 1.5 Equipment Configuration tables

Table Name	Description	See ...
EquipServiceProperties	Equipment service properties.	<a href="#">page 15</a>
EquipServiceCalibration	Equipment service calibration.	<a href="#">page 16</a>
EquipObservedOffsets	Observed offsets.	<a href="#">page 17</a>

Table 1.6 Guidance Object Configuration tables

Table Name	Description	See ...
GuidanceObjectGroups	Guidance object groups.	<a href="#">page 17</a>
GuidanceObjects	Guidance objects.	<a href="#">page 17</a>
GuidanceObjectPoints	Guidance object points.	<a href="#">page 18</a>
GuidanceObjectSequence	Guidance object sequences.	<a href="#">page 19</a>
GuidanceObjectGroupProperties	Guidance objects group properties.	<a href="#">page 19</a>

Table 1.7 Steer-by Association tables

Table Name	Description	See ...
SteerbyConfiguration	Specifies steer-by configuration details, including the vessel and offset.	<a href="#">page 20</a>
SteerbyDynamics	Specifies steer-by dynamic details, including the current guidance object and current point.	<a href="#">page 21</a>
VisualLinks	Specifies a link on the <i>Plan View Map</i> real-time display between a vessel offset and a GO point.	<a href="#">page 22</a>

Table 1.8 Event Configuration tables

Table Name	Description	See ...
Events	Configured Events.	<a href="#">page 22</a>
EventActions	Configured Event Actions.	<a href="#">page 22</a>

Table 1.9 Decoded Service tables

Table Name	Description	See ...
DecodedGPSTime	Decoded GPS Time.	<a href="#">page 25</a>
DecodedGPSPosition	Decoded GPS Position.	<a href="#">page 25</a>
DecodedGPSVelocity	Decoded GPS Velocity.	<a href="#">page 26</a>
DecodedGPSStatus	Decoded GPS Status.	<a href="#">page 26</a>
DecodedGPSDiffStatus	Decoded GPS Differential Status.	<a href="#">page 27</a>
DecodedGPSErrorEllipse	Decoded GPS Error Ellipse.	<a href="#">page 28</a>
DecodedGPSSatelliteInfo	Decoded GPS Satellite Information.	<a href="#">page 28</a>
DecodedNEEPosition	Decoded NEE Position.	<a href="#">page 29</a>
DecodedObserver	Decoded Position Observer.	<a href="#">page 29</a>
DecodedHeading	Decoded Heading.	<a href="#">page 30</a>
DecodedAttitude	Decoded Attitude (Pitch and Roll).	<a href="#">page 30</a>
DecodedHeave	Decoded Heave.	<a href="#">page 31</a>
DecodedDepth	Decoded Echo Sounder Depth.	<a href="#">page 31</a>

Table 1.9 Decoded Service tables (Continued)

Table Name	Description	See ...
DecodedDigital	Decoded Digital.	<a href="#">page 32</a>
DecodedTideLevel	Decoded Tide Level.	<a href="#">page 32</a>
DecodedUserNumber	Decoded User Number.	<a href="#">page 32</a>
DecodedUserText	Decoded User Text.	<a href="#">page 33</a>
ASTtoGPSTimeOffset	Accurate System Time to GPS time offset.	<a href="#">page 33</a>

Table 1.10 Survey tables

Table Name	Description	See ...
SurveyRange	Records each survey and its time-range.	<a href="#">page 34</a>
SurveyOnLineStatus	Records timestamp of each on-line and off-line command.	<a href="#">page 34</a>
Journal	Journal table contains alarms and user-entered notes.	<a href="#">page 34</a>
SurveyEventData	Contains event data generated during the survey.	<a href="#">page 34</a>
SurveyCurrentSteerby	Tracks which steer-by association is selected as the project's current steer-by.	<a href="#">page 35</a>

Table 1.11 Color Binning tables

Table Name	Description	See ...
ColorBinningColorPalette	Stores actual/design and delta color information in association with the ColorBinningColorMap table.	<a href="#">page 38</a>
ColorBinningColorMap	Stores color range interval value and COLORREF at that value.	<a href="#">page 38</a>
ColorBinningUpdates	Stores all configurations from the Updates dialog.	<a href="#">page 39</a>
ColorBinningWorkArea	Stores basic configuration of work areas.	<a href="#">page 39</a>
WorkAreaNextId	Next ID for WorkAreaId in ColorBinningWorkArea table.	<a href="#">page 40</a>
ColorBinningWorkAreaCell	Stores bin data for a work area.	<a href="#">page 40</a>
WorkAreaCellNextId	Next ID for Cell in ColorBinningWorkAreaCell table.	<a href="#">page 40</a>
ColorBinningCurrentWorkArea	Reference to ColorBinningWorkArea table of current work area.	<a href="#">page 40</a>
ColorBinningCellChange	Temporary table, which lists all cells that have been subject to an update in a swath situation.	<a href="#">page 41</a>
ColorBinningMergeTemp	Temporary table that identifies candidates for an infill/swath update.	<a href="#">page 41</a>

Table 1.12 Output Format/Real-Time Report Configuration tables

Table Name	Description	See ...
OutputFormats	Defines the internal identifiers and user-configured names for output formats.	<a href="#">page 35</a>
OutputFormatFields	Defines the fields within the output format.	<a href="#">page 36</a>
RealTimeReports	Defines the configuration for each Real-Time report.	<a href="#">page 37</a>

Table 1.13 Final Position Monitor tables

Table Name	Description	See ...
FPMSession	Final Position Monitor.	<a href="#">page 38</a>

## Table Definitions

### Data types

The table definitions use the following data types:

- IdInt – Four byte integer. All record identifiers use four byte long integers. Zero is reserved as the Undefined Id (kUndefinedId). In general, record identifiers begin at one.
- Int – Integer. Two or four byte integer. Size depends on requirements and implementation.
- Enum – Enumeration. Size depends on implementation.
- Boolean – True or False (Yes or No).
- Double – Double precision floating point.
- Single – Single precision floating point.
- Text – Textual data.
- AccurateTime – Double value used to store time. Accurate to at least milliseconds.
- Binary – Binary byte buffer.

The following sections describe each project database table, and list the fields that each contains.

### DatabaseVersion

Created on project creation, with one row.

Field	Description
Version	The HYDROpro database version number.

### General Store

Stores general user configuration information for various settings specific to the HYDROpro project.

Field	Description
Store Type	Internal ID. Identifies a set of configuration values used by the HYDROpro software.
Setting Bytes	Binary data. Stores configuration information for the configuration specified in the Store Type field.

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## DisplayFrames

Created on project creation, with one default row for the “primary” display frame.

Field	Description
FrameId	32-bit Int. A unique identifier for the Display Frame. Read-only.
Sequence	Display frame browse sequence.
Name	Text. Display Frame name. The default frame name is “Frame”. Uniqueness is not enforced.
Selected	Boolean. 1 == “selected”, 0 == “not selected”. Only one Display Frame can be selected at a time.

## Displays

Created on project creation, with no rows.

Field	Description
FrameName	Display frame name as defined in DisplayFrames table.
TypeId	Internal reference number for that type of display. Equipment Monitor (0), Vessel Monitor (1), Guidance Monitor (2), Plan View Map (3), Offline Bar (4), Echo Sounder Trace (5), Survey Text (6).
Placement	Location of the display (binary data record).
Version	The display settings version.
Settings	Settings used in the display's properties dialog (binary data record).

