

USGS SPCMSC FACS Operations Log - Single Beam Bathymetry

SPCMSC FAN # 132CT01

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DOY YY	UTC Time	Line #	HYPACK Line Name	Knudsen Line Name HF / (LF)	SOS (m/s)	Comments
Setup	242.1 cm	Base of	Antenna to Transducer base			Hypack computer = sync Knudsen computer = sync
	165.6 cm	Base of	black JSS plate to base of Knudsen			
	Antenna	=	SN: CR6200547005		P/N: 701945-02 REV E	
	2xtreme	2				
SOL	~18:24:00	1	001-1824	015-1825-401.Kelb		STARTED WITH EAST SIDE SET 4 CENTERLINE of EAST SET 4
				" " - HF 401.5gy		→ NO SOS PUT INTO KNUDSEN
				" " - LF 401.5gy		- USED KYLES SETTINGS ON HF/LF
SOL	~18:41:00	2	001-1846	015-1847-402.Kelb	SVP-1	→ NO SOS INPUT ↑ GAIN TO 56 ON LF
				015-1847-HF-402		
				015 LF-402		
SOL	~19:03	3	012-1902	015-1903-403.Kelb 015-1903-HF-403.561	SVP-2 ~19:02	Shallow
SOL	19:16	4	014-1914	016-1916-404.Kelb " " - HF-404 " " - LF-404	SVP-3	Zig-Zags
SOL	19:27	5	014-1927	015-1928-405.Kelb 015-1928-HF-405 015-1928-LF-405		Zig-Zag continued
SOL	19:44	6	009-1944	015-1945-406.Kelb " " - HF-406 " " - LF-406		Heading along centerline of EAST SET 3
SOL	~20:04	7	013-2004	015-2005-407	SVP-4	START EAST SET 5
SOL	20:27	9	014-2026	015-2027-409		

Line 8 not recorded on sheet

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DOY YY	UTC Time	Line #	HYPACK Line Name	Knudsen Line Name (LF)	SQS (m/s)	Comments
015 SOL	2646	10	013-2044	015-2045-410	SVP-5	converted SVP @ start
015 SOL	2102	11	014-2102	015-2103-411.554 015-2103-LF-411.554	SVP-6	
015 SOL	2127	12	015-2128	015-2129-412.554 015-2129-LF-412.554	SVP-7	
		GND	of DOY			
015	START OF DOY					Antenna to base of Knudsen = 242.1 cm
	Hypack computer = sync					Base of Knudsen to black base TSS = 242.2 cm
	Knudsen computer = sync					Silver base plate = 1.9 cm
						
SOL	1542	13	015-1543	016-1543-400.464 016-1543-LF-400.464	SVP-8	Start (east sec 5 day 2 surveying)
SOL	1556	14	016-1556	016-1556-401.464 016-1556-LF-401.464		START side offshoot of set 5
SOL	1609	15	018-1609	016-1609-402.464 1609-LF-402.464		other side bank

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DOY YY	UTC Time	Line #	HYPACK Line Name	Knudsen Line Name (LF)	SOS (m/s)	Comments	
1-16-2013	1625	16	001-1625	016-1625-405.626 016-1625-HF-407.523 016-1625-LF-403.927	SPV-89		
016-13						Doing crossings & hit log	
						broke mount @ shear pin	
						location. Heading in to tag	
						& repair - disregard last	
						1 to 2 crossing lines.	
						END of survey day	
017-13	Met welder @ 8am in Franklin, LA &					Antenna to base Knud. 2244 cm	
	they put the base plate on & reinforced the					Base Knudsen to top of plate = 165.00 cm	
	antenna weld w/ insert.						
017-13	16:24	17	019-1642	017-1642-400.826 HF-403.594 LF-400		Zig Zag @ start of EAST-SET 5	
	Hypack computer sync					LF adjusted gain from 56 to 70	
	Knudsen computer sync					will zig-zag down to yesterday's offshoot from this main channel.	

