

# HVF To DAPR Matching

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A very basic tool to help match your HVF to your DAPR

- Metadata
- System Equipment And Software
- System Alignment And Accuracy
- Data Acquisition And Processing
- Data Quality Management
- Appendices
- Approval Sheet

Vessel Offsets And Layback Static And Dynamic Draft System Alignment And Accuracy

☒ Correctors Applied ☐ Correctors Not Applied

Vessel

Hull Number ASV007

Manufacturer Picotech, LTD.

System PicoMBES-120SF

Date 04/20/2018

MRU (Reference Point) to Transducer

X  
0 meters

X Uncertainty  
0.020 meters

Y  
-0.033 meters

Y Uncertainty  
0.020 meters

Z  
0.258 meters

Z Uncertainty  
0.020 meters

X2  
meters

X2 Uncertainty  
meters

Y2  
meters

Y2 Uncertainty  
meters

EchoBoat\_PicoMB\_2018.hvf -

File Edit View Tools Help

Select a time for graphical sensor display: 2018-11-0 00:00

No 3D data available for display

CARIS HIPS and SIPS Vessel Editor

- Draft
- TPU values
- OffSets
- StdDev
- SVP 1
- Waterline Height

	MRU to Trans X ..	MRU to Trans Y ..	MRU to Trans Z ..	Nav to Trans X (...)	Nav to Trans Y (...)	Nav to Trans Z (...)	Trans Roll (deg)
1	0.000	-0.033	0.258	0.000	0.360	0.578	0.000
2							

- DAPR
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☒ Correctors Applied ☐ Correctors Not Applied