## DisplaysList

Created on project creation, with no rows.

Field	Description
TypeId	Internal reference number for that type of display. Equipment Monitor (0), Vessel Monitor (1), Guidance Monitor (2), Plan View Map (3), Offline Bar (4), Echo Sounder Trace (5), Survey Text (6).
Version	The display settings version.
Settings	Display settings (binary data record).

## ProjectDetails

Created on project creation, with one row, set to default settings.

Field	Description
ProjectRef	Text entered in the <i>Reference</i> field of the <i>Project Details</i> tab.
Description	Text entered in the <i>Description</i> field of the <i>Project Details</i> tab.
Company	Text entered in the <i>Company</i> field of the <i>Project Details</i> tab.
Surveyor	Text entered in the <i>Surveyor</i> field of the <i>Project Details</i> tab.
Operator	Text entered in the <i>Operator</i> field of the <i>Project Details</i> tab.
Client	Text entered in the <i>Client</i> field of the <i>Project Details</i> tab.



Field	Description
Location	Text entered in the <i>Location</i> field of the <i>Project Details</i> tab.
Date	Text entered in the <i>Date</i> field of the <i>Project Details</i> tab.

## DisplayUnits

Created on project creation, with one default row for each TypeID.

Field	Description
TypeID	ID number of the unit type. Distance (0), Coordinates (1), Elevation (2), Depth (3), Heave (4), Velocity (5), Angle (6), Lat/Long (7), Duration (8), Stationing (9), Tide (10), Time (11), User (12).
Units	Unit set. Available units depend on the TypeID <sup>1</sup> .
DecimalPlaces	Number of decimal places to be displayed.
FillPlaces	Fill decimal places with trailing zeros? 0 = No, 1 = Yes.
ShowUnits	Show unit symbols? 0 = No, 1 = Yes.

<sup>1</sup>For all unit types the units are as follows: 0 = Metres, 1 = International feet, 2 = Inches, 4 = Kilometres, 5 = Miles, 6 = Nautical miles, 7 = US survey feet, 12 = Centimetres. Exceptions to this list are: Velocity Unit type: 0 = Metres/sec, 1 = Feet/sec, 2 = Km/h, 3 = Mph, 4 = Knots; Angle or Lat/Long Unit type: 0 = DD MM SS.ss, 1 = DD MM.mm, 2 = DD.dd; Duration Unit type: 1 = Milliseconds, 2 = Seconds, 3 = Minutes, 4 = Hours.

## DisplayFormats

Created on project creation, with one default row.

Field	Description
CoordinateType	Coordinate type to be displayed. 0 = NEE, 1 = Local LLH, 2 = WGS LLH.
CoordinateOrder	Order coordinates are to be displayed. 0 = North East, 1 = East North.
TimeFrame	The current time frame setting. 0 = Local time, 1 = Accurate System Time, 2 = GPS, 3 = UTC.
TimeFormat	Time display parameters.
DateFormat	Date display parameters.

## Timestamping

Many of the following tables start with *TimeStamp* and *Change* fields. Their purpose is to track configuration changes over time. While the HYDRO*pro* software is only interested in the latest configuration information in real-time, it is important to retain a history of configuration changes that may be relevant to the collected survey data.

During any offline time period, only the latest configuration changes are recorded. That is, previous ones are replaced. The *SurveyOnLineStatus* table records the online and offline times.

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The *TimeStamp* field records the Accurate System Time (AST) of when each row in the table became effective.

The *Change* field describes how each row has been changed. It has three possible values: Add, Edit, and Remove.

## GlobalSettings

Created on project creation, with one default row.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of changes made. 0 = Add, 1 = Edit.
IsCurrent	Is a currently used setting? 0 = No, 1 = Yes.
MagneticVariation	Magnetic variation setting.

## CoordinateSystem

Created on project creation, with no default row.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of changes made. 0 = Add, 1 = Edit.
IsCurrent	Is a currently used setting? 0 = No, 1 = Yes.
System	Coordinate system name.
Zone	Coordinate system zone.
Site	Site name.
CSIB	Coordinate System Interface Block (binary data record).

## MasterServices

Created on project creation. Default row added as soon as possible.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of changes made. 0 = Add, 1 = Edit.
IsCurrent	Is a currently used setting? 0 = No, 1 = Yes.
GPSTimeCSId	Internal reference ID number assigned to the GPSTime service selected to be the Master Time service.
TideCSId	Internal reference ID number assigned to the Tide service selected to be the Master Tide service.

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## Vessels

Created on project creation, with no rows.

Field	Name
TimeStamp	Timestamp for tracking user changes.
Change	Type of changes made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is a currently used setting? 0 = No, 1 = Yes.
VesselId	Internally assigned vessel ID number.
VesselName	User-defined vessel name.
VesselNumber	User-defined vessel ID number.
VesselLength	Vessel length. For use with Tanker Berthing.
VesselDisplacement	Vessel displacement. For use with Tanker Berthing.
ShapeState	Used by Tanker Berthing to determine whether the shape and offsets are currently in their Port or Starboard state. 0 = As Designed (port), 1 = Reflected About Y (starboard).
HasShape	Does the vessel have a shape? 0 = No, 1 = Yes.

## VesselShapeLines

Created on project creation, with no rows.

Field	Description
VesselId	Internally assigned vessel ID number.
StartX, StartY, and StartZ	Start of shape line X, Y, or Z coordinate, on the vessel's design grid. Value is in metres.
EndX, EndY, and EndZ	End of shape line X, Y, or Z coordinate, on the vessel's design grid. Value is in metres.

## VesselShapeProperties

Created on project creation, with no rows.

Field	Description
VesselId	Internally assigned vessel ID number.
NameVisible	Is the name of this vessel visible in the displays? 0 = No, 1 = Yes.
NumberVisible	Is the number of this vessel visible in the displays? 0 = No, 1 = Yes.
MinDisplaySize	Minimum display size.
LineColor	Colour of vessel shape lines. Black (0), Brown (4194432), Green (32768), Olive (4227200), Navy (8388608), Purple (8388736), Teal (8421440), Silver (12632256), Grey (8421504), Red (255), Lime (65280), Yellow (65535), Blue (16711680), Fuschia (16711935), Aqua (16776960), White (16777215).
LineStyle	Style of vessel shape lines. Normal (0), Dashed (1), Dotted (2), Bold (3).

Field	Description
FillColor	Fill colour of vessel shape.
FillDensity	Fill density of vessel shape.

## VesselOffsets

Created on project creation, with no rows.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
VesselId	Internally assigned vessel ID number.
OffsetId	Internally assigned offset ID number.
OffsetName	User-defined offset Name.
OffsetX, OffsetY, and OffsetZ	Offset's X, Y, or Z coordinate, on vessel design grid. Value is metres.
RakeDirection	Double. Pile rake direction.
RakeAngle	Double. Pile rake angle.

## VesselOffsetProperties

Created on project creation, with no rows.

Field	Description
VesselId	Internally assigned vessel ID number.
OffsetId	Internally assigned vessel offset ID number.
SymbolId	Display symbol used to represent this offset. Dot (0), Cross (1), Circle (2), Square (3), Triangle (4), Diamond (5).
SymbolColor	Display colour of offset symbol. Black (0), Brown (4194432), Green (32768), Olive (4227200), Navy (8388608), Purple (8388736), Teal (8421440), Silver (12632256), Grey (8421504), Red (255), Lime (65280), Yellow (65535), Blue (16711680), Fushcia (16711935), Aqua (16776960), White (16777215).
SymbolVisible	Is this offset symbol visible in the displays? 0 = No, 1 = Yes.
NameVisible	Is this offset name visible in the displays? 0 = No, 1 = Yes.