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017-13	~16:57	18	021-1657	017-1657-401. Kcb	SVP-11	Continuation of Zig-Zag Both hypack & the Knudsen
			020-1658			
017-13	1708	19	017-1708	017-1708-402. Kcb 017-1708-HF-402. Sgy LF-402. Sgy	SVP-11	East-side side channel center line
017-13	1720	20	021-1720	017-1720-402. Kcb 017-1720-HF-403. Sgy LF-403. Sgy	SVP-12	First few minutes are statement on the Knudsen file.
↳ Continuing this line-off center post zig zag out to main channel.						4 zig zags reds from end of yesterday - false data after hitting the tree
						* NOTE H ₂ O level for 017 down with from yesterday: Winds 10-15 NW
017-13	~17:41	21	020-1741	017-1741-404. Kcb 1741-HF-404 1741-LF-404		main channel of set 5 doing zigzag
017-13	-	22	013-1802	017-1802-405. Kcb 017-1802-HF-405. Sgy LF-405. Sgy	SVP-12	continued zig zag down primary East set 5
017-13	1824	23	020-1824	017-1824-406. Kcb 017-1824-HF-406. Sgy LF-406. Sgy	SVP-13	continued down primary channel zig-zag East side set 5
017-13	1930	24	006-1930	017-1930-407. Kcb 017-1930-HF-407. Sgy LF-407. Sgy	SVP-14	East side, big channel center line } WEST-SET 2 lines
017-13	1946	25	008-1946	017-1946-408. Kcb	SVP-15	batly west - set 3 lines = no H ₂ O zig-zag on set 2 lines
017-13	2020	26	005-2020	017-2020-410. Kcb 017-2020-HF-410. Sgy LF-410. Sgy		Knudsen 409 line is very shall - added to bank outline
017-13	20:35	27	007-2035	017-2035-411. Kcb 017-2035-HF-411 LF-411		bank outline

408: max
file size
128MB

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DOY YY	UTC Time	Line #	HYPACK Line Name	Knudsen Line Name (LF)	SOS (m/s)	Comments
017-13	2050	28	001 - 2050	017-2050-412.k6 012-2050-412-593 017- -LF	Sat 1 west improv add. channel line	
017-13	2058	29	002 - 2058	017-2058-413.k6 017-2058-413-593 -LF	Sat 1 free small channel of east bank of main channel	
017-13	2118	30	002 - 2118	017-2118-414.k6 017-2118-414-593 -LF	SVP-16 tie line for small channel 29-205	
017-13	2206	31	002 - 2207	017-2207-415.k6 017-2207-415-593 -LF	GPS not took down -- GPS session 2 SVP-16 [416 added to 415: max file size 128 MB]	
017-13	2243	32	003-2243	017-2243-417	SVP-17 END OF DAY	
018-13						
018-13						① Antenna base to base = 244.2cm ② Base Knudsen to base (black) TSS = 164.7cm
018-13	1533	33	011-1532 030-1534	018-1533-400 -401	SVP-13	hypack computer sync Knudsen computer sync
018-13	1607	34	030-1606	018-1606-402		ran aground at end of -401.
018-13	1613	35	014-1614	018-1613-403	SVP-19	
018-13	1631	36	016-1631	018-1631-404		east side of channel is eroded with numerous tree limbs in water trees are higher than antenna height
018-13	1649	37	015-1649	018-1649-405		
018-13	1702	38	016-1702	018-1702-406		
018-13	1718	39	029-1718	018-1718-407		

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DOY YY	UTC Time	Line #	HYPACK Line Name	Knudsen Line Name (LF)	SOS (m/s)	Comments
018-13	1724	40	029-1724	018-1724-408		added new line - closer to shore outline
018-13	1736	41	033-1736	018-1736-409		Calm seas
018-13	1744	42	021-1744	018-1744-410 018-1744-410 018-1744-410		
018-13	1751	43	022-1751	018-1751-411		
018-13	1758	44	023-1758 023-1800	018-1758-412		2 Hypack lines for this line
018-13	1805	45	024-1805	018-1805-413	SVP-20	
018-13	1811	46	025-1811	018-1812-414		
018-13	1817	47	026-1817	018-1817-415		
018-13	1823	48	027-1823	018-1823-416		
018-13	1828	49	028-1828	018-1828-417		
018-13	1833	50	034-1833	018-1833-418		
018-13	1840	51	019-1840	018-1846-419		
018-13	1847	52	018-1847	018-1847-420		
018-13	1853	53	018-1853	018-1853-421		