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-0.033 meters

Y Uncertainty  
0.020 meters

Z  
0.258 meters

Z Uncertainty  
0.020 meters

X2  
meters

X2 Uncertainty  
meters

Y2  
meters

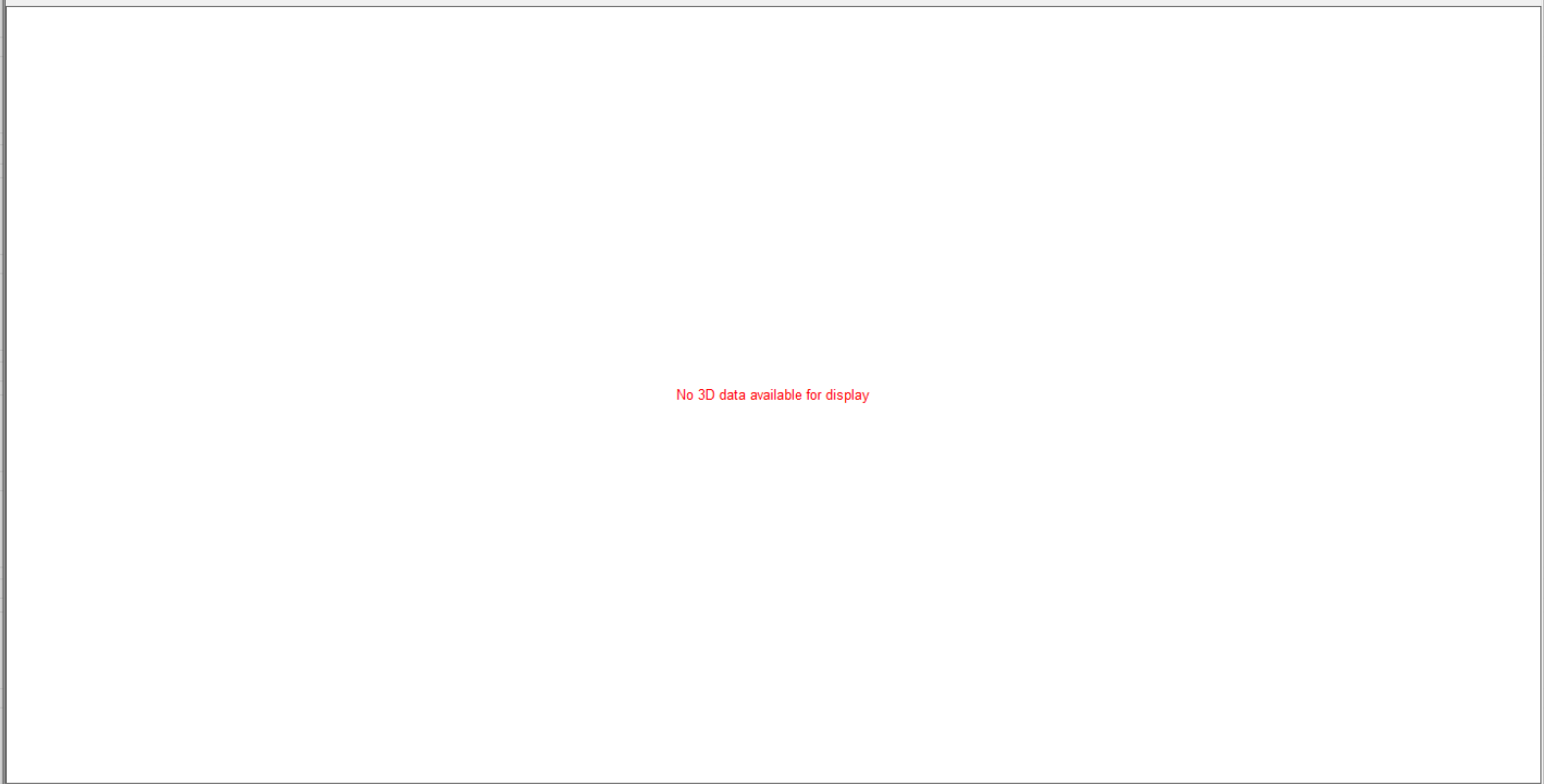
Y2 Uncertainty  
meters

EchoBoat\_PicoMB\_2018.hvf -

File Edit View Tools Help



Select a time for graphical sensor display: 2018-110 00:00



No 3D data available for display

CARIS HIPS and SIPS Vessel Editor

- Draft
- TPU values
  - Offsets
  - StdDev
- SVP 1
- Waterline Height

		Nav timing (s)	Gyro Timing (s)	Heave Timing (s)	Pitch Timing (s)	Roll Timing (s)	Offset X (m)	Offset Y (m)	Offset Z (m)	Vessel Speed (m...)	Loading (m)	Draft (m)	Delta Draft (m)	lv
1		0.010	0.010	0.010	0.010	0.010	0.020	0.020	0.020	0.400	0.001	0.001	0.010	2.
2														

FileWindowHelp

Data Acq Processing Report schema vers.2019\_01D:\S-E904-BH2-18\_West and Rhode Rivers\F00691\Processed\Reports\Project\DA\PR\Report\S-E904-BH2-18\_DAPR\_Draft.xml

DAPR

Metadata

System Equipment And Software

System Alignment And Accuracy

Data Acquisition And Processing

Data Quality Management

Appendices

Approval Sheet

Vessel Offsets And Layback

Static And Dynamic Draft

System Alignment And Accuracy

Navigation to Transducer

X

0

Units

meters

X Uncertainty

0.02

Units

meters

Y

0.360

Units

meters

Y Uncertainty

0.02

Units

meters

Z

0.578

Units

meters

Z Uncertainty

0.02

Units

meters

X2

Units

meters

X2 Uncertainty

Units

meters

Y2

Units

meters

Y2 Uncertainty

Units

meters

Z2

Units

meters

Z2 Uncertainty

Units

meters

EchoBoat\_PicoMB\_2018.hvf

FileEditViewToolsHelp

Select a time for graphical sensor display:

2018-110 00:00

No 3D data available for display

CARIS HIPS and SIPS Vessel Editor

Draft

TPU values

OffSets

StdDev

SVP 1

Waterline Height

	MRU to Trans X ...	MRU to Trans Y ...	MRU to Trans Z ...	Nav to Trans X (...)	Nav to Trans Y (...)	Nav to Trans Z (...)	Trans Roll (deg)
1	0.000	-0.033	0.258	0.000	0.360	0.578	0.000
2							

NUT

Filter:



- DAPR
- Metadata
- System Equipment And Soft
- System Alignment And Accu
- Data Acquisition And Proces
- Data Quality Management
- Appendices
- Approval Sheet