## VesselDynamics

Created on project creation. A default row is added for each added vessel.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this the currently used setting? 0 = No, 1 = Yes.

Field	Description
VesselId	Internally assigned vessel ID number.
UseEstimation	Is position estimation enabled? 0 = No, 1 = Yes.
UseGPSVelocity	Use GPS velocity? 0 = No, 1 = Yes.
MasterPosition	Which position service (if any) is set to backup position? Primary (0), Secondary (1), None (-1).
BackupPosition	Which position service (if any) is set to backup position? Primary (0), Secondary (1), None (-1).
MasterHeading	Which heading service (if any) is set to master heading? Primary (0), Secondary (1), None (-1).
BackupHeading	Which heading service (if any) is set to backup heading? Primary (0), Secondary (1), None (-1).
MasterAttitude	Which attitude service (if any) is set to master attitude? Primary (0), Secondary (1), None (-1).
BackupAttitude	Which attitude service (if any) is set to backup attitude? Primary (0), Secondary (1), None (-1).
MasterHeave	Which heave service (if any) is set to master heave? Primary (0), Secondary (1), None (-1).
BackupHeave	Which heave service (if any) is set to backup heave? Primary (0), Secondary (1), None (-1).
DualPosHeading	Current Dual Pos Heading selection. Do not use (0), Use if no heading (1), Use instead of input heading (2).
NoHeadingUseTrack	Will TMG be used when no other heading input? 0 = No, 1 = Yes.
MovingRange	Moving range time span setting. Value is in seconds.
StationaryGate	Stationary gate setting. Value is in metres/second.
VelocityGate	Velocity gate setting. Value is in metres/second.
RLDatumOffset	Reduced level datum offset setting. Value is in metres.
RLCalcMethod	The current method selected to calculate the reduced levels. Position Elevation (1), Datum Offset (2), Datum Offset with Tide (3), Datum Offset with Heave(4), Datum Offset with Tide and Heave (5).

## Equipment

Created on project creation, with no rows.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
EquipConfigId	Internal reference ID number assigned to that particular configured service or service group. <b>Note</b> – The difference between this and CSID is a service group (for example, <GPS>) is assigned a single EquipConfigID whereas all the component services will have different CSIDs.
LabelText	Equipment configuration name.
EquipHandlerId	Equipment handler ID number.

Field	Description
EquipHandlerName	Name of the equipment handler configured.
EquipVersion	Equipment handler version number.
MainService	Main service name (the service name that appears in the Main service column in the <i>Equipment Configuration</i> dialog).
Active	Is this service active? 0 =No, 1 = Yes.

## EquipProperties

Created on project creation, with no rows.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
EquipConfigId	Internal reference ID number assigned to that particular configured service or service group.  <b>Note</b> – The difference between the Internal reference ID number and CSID is that a service group (for example, <GPS>) is assigned a single EquipConfigID, whereas all the component services will have different CSIDs.
Custom	Custom properties set (binary data record).
Vector3D	Is a 3D vector supported? 0 = No, 1 = Yes.
ObservationType	Observation data format. 0 = 2D Polar, 1 = 3D Polar, 2 = Cartesian.
ObsBearingType	Observer bearing type configured. 0 = Vessel, 1 = Magnetic, 2 = True, 3 = Grid.
ObsElevationType	Observer elevation type configured. 0 = Relative to observer's offset, 1 = Positive above observer's origin, 2 = positive below observer's origin.
HeadingType	Heading type configured. 0 = Magnetic, 1 = True, 2 = Grid.
AttitudeType	Attitude data format. 0 = Pitch only, 1 = Roll only, 2 = Pitch and Roll.
DepthType	Where depth is valid from. 0 = Depth below transducer, 1 = Depth below surface.

## EquipPortSettings

Created on project creation, with no rows.

Field	Description
EquipConfigId	Internal reference ID number assigned to that particular configured service or service group.  <b>Note</b> – The difference between this and CSID is that a service group (for example, <GPS>) is assigned a single EquipConfigID whereas all the component services will have different CSIDs.
PortId	Internal port ID number for this port configuration.
PortName	Name of port. For example, COM2.

Field	Description
BaudRate	Baud rate set.
DataBits	Data bits set.
Parity	Parity set. None (0), Odd (1), Even (2), Mark (3), Space (4).
StopBits	Stop bits set. 0 (1), 1 (1.5), 2 (2).
LogRawData	Log raw data option set. When online (0), When event logging on (1), Never (2).
RawDataDir	Directory set for the raw data to be logged to.

## EquipServices

Created on project creation, with no rows.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
EquipConfigId	Internal reference ID number assigned to that particular configured service or service group. <b>Note</b> – The difference between this and CSID is that a service group (for example, <GPS>) is assigned a single EquipConfigID whereas all the component services will have different CSIDs.
ServiceId	Internal ID defining that service type. GPS Time (1), GPS Position (2), GPS Velocity (3), GPS Status (4), GPS Diff Status (5), GPS Error Ellipse (6), GPS Satellite Info (7), NEE Position (8), Heading (10), Attitude (11), Heave (12), Echo sounder (13), Digital (14), Tide (16), User number (17), User text (18), Observer (9) with each observed offset starting from (65280).
DataSource	Data source number assigned to that service
VesselId	Internally assigned vessel ID number (where this service is located).
OffsetId	Internally assigned offset ID number (where this service is located).
Function	Configured function this service has be set as. Primary (0), Secondary (1), None (-1).
DataName	User-defined data name (optional).

## EquipServiceProperties

Created on project creation, with no rows.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
LatencyConst	Latency constant set. Value is in seconds.
TimeoutPeriod	Timeout period of the service. Value is in seconds.
TimingPreference	Timing preference set. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimingAdjust	GPS timestamp, timing adjustment set. Value is in seconds.
HardTimingAdjust	Hardware timing adjustment set. Value is in seconds.
VarTimingAdjust	Variable latency timing adjustment. Value is in seconds.
LogDecodedData	Log decoded data? Always (0), On packet int (1), On time int (2), Never (3).
PacketInterval	Packet interval.
TimeInterval	Time interval. Value is in seconds.
LogWhen	Decoded data logging option selected. On-line (0), Event logging on (1).

## EquipServiceCalibration

Created on project creation, with no rows.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
Orientation	Applies to Observer and Heading services. Value is in radians.
PitchAdjust	Applies to Attitude service. Value is in radians.
RollAdjust	Applies to Attitude service. Value is in radians.
ScaleFactor	Applies to User Number service.
Constant	Applies to User Number service.
ApplyHeight	Apply the offset height in the RTK tide calculation. 0 = No, 1 = Yes.
DatumOffset	The value of the WGS-84 ellipsoid to Tide Datum offset. Value is in metres.



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## EquipObservedOffsets

Created on project creation, with no rows.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
ObservedCSId	Observed Configured Service ID.
ObserverCSId	Observer Configured Service ID.
ObservationId	Observation Identifier.