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DOY YY	UTC Time	Line #	HYPACK Line Name	Knudsen Line Name (LF)	SOS (m/s)	Comments
018-13	1859	54	017-1859	018-1859-422		
018-13	1905	55	016-1905	018-1905-423		
018-13	1910	56	015-1910	018-1910-424		
018-13	1915	57	014-1915	018-1915-425		
018-13	1919	58	031-1919	018-1919-426		
018-13	1924	59	013-1924	018-1924-427		012-1926: same Knudsen # - new line
018-13	MOVED to South Segment # 2					END OF SECTION WEST-SET 4
018-13	19:57	60	001-1957	018-1957-428	SVP 21	MOVED TO SOUTH START OF SOUTH SET 2 STARTED NEW GPS SESSION = 13
018-13	20:26	61	001-2026	018-2026-429 018-2057-430		Line 6: outline of channel with Knudsen Line #5 line
018-13	21:02	62	015-2102	018-2102-431	SVP 22	Centerline
018-13	21:20	63	001-2120	18-2120-432		OUTLINE of FAN AREA
018-13	2137	64	006-2137	18-2137-433		
018-13	2142	65	007-2142	18-2142-434		
018-13	2146	66	008-2146	18-2146-435		

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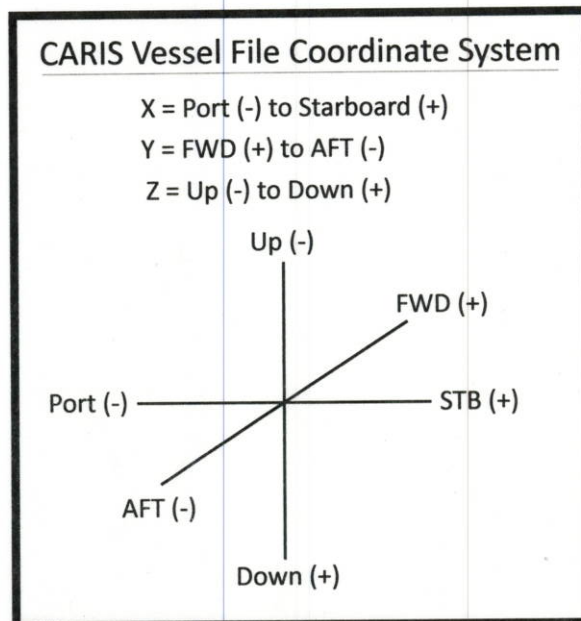
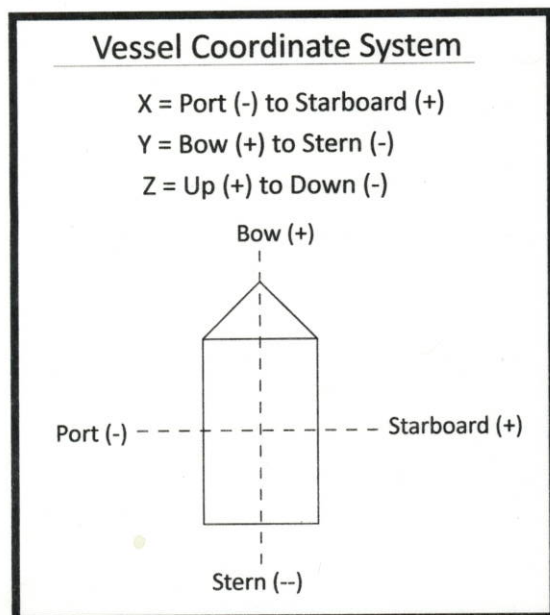
<u>DOY YY</u>	<u>UTC Time</u>	<u>Line #</u>	<u>HYPACK Line Name</u>	<u>Knudsen Line Name (LF)</u>	<u>SOS (m/s)</u>	<u>Comments</u>
018-13	2148	67	009-2148	18-2148-436		
018-13	2151	68	010A-2151	18-2151-437		
018-13	2153	69	011-2153	18-2153-438		
018-13	2155	70	012-2156	18-2155-439		
018-13	2158	71	003-2158	18-2158-440		
018-13	2202	72	004-2201	18-2202-441		
018-13	2204	73	005-2204	18-2204-442		
018-13	2207	74	015-2207	18-2207-443		
018-13						End of Day