Metadata | System Equipment And Software | **System Alignment And Accuracy** | Data Acquisition And Processing | Data Quality Management | Appendices | Approval Sheet

Vessel Offsets And Layback | Static And Dynamic Draft | System Alignment And Accuracy

## Navigation to Transducer

X  
0 meters

X Uncertainty  
0.02 meters

Y  
0.360 meters

Y Uncertainty  
0.02 meters

Z  
0.578 meters

Z Uncertainty  
0.02 meters

## EchoBoat\_PicoMB\_2018.hvf -

File Edit View Tools Help



Select a time for graphical sensor display: 2018-110 00:00

No 3D data available for display

## CARIS HIPS and SIPS Vessel Editor

	Pitch Timing (s)	Roll Timing (s)	Offset X (m)	Offset Y (m)	Offset Z (m)	Vessel Speed (m...	Loading (m)	Draf
1	0.010	0.010	0.020	0.020	0.020	0.400	0.001	0.00
2								

NUI

FileWindowHelp

Data Acq Processing Report schema vers:2019\_01 D:\S-E904-BH2-18\_West and Rhode Rivers\F00691\Processed\Reports\Project\DAPR\Report\S-E904-BH2-18\_DAPR\_Draft.xml

DAPR

Metadata

System Equipment And Software

System Alignment And Accuracy

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Metadata

System Equipment And Software

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System Alignment And Accuracy

Vessel Offsets And Layback

Static And Dynamic Draft

System Alignment And Accuracy

Y2

Units

meters

Y2 Uncertainty

Units

meters

Z2

Units

meters

Z2 Uncertainty

Units

meters

Transducer Roll

Roll

0

Units

degrees

Add Roll2 Offset

EchoBoat\_PicoMB\_2018.hvf

FileEditViewToolsHelp

Select a time for graphical sensor display:

2018-110 00:00

No 3D data available for display

CARIS HIPS and SIPS Vessel Editor

Draft

TPU values

OffSets

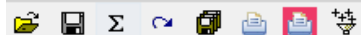
StdDev

SVP 1

Waterline Height

	MRU to Trans X ...	MRU to Trans Y ...	MRU to Trans Z ...	Nav to Trans X (...)	Nav to Trans Y (...)	Nav to Trans Z (...)	Trans Roll (deg)
1	0.000	-0.033	0.258	0.000	0.360	0.578	0.000
2							

NUI



- DAPR
  - Metadata
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Metadata | System Equipment And Software | **System Alignment And Accuracy** | Data Acquisition And Processing | Data Quality Management | Appendices | Approval Sheet

Vessel Offsets And Layback | **Static And Dynamic Draft** | System Alignment And Accuracy

## B.2 Static and Dynamic Draft

Describe all static and dynamic draft correctors applied to echo soundings.

### B.2.1 Static Draft Results

Explain how waterline heights are measured for each vessel. Note how the waterline height measurement is referenced to each vessel's reference point. Discuss how fuel usage and other factors influence waterline height for each vessel.

Methods And Procedures Static draft for EchoBoat was calculated using manufacturer provided measurements. The calculated value is entered directly into the HVF for use by Charlene for processing.

Add Image

#### B.2.1.1 Static Draft Correctors

☒ Correctors Applied ☐ Correctors Not Applied

##### Vessel

Hull Number ASV007

Date 04/20/2018

##### Static Draft Values

0.003

Units

meters

##### Static Draft Uncertainty

0.001

Units

meters

##### Loading Uncertainty

0.001

Units

meters

Add Vessel

#### Comments

Add Field Comment

EchoBoat\_PicoMB\_2018.hvf -

File Edit View Tools Help



Select a time for graphical sensor display:

2018-110 00:00

No 3D data available for display

#### CARIS HIPS and SIPS Vessel Editor

	Draft						
	TPU values						
	Offsets						
	StdDev						
	SVP 1						
	Waterline Height						
	Date	Time	Apply	Waterline (m)	Comments		
1	2018-110	00:00	Yes	0.003	(null)		
2		00:00					

- DAPR
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  - System Equipment And Soft
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Metadata | System Equipment And Software | **System Alignment And Accuracy** | Data Acquisition And Processing | Data Quality Management | Appendices | Approval Sheet