## GuidanceObjectGroups

This table defines guidance object groups and their sequence within a project. Each group record contains properties that apply to all of its guidance objects and points.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
GroupId	Internal reference ID number assigned to the group.
GroupName	User-defined name for the group.
SeqInProject	The sequence number assigned to the group, by default this is the order in which the groups are added. The sequence in which the groups will be surveyed.
UseForGuidance	Will this group be used for guidance? 0 = No, 1 = Yes.

## GuidanceObjects

This table defines guidance objects. The GuidanceObjectSequence table relates them to groups.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
GOLD	Internal reference ID number assigned to the guidance objects.
GOName	User-defined name for the group.
StartDistance	Starting route distance at first point in object. Can be negative. Value is in metres.
Status	Future use TBD. 0 = Okay.
LimitLeft	Limit for the left (port) side of GO segments. Runs parallel to the line and arc segments. Value is in metres.
LimitRight	Limit for the right (starboard) side of GO segments. Runs parallel to the line and arc segments. Value is in metres.
LimitsVisible	Are the limits visible? 0 = No, 1 = Yes.

Field	Description
ClosedFillIn	If GO is a closed shape then flood fill inside it. 0 = No, 1 = Yes.
ClosedFillOut	If GO is a closed shape then flood fill outside it. 0 = No, 1 = Yes.
ClosedFillColor	One of sixteen colours.
ClosedFillPattern	Fill densities (10%, 20%, and so forth).

## GuidanceObjectPoints

This table defines guidance object points, and their sequence within a guidance object.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
PointId	Internal reference ID number assigned to the point.
GOLD	Internal reference ID number assigned to the guidance object.
SeqInGO	The sequence within a GO in which the points will be surveyed. By default, this is the order in which the points are added. Each point has a unique sequence number within its guidance object, but point sequence numbers can be reused across objects. They start at one, then increment by one and renumber automatically.
PointName	User-defined name for the point.
WGSLat	Latitude on WGS-84 ellipsoid. Value is in radians.
WGSLong	Longitude on WGS-84 ellipsoid. Value is in radians.
WGSHeight	Height above WGS-84 ellipsoid. Value is in metres.
Status	Status of the GO. 0 = None, 1 = Surveyed, 2 = Up, 3 = Down.
SymbolId	Identifier of symbol to be displayed for the point.
SymbolVisible	Is the symbol visible? 0 = No, 1 = Yes.
SymbolColour	As designed (-1) or as other specified colour.
SymbolSize	Size defined in pixel coordinates. 0.5 = half size, 2 = double size, and so forth.
ToleranceRadius	Tolerance radius. Value is in metres.
ToleranceVisible	Is the tolerance radius visible? 0 = No, 1 = Yes.
DrawOperation	Defines when and how a line or arc is drawn from this point to the next point. For the last point in a guidance object, the line or arc is drawn to the first point. For the only point in a GO, an arc left is drawn as a circle with its centre at 270 degrees to the point, while an arc right is drawn as a circle with its centre at 90 degrees to the point. 1 = Line, 2 = Arc Left, 3 = Big Arc Left, 4 = Arc Right, 5 = Big Arc Right, 0 = Pen Up.
ArcRadius	Radius in radians, when Draw Operation is one of the Arcs. Arc right means that the arc turns to the right, with the centre of curvature to the right.

Field	Description
DrawColor	One of sixteen colours.
DrawStyle	Normal, Dashed, Dotted.
DrawWidth	Short.
DesignHeading	Grid heading of point in Radians.
DesignPitch	Point Pitch in Radians.
DesignRoll	Point Roll in Radians.

## GuidanceObjectSequence

This table relates groups to guidance objects. A group can contain a sequence of many guidance objects, and a guidance object can be in many groups. Only the latest information is retained in this table—changes are not tracked with timestamps.

Field	Description
GroupId	Internal reference ID number assigned to the group.
GOId	Internal reference ID number assigned to the guidance object.
SeqInGroup	The sequence within a group in which the GOs will be surveyed. By default, this is the order in which the GOs are added. Each GO has a unique sequence number within its group, but point sequence numbers can be reused across groups. They start at one, then increment by one and renumber automatically.

## GuidanceObjectGroupProperties

This table defines guidance object group properties. Each group record contains properties that apply to all of its guidance objects and points.

Field	Description
GroupId	Internal reference ID number assigned to the group.
CoordinateType	Display setting for the GO point coordinates. 0 = NEE, 1 = Local LLH, 2 = WGS LLH. <b>Note</b> – The point coordinates are always stored as LLH values on the WGS-84 ellipsoid.
StartScale	Starting scale of the graphical display in the GO editor.
StartOriginLatitude	Starting origin latitude (WGS-84) of the graphical display in the GO editor.
StartOriginLongitude	Starting origin longitude (WGS-84) of the graphical display in the GO editor.
StartOriginHeight	Starting origin height (WGS-84) of the graphical display in the GO editor.
GOAnnType	GO annotation type to be used. 0 = None, 1 = Name, 2 = Sequence, 3 = Name and Sequence.
GOAnnPlacement	Placement of the GO annotation. 0 = Start of Object, 1 = End of Object, 2 = Both Ends.
GOAnnOrientType	Alignment method to be used for the GO annotation. 0 = Manual angle, 1 = Aligned along the GO.

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GOAnnManOrient	Used when <i>LineAnnOrientType</i> is <i>Manual</i> . The manual angle to be used (value is in radians).
GOAnnFont	Font type to be used for the GO annotation.
GOAnnStyle	Font style to be used for the GO annotation.
GOAnnSize	Font size to be used for the GO annotation.
GOAnnColor	Colour to be used for the GO annotation.
LimitLeftLineColor	One of sixteen colours.
LimitRightLineColor	One of sixteen colours.
LimitLineStyle	Normal, Dashed, or Dotted.
LimitLineWidth	Short.
LimitFillInside	Fill between limits and GO? 0 = No, 1 = Yes.
LimitLeftFillColor	One of sixteen colours.
LimitRightFillColor	One of sixteen colours.
LimitFillPattern	Fill density of Limit region.
PointAnnType	Point annotation type. 0 = None, 1 = Name, 2 = Sequence, 3 = Name and Sequence.
PointAnnPlacement	Placement of the point annotation. 0 = Above, 1 = Below, 2 = Before, 3 = After.
PointAnnOrientType	Alignment method to be used for the point annotation. 0 = Manual angle, 1 = Aligned along the GO.
PointAnnManOrient	Used when <i>PointAnnOrientType</i> is <i>Manual</i> . The angle to be used (value is in radians).
PointAnnFont	Font type to be used for the Point annotation.
PointAnnStyle	Font style to be used for the Point annotation.
PointAnnSize	Font size to be used for the Point annotation.
PointAnnColor	Colour to be used for the Point annotation.
ToleranceLineColor	One of sixteen colours.
ToleranceLineStyle	Normal, Dashed, Dotted.
ToleranceLineWidth	Short.
ToleranceFillInside	Fill inside tolerance? 0 = No, 1 = Yes.
ToleranceFillColor	One of sixteen colours.
ToleranceFillPattern	Fill density of Tolerance region.

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## SteerbyConfiguration

The SteerbyConfiguration table is defined below.

Field	Description
TimeStamp	Timestamp (AST) for tracking user changes to the Steer-by Configuration.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
SteerbyId	Internal reference ID number assigned to the steer-by.
SteerbyName	The name of the Steer-by association. The system supplies a default name based on the vessel and offset names.