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USGS SPCMSC - RV Mako 17 Offsets - 2013

Vessel Diagram for Single Beam Instrument Offsets

These offsets can be used in HYPACK, the CARIS vessel file and the CARIS TPU offsets within the vessel file. Refer to the diagrams for CARIS program orientation and the last page for CARIS TPU values.



HVC
*~~###~~

~~KNJOSEN~~

015

$$NAV \text{ to TRANS } Z(m) = -2.421 m$$

$$NAV = 0.031$$

$$MRU \text{ to TRANS } Z(m) = -1.656 m + 1.1625 m = -1.77225 = 1.772 m$$

016

$$NAV \text{ to TRANS } Z(m) = -2.421 m$$

$$NAV = 0.037$$

$$MRU \text{ to TRANS } Z(m) = -1.76825 = -1.768 m$$

017

$$NAV \text{ to TRANS } Z(m) = -2.440 m$$

$$NAV = 0.032$$

$$MRU \text{ to TRANS } Z(m) = -1.76625 = -1.766 m$$

$$NAV = 0.041$$

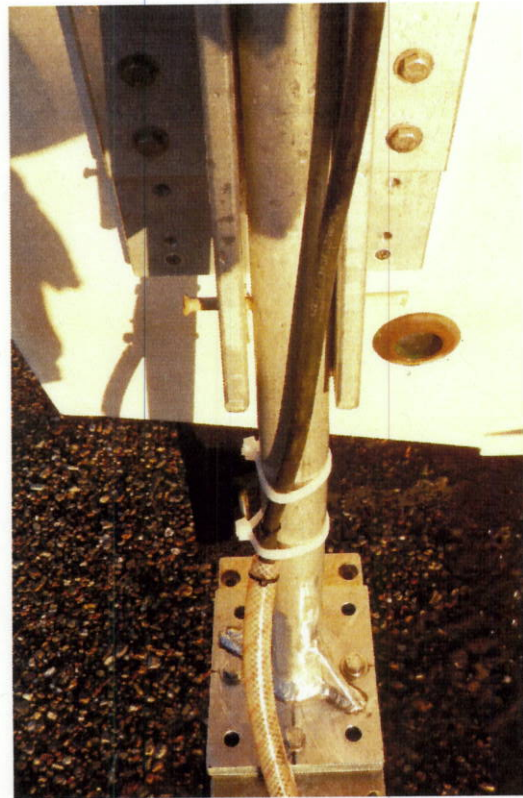
018

$$NAV \text{ to TRANS } Z(m) = -2.442 m$$

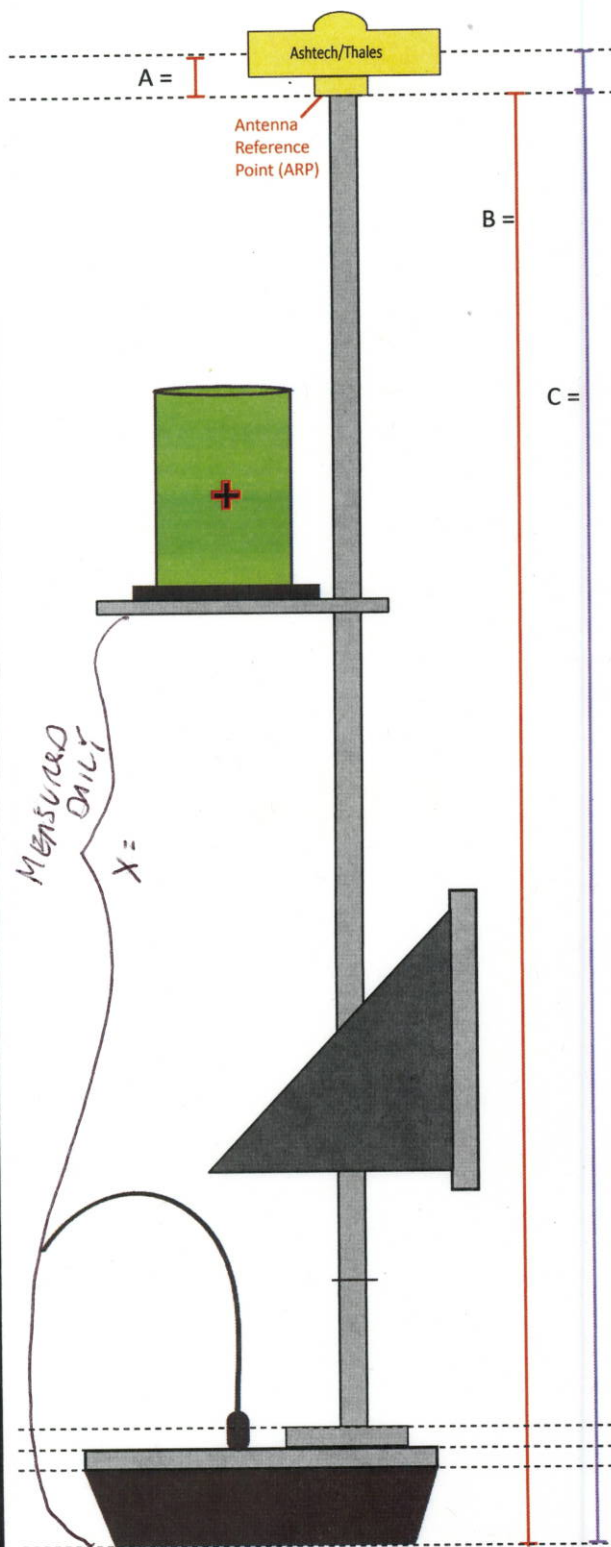
$$NAV = 0$$

$$MRU \text{ to TRANS } Z(m) = -1.76325 = -1.763 m$$

Digital Photographs *RV Mako 17* with Knudsen Mount



Z Offset for the Ashtech Antenna - Knudsen Mount



Antenna P/N#	Ashtech/Thales 701945-02-Rev B
Antenna S/N#	CR2600547005
Antenna Name	Ashtech/Thales
A = Antenna phase center (see note below)	NA - using model option in GrafNav