Vessel Offsets And Layback | **Static And Dynamic Draft** | System Alignment And Accuracy

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Add Image

#### B.2.1.1 Static Draft Correctors

☒ Correctors Applied ☐ Correctors Not Applied

##### Vessel

Hull Number ASV007

Date 04/20/2018

##### Static Draft Values

0.003 meters

##### Static Draft Uncertainty

0.001 meters

##### Loading Uncertainty

0.001 meters

Add Vessel

#### Comments

Add Field Comment

Add Branch Comment

EchoBoat\_PicoMB\_2018.hvf -

File Edit View Tools Help



Select a time for graphical sensor display: 2018-11-10 00:00

No 3D data available for display

CARIS HIPS and SIPS Vessel Editor

	Draft	z (m)	Vessel Speed (m...	Loading (m)	Draft (m)	Delta Draft (m)	MRU Align StdDev gyro	MRU Align StdDev R...
TPU values	1		0.400	0.001	0.001	0.010	2.000	2.000
OffSets	2							
StdDev								
SVP 1								
Waterline Height								

NUI





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Metadata | System Equipment And Software | **System Alignment And Accuracy** | Data Acquisition And Processing | Data Quality Management | Appendices | Approval Sheet

Vessel Offsets And Layback | **Static And Dynamic Draft** | System Alignment And Accuracy

### B.2.2.1 Dynamic Draft Correctors

☒ Correctors Applied ☐ Correctors Not Applied

#### Vessel

Hull Number ASV007

Date 04/20/2018

#### Dynamic Draft Table

Draft

0

Units

meters

Speed

0

Units

meters/second

#### Dynamic Draft Table

Draft

0.30

Units

meters

Speed

0.50

Units

meters/second

#### Dynamic Draft Table

Draft

0.36

Units

meters

Speed

1.00

Units

meters/second

#### Dynamic Draft Table

Draft

0.38

Units

meters

Speed

1.50

Units

meters/second

Add Dynamic Draft Values

#### Speed Uncertainty

0.40

Units

meters/second

#### Draft Uncertainty

0.01

Units

meters

Add Vessel

EchoBoat\_PicoMB\_2018.hvf

File Edit View Tools Help

Select a time for graphical sensor display: 2018-11-0 00:00

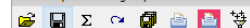
	Draft (m)	Speed (m/s)
1	0.000	0.000
2	0.300	0.500
3	0.360	1.000
4	0.380	1.500
5		

OK Cancel

CARIS HIPS and SIPS Vessel Editor

	Date	Time	Apply	Error	Comments
Draft					
TPU values					
Offsets					
StdDev					
SVP 1					
Waterline Height					
1	2018-11-0	00:00	No	Edit	
2		00:00		Edit	

NUI



- DAPR
  - Metadata
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Metadata | System Equipment And Software | **System Alignment And Accuracy** | Data Acquisition And Processing | Data Quality Management | Appendices | Approval Sheet

Vessel Offsets And Layback | **Static And Dynamic Draft** | System Alignment And Accuracy

### B.2.2.1 Dynamic Draft Correctors

☒ Correctors Applied ☐ Correctors Not Applied

#### Vessel

Hull Number ASV007

Date 04/20/2018

#### Dynamic Draft Table

Draft

0

Units

meters

Speed

0

Units

meters/second

#### Dynamic Draft Table

Draft

0.30

Units

meters

Speed

0.50

Units

meters/second

#### Dynamic Draft Table

Draft

0.36

Units

meters

Speed

1.00

Units

meters/second

#### Dynamic Draft Table

Draft

0.38

Units

meters

Speed

1.50

Units

meters/second

Add Dynamic Draft Values

#### Speed Uncertainty

0.40

Units

meters/second

#### Draft Uncertainty

0.01

Units

meters

EchoBoat\_PicoMB\_2018.hvf

File Edit View Tools Help

Select a time for graphical sensor display: 2018-110 00:00

No 3D data available for display

CARIS HIPS and SIPS Vessel Editor

- Draft
- TPU values
- Offsets
- StdDev
- SVP 1
- Waterline Height

	X (m)	Offset Z (m)	Vessel Speed (m/s)	Loading (m)	Draft (m)	Delta Draft (m)	MRU Align StdDev gyro
1		0.020	0.400	0.001	0.001	0.010	2.000
2							