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Field	Description
VesselId	Internally assigned vessel ID number.
OffsetId	Internally assigned offset ID number.
VisualKey	Visual Key for displaying the current guidance object point and line segment. As Designed (0), Highlight (1), Vessel Color (2), Offset Color (3), SpecifiedColor (4), Bullseye (5).
VisualLink	Any combination of the following bits: Bit 0 = To current point. Bit 1 = To next point. Bit 2 = To line (if segment exists).
SpecifiedColor	When <i>VisualKey</i> = <i>SpecifiedColor</i> , this field specifies the colour. One of sixteen.
LinkLineStyle	Normal, Dashed, Dotted.
LinkLineWidth	Short.
PointChangeMode	Point Change Mode within the current guidance object: Manual (0), Closest Point (1), Closest Line (2), In Tolerance (3), Out of Tolerance (4), End of Current Line (5), Start of Next Line (6).
NextPriorWhat	This setting determines the behavior of the <i>Next</i> and <i>Prior</i> commands by defining the guidance mode. Guidance Object (0), Segment (1), Point (2).
AutoReverselsMode	0 = Off, 1 = Auto On Select, 2 = Auto On Direction. When set to Auto On Select, the <i>Forward</i> field in the <i>Steer-by Association</i> dialog is automatically set when the GO is changed, so that the end closest to the steer-by offset is the Start of GO. When set to Auto On Direction, the <i>Forward</i> field is automatically set depending on the direction of travel of the vessel's steer-by offset relative to the GO just selected.
JumpBy	The increment for <i>Next</i> and <i>Prior</i> commands. For example, 2 would jump to every second point.

## SteerbyDynamics

The SteerbyDynamics table is defined below.

Field	Description
TimeStamp	Timestamp (AST) for tracking user changes to the Steer-by IDs.
Change	Tracks what changes are made to the Steer-by IDs. Add (0), Edit (1), Remove (2).
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
SteerbyId	Internal reference ID number assigned to the steer-by.
GOGroupId	Internal reference ID number assigned to the group.
GOId	Internal reference ID number assigned to the guidance object.
CurrentPointId	Internal reference ID number of the current point in the guidance object.

Field	Description
NextPointId	Internal reference ID number of the next point in the guidance object. It may or may not exist. If it does not exist, it is set to -1.
IsForward	Direction the guidance object is being run. Forward equates to increasing point sequence. Is the GO being run in the Forward direction? 0 = No, 1 = Yes.

## VisualLinks

The VisualLinks table is defined below.

Field	Description
VisualLinkId	Unique internal visual link identification number.
VisualLinkName	Unique name for visual link. This can be user-defined.
FromVesselId	The vessel ID that the visual link is drawn from.
FromOffsetId	The offset ID that the visual link is drawn from.
ToGOPointId	The GO point ID that the visual link is drawn to.
ToVesselId	The vessel ID that the visual link is drawn to.
ToOffsetId	The offset ID that the visual link is drawn to.
AnnotationPos	Not implemented yet.
ColorKey	Colour of visual link. 0 = VesselColor, 1 = OffsetColor, 2 = SpecifiedColor.
SpecifiedColor	If specified colour is selected then will use colour specified here.
LinkLineStyle	Normal, Dashed, Dotted.
LinkLineWidth	Short.
LinkVisible	0 = Always, 1 = Point status.
DependentStatus	If the point status is selected, then link will be visible as specified. 0 = None, 1 = Surveyed, 2 = Up, 3 = Down.

## Events

Created on project creation.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
EventConfigId	Internal reference ID number assigned to that particular configured event.

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Category	<p>Specifies both the category (hundreds) and the sub-category (units).  Categories: 000 = Interval, 100 = User, 200 = Log State, 300 = Guidance Object, 400 = Digital.  Interval sub-categories: 0 = Time from Log On, 1 = Time from Start of GO, 2 = Distance from Log On, 3 = Distance from Start of GO, 4 = Position from Online, 5 = Position from Log On.  User sub-categories: 0 = User event 1, 1 = User event 2.  Log State sub-categories: 0 = Log On, 1 = Log Off.  Guidance Object sub-categories: 0 = At Start of GO, 1 = At End of GO, 2 = At Waypoint, 3 = At Start of Leg, 4 = At End of Leg, 5 = At Start of Segment, 6 = At End of Segment.  Digital sub-categories: 0 = Not Specified, 1 = Activate, 2 = Deactivate, 3 = Any.</p>
LongEventName	Full textual name of the event.
ShortEventName	Abbreviated textual name of the event.
Active	Is this event active? 0 = No, 1 = Yes.
EventCodeType	0 = One Sequence, 1 = Same sequence per GO.
StartEventCode	Alphanumeric start of GO event code.
NextEventCode	Alphanumeric auto-incrementing event code.
PrependGOName	0 = No, 1 = Yes.
Increment	Increment value for the Next Event Code.
SymbolId	Symbol ID to be used for the event.
Indicator	Indicator to indicate event has occurred. 0 = None, 1 = Beep.
SteerbyId	Steer-by identifier to be used for the event.
Interval – Double	Time, distance, or position interval. For position events, it is a unitless integer value in the range 1...max int.
EarlyEventMode	Early event mode. 0 = Duration, 1 = Distance.
EarlyEventAdjust	Currently is = 0.0.
EventAtStart	Event at log on/start of guidance object? 0 = No, 1 = Yes.
EventAtEnd	Event at log off/end of guidance object? 0 = No, 1 = Yes.
LeadinEvents	Events before start of GO? 0 = No, 1 = Yes.
RunOut	Currently is 0.0.
OccursOutOfLimits	Events occur out of GO limits? 0 = No, 1 = Yes.
AllowRerun	Allow distance events on GO to be rerun automatically? 0 = No, 1 = Yes.
NextEventMark	Currently is set to null.
CSId	Internal reference number assigned to the Digital service used by Digital event.

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## EventActions

Created on project creation. This table is independent of the user interface.

Field	Description
TimeStamp	Timestamp for tracking user changes.
Change	Type of change made. 0 = Add, 1 = Edit, 2 = Remove.
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.

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Field	Description
ActionId	Action to be performed. Log Event Data (0), Annotate Echo Sounder (1), Auto Log On (2), Auto Log Off (3), Auto Toggle Logging (4), Next (5), Prior (6).
Category	Specifies both the category (hundreds) and the sub-category (units). Categories: 000 = Interval, 100 = User, 200 = Log State, 300 = Guidance Object, 400 = Digital. Interval sub-categories: 0 = Time from Log On, 1 = Time from Start of GO, 2 = Distance from Log On, 3 = Distance from Start of GO. User sub-categories: 0 = User event 1, 1 = User event 2. Log State sub-categories: 0 = Log On, 1 = Log Off. Guidance Object sub-categories: 0 = At Start of GO, 1 = At End of GO, 2 = At Waypoint, 3 = At Start of Leg, 4 = At End of Leg, 5 = At Start of Segment, 6 = At End of Segment. Digital sub-categories: 0 = Not Specified, 1 = Activate, 2 = Deactivate, 3 = Any.
EventConfigId	Internal reference ID number assigned to that particular configured event. This may be listed more than once as one event may have many actions.
EventsPerAction	Internal number of owning event occurrences per this action.
VesselId	Internally assigned vessel ID number for the Log Event Data action.
OffsetId	Internally assigned offset ID number for the Log Event Data action.
CSId	Internal reference number assigned for the service specified in the Annotate Echos Sounder or Digital actions.
EquipConfigId	Internal reference ID number assigned to that particular configured echo sounder service or service group for the Annotate Echo Sounder or Digital actions.
DataSource	Echo sounder service Data Source for the Annotate Echo Sounder or Digital actions.
Annototation	Echo Sounder annotation type. GO Name and Date (0), Event Time and Code (1).
SteerbyId	Steer-by identifier used by the Annotate Echo Sounder or steer-by actions.
ReportConfigId	Real-Time Report Configuration identifier used by the Report action.
Message	Text (up to 255 characters) to be used by the Journal action.