B = Distance of antenna reference point to base of transducer.	MEASURED DAILY Refer to NOTES
C = A + B (used to calculate antenna phase center - see note)	NA

Value A explained:

This is the antenna model's internal phase center. It is either modeled or calculated. Modelling the phase center is more accurate and is accounted for in the programs OPUS and GrafNav. However, if a static value needs to be used versus the modeled, the equation below may be used.

Example

$$A = (2.546 \times L1) - (1.54 \times L2)$$

where L1 and L2 are phase centers in mm and vary depending on antenna model. These values are obtained from the antenna model sheets found at the website:

www.ngs.noaa.gov/cgi-bin/query_cal_antennas.prl?Model=ASH&Antenna=ASH70197501.shtml

Additional Static Measurements:

	Top of TSS to bottom of black base plate = 23.25 cm (half of this = 11.625 cm)
	TSS black base plate only = 1.5 cm
	Inside of TSS can housing w/out lid = 39.6 cm
	Outside of TSS can housing w/out lid = 42.35 cm

015 = B = 242.1 cm	244.1	X = 165.6
016 = B = 242.1 cm		X = 165.2
017 = B = 244.0 cm		X = 165.0
018 = B = 244.2 cm		X = 164.7

Mako 17 Adapter Plate height = cm
Knudsen Adapter Plate height = 1.9 cm

Knudsen transducer height = 10.1 cm