Add Vessel

seconds

seconds

Add Transducer

Vessel

The screenshot displays the 'CARIS HIPS and SIPS Vessel Editor' window. On the left, a tree view shows the hierarchy: 'Draft' (selected), 'TPU values', 'Offset', 'StdDev', 'SVP-1', and 'Waterline Height'. The main area contains a table of vessel parameters. The 'Timing Trans (s)' and 'Timing Roll (s)' fields are highlighted with red and blue boxes, respectively. The 'MRU Align StdDev gyro' and 'MRU Align StdDev Roll/Pl' fields are highlighted with orange and yellow boxes, respectively.

Parameter	Value
Motion Gyro (s)	0.080
Heave % Amp	5.000
Heave (m)	0.050
Roll (deg)	0.040
Pitch (deg)	0.040
Position Nav (m)	0.500
Timing Trans (s)	0.010
Nav timing (s)	0.010
Gyro Timing (s)	0.010
Heave Timing (s)	0.010
Pitch Timing (s)	0.010
Roll Timing (s)	0.010
Offset X (m)	0.020
Offset Y (m)	0.020
Offset Z (m)	0.020
Vessel Speed (m/s)	0.400
Loading (m)	0.001
Draft (m)	0.001
Delta Draft (m)	0.010
MRU Align StdDev gyro	2.000
MRU Align StdDev Roll/Pl	2.000

The figure displays five sequential screenshots of the CARIS HIPS and SPIS Visual Editor software interface, each showing a different color-coded selection (red, blue, green, purple, and red) applied to the same data table. The interface includes a menu bar (File, Edit, View, Tools, Help), a toolbar, a status bar at the bottom, and a main workspace. The workspace contains a table with columns: Transform 1, Date, Time, Time Correction (s), Y (m), and X (m). The table has two rows of data. The status bar at the bottom of each window displays "No 3D data available for display".

Transform 1	Date	Time	Time Correction (s)	Y (m)	X (m)
1	2018-11-10	00:00	0.000	0.000	0.000
2	2018-11-10	00:00	0.000	0.000	0.000

File Edit View Tools Help

Select a time for graphical sensor display: 2018-11-00:00

No 3D data available for display

CARIS HIPS and SIPS Vessel Editor

Transducer	Date	Time	Time Correction (s)	Error
Navigation	1	2018-11-00:00	0.000	Edit
Gyro	2	2018-11-00:00	0.000	Edit
Magnetometer	3	2018-11-00:00	0.000	Edit

EchoBoat\_PicoMB\_2018.hvf -

File Edit View Tools Help

Select a time for graphical sensor display: 2018-11-10 00:00

No 3D data

Patch Test Values

CARIS HIPS and SIPS Vessel Editor

		Y (m)	Z (m)	Pitch (deg)	Roll (deg)	Yaw (deg)	Manufacturer	Model	Serial
1	0.000	-0.033	0.258	3.550	0.000	0.000	PicoMB 120 (3)	PicoMB 120 (3)	
2									

Transducer 1  
Navigation  
Gyro  
Heave  
Pitch  
Roll  
Depth

NUM

### C.6.2 Uncertainty Components

Provide the source(s) of a-priori (HVF) and real-time uncertainty values.

### A Priori Uncertainty

☒ Applied    ☐ Not Applied

**Vessel**


Hull Number	ASV007
-------------	--------

**Motion**

Gyro

0.08

Units

degrees 

Heave

Percent Amplitude

5.00

## Static

0.05

Units

meters

## Pitch

0.04

Units

degrees ▾

## Roll

0.04

Units


degrees ▾

## Navigation

### Position

0.50

Units

meters 

EchoBoat\_PicoMB\_2018.hvf -

File Edit View Tools Help

Select a time for graphical sensor display: 2018-11-0 00:00

No 3D data available for display

CARIS HIPS and SIPS Vessel Editor

	Motion Gyro (deg)	Heave % Amp	Heave (m)	Roll (deg)	Pitch (deg)	Position Nav (m)
1	0.080	5.000	0.050	0.040	0.040	0.500
2						