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## DecodedGPSTime

This data packet is used in the HYDRO*pro* software for correlating system time with GPS time. For greatest accuracy, it should be accompanied by a hardware timing pulse.

*Note – The computer clocks drift with respect to world time. For GPS Timestamp timing of other data packets, the HYDRO*pro* software will therefore expect periodic GPS Time packets, otherwise a timeout condition for this service will be set by the application. Depending on the computer clock drift, a timeout may affect the latency determination of data, which relies on GPS Timestamp timing.*

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS time of data. For the GPS Time service, this is the GPS Time value.

## DecodedGPSPosition

Latitude, longitude, altitude, and GPS time of data. This data may also be entered manually.

The AltitudeType is recorded for documentation purposes, except that AltNone causes the Altitude to be set to zero before the coordinate is transformed. The coordinate transformations assume that all heights are WGS-84.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
Latitude	WGS-84 ellipsoid latitude position. Value is in radians.
Longitude	WGS-84 ellipsoid longitude position. Value is in radians.
Altitude	GPS Altitude. Value is in metres.

Field	Description
AltitudeType	AltNone (0) – Altitude not available or not valid. AltWGS84 (1) – Height above WGS-84 datum. AltMSLGeoid (2) – Height above MSL geoid. AltConstWGS (3) – Altitude is a constant, user-entered height above WGS-84 datum. AltConstMSL (4) – Altitude is a constant, user-entered height above MSL.
Accuracy	One sigma accuracy value. Zero if not available. Value is in metres.

## DecodedGPSVelocity

The individual components of the velocity vector are ground speed, track, and climb.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
GroundSpeed	Horizontal speed. Value is in metres per second.
Track	Track of the position updates. Value is in radians (on WGS-84 ellipsoid).
Climb	Vertical velocity (perpendicular to the WGS-84 ellipsoid). Value is in metres per second. Zero if not available.

## DecodedGPSStatus

The status values in this packet may not all be received from the GPS equipment at the same time. The equipment handler will buffer certain values, and decide when to send the latest values to the application—generally when one of them changes.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.

Field	Description
Solution	The type of GPS solution of the position. GPS status not available (0), Fixed invalid (1), No GPS time (2), DOP is too high (3), Acquiring satellites (4), Non-differential solution (5), Differential solution (6), Autonomous (7), RTK float solution (8), Code Phase DGPS (9), RTK fixed integer solution (10), SBAS (11), OmniSTAR VBS (12), OmniSTAR XP/HP (13), LocationRTK (14).
AuxStatus	Additional SGPS status information, if available. Aux status not available (0), 2D solution (1), 3D solution (2)
PDOPValue	Position Dilution Of Precision. Zero if not available.
HDOPValue	Horizontal Dilution Of Precision. Zero if not available.
UsedSVs	Number of satellites used in the solution.
SVId1 ... SVId16	List of used satellite IDs supplied by receiver. Zero if not available.

### DecodedGPSDiffStatus

This packet is primarily designed to return the age of the latest differential correction data. It may be sent frequently, whereas GPS Status will only be sent when a status value changes. When an equipment handler offers both this service and GPS Status, you can choose to receive one or the other, or both of them.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
Solution	The type of GPS solution of the position. GPS status not available (0), Fixed invalid (1), No GPS time (2), DOP is too high (3), Acquiring satellites (4), Non-differential solution (5), Differential solution (6), Autonomous (7), RTK float solution (8), Code Phase DGPS (9), RTK fixed integer solution (10), SBAS (11), OmniSTAR VBS (12), OmniSTAR XP/HP (13), LocationRTK (14).
DiffAge	Age of latest differential correction data. Value is in seconds.

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## DecodedGPSErrorEllipse

GPS error ellipse information arrives from Trimble GPS equipment in two different forms: (1) SemiMajor, SemiMinor, and Orientation; and (2) SigmaEast and SigmaNorth.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
EllipseParamA	Error ellipse semi-major axis.
EllipseParamB	Error ellipse semi-minor axis.
Orientation	Error ellipse orientation.
SigmaEast	Sigma east component.
SigmaNorth	Sigma north component.

## DecodedGPSSatelliteInfo

There is one packet of information per satellite. The equipment handler will supply these packets to HYDRO*pro* software as this information is received from the GPS receiver ( for example, NMEA GSV).

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
PrnNumber	Satellite PRN number.
Elevation	Elevation of the satellite above the horizon. Value is in radians.
Azimuth	Azimuth of the satellite. Value is in radians.
SNRL1	Signal-to-noise ratio of the satellite of L1.
SNRL2	Signal-to-noise ratio of the satellite of L2.

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## DecodedNEEPosition

North, East, and Elevation. This data can also be entered manually.

The *GPS Time Tag* field allows multiple vessels to transmit their grid positions to a control vessel. The *HYDROpro* software systems on the vessels may each have non-synchronized system clocks, but this would not matter because GPS could be used for specifying the time of applicability of positions. In this case, all vessels would also need to be receiving GPS Time.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
Northing	Northing on grid. Value is in metres.
Easting	Easting on grid. Value is in metres.
Elevation	Elevation above grid. Value is in metres.
Accuracy	One sigma accuracy value. Zero if not available. Value is in metres.
GPSsolution	The type of GPS solution of the position. GPS status not available (0), Fixed invalid (1), No GPS time (2), DOP is too high (3), Acquiring satellites (4), Non-differential solution (5), Differential solution (6), Autonomous (7), RTK float solution (8), Code Phase DGPS (9), RTK fixed integer solution.

## DecodedObserver

Position Observer of another vessel relative to the observing vessel. This equipment service will be associated to a fixed offset on the observing vessel. A typical use will be ROV positioning. This data may also be entered manually.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
ObservedID	ID of the point being observed.

Field	Description
ObservationA	Polar: Observed bearing to vessel (not oriented), Value is in radians. Cartesian: Delta X relative to vessel centreline. Value is in metres.
ObservationB	Polar: Horizontal distance to vessel. Value is in metres. Cartesian: Delta Y relative to vessel centreline. Value is in metres.
ObservationZ	Delta height. Value is in metres.
Accuracy	One sigma accuracy value. Zero if not available. Value is in metres.

### DecodedHeading

Heading from a gyro or compass device. This data may be supplied by a GPS vector device, hence a *GPS Time Tag* field is included. This data may also be entered manually.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
Heading	Magnetic, True, or Grid, as specified in Heading Type (not oriented). Value is in radians.
Quality	0 (unknown) or 1 (bad) to 9 (good).

### DecodedAttitude

This data may be supplied by a GPS vector device, so a *GPS Time Tag* field is included.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
Pitch	Pitch, positive when bow up. Value is in radians.
Roll	Roll, positive when starboard down. Value is in radians.
Quality	0 (unknown) or 1 (bad) to 9 (good).

---

## DecodedHeave

This is the raw heave value from the heave compensator. When the data is processed, heave is subtracted from depth. This data may be supplied by a GPS device, hence a *GPS Time Tag* field is included.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
Heave	Heave. Positive when above datum. Value is in metres.
Quality	0 (unknown) or 1 (bad) to 9 (good).

## DecodedDepth

Single- or dual-frequency echo sounder. These are the actual depth values from the echo sounder—they are not changed in any way. You can also enter this data manually.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
DepthHighHz	Depth, high frequency. Value is in metres.
DepthLowHz	Depth, low frequency. Value is in metres.
Quality	Quality value returned by echo sounder. Values may vary depending on the model.

---

## DecodedDigital

The table contains the signal state as generated by the Fix box.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
SignalState	The positive/negative state of the Fix box.

## DecodedTideLevel

Tide level data from a tide gauge or generated from RTK height information. This data can also be manually entered.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
TideLevel	Tide level. Value is in metres.
Quality	0 (unknown) or 1 (bad) to 9 (good).

## DecodedUserNumber

User-defined numeric data to be stored in the project database. It can be exported for user-defined purposes. You can also enter this data manually.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.



Field	Description
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
UserNumber	The first number contained in the data string.

### DecodedUserText

User-defined textual data to be stored in the project database. It can be exported for user-defined purposes. You can also enter this data manually.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
Latency	Calculated latency of this record. The difference between the TimeOfArrival and TimeOfData fields.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
GPSTimeTag	GPS/UTC time of data, set when available.
UserText	Textual data contained in the string.

### ASTtoGPSOffset

Created on project creation, with no rows.

Field	Description
CSId	Configured Service Identifier. Internal reference number assigned to that particular configured service. In this case it will be the CSID of the time service that has been selected as the master time service. <b>Note</b> – All the individual services that are included in a service group (for example, <GPS>) have unique CSIDs.
TimeOfData	Accurate System Time (AST) of applicability of this data record.
TimingType	Actual timing type used to determine the latency of this record. Constant (0), GPS time (1), Hardware (2), Variable (3).
ASTtoGPSOffset	Current offset between Accurate System Time (AST) and GPS Time. A new record is appended for every millisecond change of this offset.

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## SurveyRange

Created on project creation, with no rows.

Field	Description
StartTime	Timestamp (AST) of start of survey entry.
EndTime	Timestamp (AST) of the end of survey entry. It also doubles as the end of project time when this is the last survey.
SurveyName	User-defined survey name.

## SurveyOnLineStatus

Created on project creation, with no rows.

Field	Description
TimeStamp	Timestamp (AST) of going online or offline.
SurveyOnLine	Is the system online? 0 = No, 1 = Yes.

## Journal

Created on project creation, with no rows.

Field	Description
TimeOfEntry	Timestamp (AST) of the journal entry.
Category	The category of the journal entry determines the tabbed list that the entry is displayed in. Config (0), Status (1), Events (2), Alarms (3), Notes (4), Debug (5).
Message	Textual message or details.

## SurveyEventData

Created on project creation, with no rows. Fields 1–4 (TimeOfEvent, EventConfigId, EventCode, EventSymbolId) are present in all event data records. The next five fields (VesselId, OffsetId, Northing, Easting, and Elevation) are only present when logging an extrapolated NEE offset position that has also been configured.

Field	Description
EventKeyID	Internal reference ID number assigned to the event record. This value is not visible in the HYDROpro software.
TimeOfEvent	Timestamp (AST) of event occurrence.
EventConfigId	Relates this event data record to an event configuration.
EventCode	Textual event code generated from the NextEventCode field of the event configuration.
EventSymbolId	Identifier of the associated event symbol.
VesselId	Vessel identifier of the offset position.
OffsetId	Vessel offset identifier of the offset position.
Northing	Northing value at vessel offset. If estimation is enabled, then this is the extrapolated offset position.

Field	Description
Easting	Easting value at vessel offset. If estimation is enabled, then this is the extrapolated offset position.
Elevation	Elevation value at vessel offset. If estimation is enabled, then this is the extrapolated offset position.
ReducedLevel	Reduced level value of the vessel offset. If estimation is enabled, then this is the extrapolated offset position.
RLCalcReport	Calculation method used to derive the reduced level. Position Elevation (0). Datum Offset + Z (1). Datum Offset + Z + T (2). Datum Offset + Z + H (3). Datum Offset + Z + T + H (4).
PositionDerivation	Service status of the position service used in this event. Timeout (0), Backup (1), Master (2).
PositionCSId	Configured Service Identifier. Internal reference number assigned to the configured position service used in this event.
GPSStatusDerivation	Service status of the GPS status service used in this event. Timeout (0), Backup (1), Master (2).
GPSStatusCSId	Configured Service Identifier. Internal reference number assigned to the configured GPS status service used in this event. If no GPS Status service is configured then this will be zero.

## SurveyCurrentSteerby

Created on project creation, with no rows.

Field	Description
TimeStamp	Timestamp (AST) of current steer-by changes.
Change	Tracks what changes are made to the current steer-by. Add (0), Edit (1), Remove (2).
IsCurrent	Is this a currently used setting? 0 = No, 1 = Yes.
CurrentSteerbyId	Internal reference number assigned to the steer-by selected as the current steer-by.

## OutputFormats

The *OutputFormats* table defines the internal identifiers and user-configured names for output formats.

Field	Description
OutputFormatId	Internally generated reference number of the output format.
OutputFormatName	User-defined unique name for the output format.
ShowTimeoutAs	Indicates the characters to be displayed for timed out data fields. Hash characters (0), Space characters (1), Last good value (2), zero digits (3), Nine digits (4)

Field	Description
ShowDisabledAs	Indicates the characters to be displayed for disabled or dead data fields. Hash characters (0), Space characters (1), Last good value (2), zero digits (3), Nine digits (4)
FormatText	All text that comprises the output format (long binary).

## OutputFormatFields

The OutputFormatFields table defines the fields within the output formats.

Field	Description
OutputFormatId	Internally generated reference number of the output format.
FieldType	Type of field in the output format. Data (0), Parameter (1), Calculated (2), Control Characters (3), Bytes (4), or Checksum (5)
StartIndex	The character index in the text where each field starts. 0 indicates the first character of the format.
Length	The number of characters of the field.
MultiText	Supporting text or bytes for the field. The contents depend on the field type as follows: <ul style="list-style-type: none"> <li>• Data – the source of the data</li> <li>• Calculated – the output delay</li> <li>• Control characters – the control characters to be used</li> <li>• Bytes – the bytes to be used.</li> <li>• Checksum – the checksum format to be used.</li> </ul> Values in this field are stored in long binary format.
Width	The width of the field. A setting of 0 indicates variable width and will fit to the size of the field. For any non zero setting, if the value is wider than the width, the field is filled with the \$ character.
DecimalPlaces	The number of decimal places in the field.
Alignment	The type of alignment required within the field width. Left (0), Center (1), Right (2).
LeadingZeros	Indicates whether the field is to be packed with spaces. Ignored if width is set to 0 or if alignment is set to left. 0 = False, 1 = True.
Scientific	Indicates whether to use scientific (exponential) notation. 0 = False, 1 = True.
IncludeUnits	Indicates whether units are to be included in the field. When selected the units occupy part of the field width. 0 = False, 1 = True
UnitsOrFormat	Depends on the field type. For a list of formats/units, refer to the Units field in the DisplayUnits table ( <a href="#">page 9</a> ).

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## RealTimeReports

The RealTimeReports table defines the configuration of each Real-Time report.

Field	Description
ReportId	Internally generated reference number of the Real-Time report.
ReportName	Unique user-definable name for the real-time report.
CanBeActive	Indicates whether the report is active. When active the ActiveWhen field is used. 0 = Not active, 1 = Active.
ActiveWhen	This field indicates when the report is active. Online (0), Event logging on (1).
DisplayOutput	Indicates whether the report viewer is to be displayed. 0 = No, 1 = Yes.
BodyFormatId, HeaderFormatId, or FooterFormatId	The Output Format ID to use for the body, header, or footer format in the real-time report. Set to 0 if the body format has not been selected or if the selected output format is subsequently deleted.
PageMode	Indicates the page mode of the report. Continuous with header per file (0), Continuous with header per session (1), Paged (2).
PageLength	Maximum number of lines to print on a page, including optional header and footer. Only used when in paged mode.
LeftMarginChars	Indicates the number of space characters to insert at the start of each line.
OutputTrigger	Specifies the triggers to output the reports: <ul style="list-style-type: none"><li>• On Event Only (0) – Output is only driven by Report Event Actions</li><li>• On Time (1) – Output can be driven by Report Event Actions and the specified Output Interval.</li><li>• On Data (2) – Output can be driven by Report Event Actions and a specified main data source.</li></ul>
OutputInterval	The interval of the background output in duration units. Only used when OutputTrigger is set to On Time.
DeviceName	The name of the device to output the report to.
DeviceType	Device type. Serial (0), Parallel (1), File (2).
OverwriteFile	Indicates whether a file with the same name will be overwritten or appended. Only used when DeviceType is set to File. Append (0), Overwrite (1).
BaudRate	Baud rate.
DataBits	Data bits setting.
Parity	Parity setting.
StopBits	Stop bits setting.

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## FPMSession

Created on project creation, with no rows.

Field	Description
SessionId	FPM session identifier. This is an internal value and is not visible in the software.
SessionName	FPM session name based on the steer-by name and the time stamp of stop of the FPM session.
StartTime	Time stamp of start of FPM session in AST.
StopTime	Time stamp of stop of FPM session in AST.
SteerbyId	Steer-by identifier of the steer-by used by the FPM session.

## ColorBinningColorPalette

Stores actual/design and delta color information in association with the ColorBinningColorMap table (see below). Default rows are made in this table in all new and upgraded projects.

Field	Description
PaletteType	Num. 0 for actual/design, 1 for delta, 2 for coverage.
InterpolationMethod	Num. 0 for stepped, 1 for graded.
OutOfRangeColor	Num. COLORREF value.
CoveredColor	Num. COLORREF value.
UncoveredColor	Num. COLORREF value.
RangelsAscending	Num – boolean. True if numerically lowest range extent is displayed at bottom of range. Otherwise, false.
BinValueUnit	Num. Used to store setting from the <i>Unit</i> field in the <i>Colors</i> dialog.

Indexes:

- "[PaletteType] – Primary, Unique, Ascending

## ColorBinningColorMap

This table stores the color range interval value and the ColorRef at that value.

Field	Description
PaletteType	Num. 0 for actual/design, 1 for delta, 2 for coverage. This field provides a link between this table and the ColorBinningColorPalette table.
Value	Num. Decimal values from bottom of range to top of range. One for each "peg" in the Colors dialog.
ColorRef	Num. The COLORREF color value of the color at the peg.

Indexes:

- "[PaletteType] – Ascending

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## ColorBinningUpdates

This table stores all configurations from the *Updates* dialog.

Field	Description
UpdateWhen	Num. 0 for online, 1 for logging.
CoverageVesselId	Num. Vessel ID of vessel selected as coverage vessel.
CoverageOffsetId	Num. Offset ID of vessel offset selected as coverage vessel offset.
BinValueDNASelection	Bin. Binary field. It contains information from dictionary for bin value source.
BinValueDNARequest	Bin. Binary field. It contains information from dictionary for bin value source.
BinValueDNARequestStatus	Bin. Binary field. It contains information from dictionary for bin value source.
BinValuePath	Text field. It contains path into dictionary for selection bin value source item.
FilterUnit	Num. Not currently in use.
FilterMin	Num. Decimal field. Lowest numeric value in filter range.
FilterMax	Num. Decimal field. Highest numerical value in filter range.
Swath	Num. Decimal field. 0 if no swath, otherwise it is a positive number.
ApplyTo	Num. 0 for all work areas, 1 for current only.
FilterFrequency	Num. Use every <i>n</i> th update.
UseFilterRange	Num. 0 for false, 1 for true.
UseFilterFrequency	Num. 0 for false, 1 for true.

Indexes:

- "[CoverageOffsetId] – Ascending
- "[CoverageVesselId] – Ascending

## ColorBinningWorkArea

This table stores basic configuration information for work areas.

Field	Description
WorkAreaID	Num. Unique integer ID.
Name	Text. Work area name.
OriginSouth	Num. Grid coordinate south of work area origin.
OriginWest	Num. Grid coordinate west of work area origin.
Rotation	Num. Radians. Rotation of work area.
XSize	Num. Meters. Width of area.
YSize	Num. Meters. Length of area.
BinSize	Num. Meters. Size of bin.
ConstantZValue	Num. SI unit. Constant design value.

Indexes:

- "[WorkAreaId] – Primary, Unique, Ascending

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## WorkAreaNextId

Stores the next WorkAreaId to be used in the ColorBinningWorkArea table. This table has one row only.

Field	Description
Id	IdInt. Next internal work area identifier.

## ColorBinningWorkAreaCell

This table stores bin data for a work area.

Field	Description
WorkAreaId	Num. Reference to ColorBinningWorkArea table.
CellId	Num. Unique integer ID of a bin.
IndexX	Num. 0 based col index of a bin.
IndexY	Num. 0 based row index of a bin.
DesignZ	Num. Non-constant design value, SI unit.
MinZ	Num. Minimum latest bin value.
MaxZ	Num. Maximum latest bin value.
AverageZ	Num. Average latest bin value.
CountZ	Num. Number of samples used to produce AverageZ. One for each bin value update per bin.
LastZ	Num. Latest bin value update.
LastFlag	Num. 2 for realtime, 4 for imported, 8 for infilled.
Coverage	Num. 0 if not covered, 1 if covered.

Indexes:

- "[WorkAreaId | CellId] – Ascending
- "[WorkAreaId | IndexX | IndexY] – Ascending

## WorkAreaCellNextId

Stores the next CellId to be used in the ColorBinningWorkAreaCell table. This table has one row only.

Field	Description
Id	IdInt. Next internal work area cell identifier.

## ColorBinningCurrentWorkArea

Field	Description
WorkAreaId	Num. Reference to ColorBinningWorkArea table of current work area.

Indexes:

- "[WorkAreaId] – Primary, Unique, Ascending



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## ColorBinningCellChange

This is a temporary table that lists all cells that have been subject to an update in a swath situation.

Field	Description
TimeStamp	Num
UpdateId	Num
CellId	Num
WorkAreaId	Num

Indexes:

- [UpdateId | WorkAreaId | CellId] – Primary, Unique, Ascending

## ColorBinningMergeTemp

This is a temporary table that identifies candidates for an infill/swath update.

Field	Description
Mergeld	Num
IndexX	Num
IndexY	Num
WorkAreaId	Num

Indexes:

- [MergeId] – Ascending

