

R/V Marcus G. Langseth

Multibeam Advisory Committee

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*Example of switching active navigation sources:
Seapath and POS MV input to an EM122 (SIS 4)*



photo: LDEO

Active Navigation Sources

EM122 PU Sensor Status

Seapath active

PU Sensor input status							
	COM1	COM2	COM3	COM4	UDP2	UDP5	UDP6
GGA	P						
GGK							
GGA_RTK							
GST							
SIMRAD90							
Attitude		HM					
MK39 Mod2 Attitude, no heave							
HDT Heading							
SKR82 Heading							
ROV. depth							
ZDA Clock							
Height, special purpose only							
DBS Depth							
DPT Depth							
EA500 Depth							
Attitude/Velocity						A	
1PPS Clock Synch.							

P = active Position sensor
M = active Motion/Attitude sensor
H = active Heading sensor
A = active Attitude/Velocity sensor

POS MV active

PU Sensor input status							
	COM1	COM2	COM3	COM4	UDP2	UDP5	UDP6
GGA				P			
GGK							
GGA_RTK							
GST							
SIMRAD90							
Attitude			HM				
MK39 Mod2 Attitude, no heave							
HDT Heading							
SKR82 Heading							
ROV. depth							
ZDA Clock							
Height, special purpose only							
DBS Depth							
DPT Depth							
EA500 Depth							
Attitude/Velocity							A
1PPS Clock Synch.							

P = active Position sensor
M = active Motion/Attitude sensor
H = active Heading sensor
A = active Attitude/Velocity sensor

EXAMPLES ONLY; YOUR PORTS MAY VARY!

During MGL2301, the EM122 was configured to receive navigation on the following ports:

COM1: Seapath position (+ZDA if primary)

COM2: Seapath attitude

COM3: POS MV attitude

COM4: POS MV position (+ZDA if primary)

UDP5: Seapath 100 Hz attitude velocity

UDP6: POS MV 100 Hz attitude velocity

The EM122 PU Sensor Status window is shown for both configurations:

Left: **Seapath** as primary

Right: **POS MV** as primary

Active Navigation Sources

Seapath active

POS MV active

EM122 COM Port Setup

The following **Installation Parameters** are updated to apply the Seapath or POS MV as the EM122 active navigation source:

1. **Input Setup:** select GGA, ZDA Clock, and HDT Heading (backup) for the Seapath (COM1 in this example) or the POS MV (COM4 in this example)
 - a. **ZDA Clock and HDT may need to be unchecked for the non-primary source if only one is allowed**
2. **Settings:** select COM1/COM2 for Seapath or COM4/COM3 for POS MV
3. **Clock Setup:** select Rising Edge for Seapath or Falling Edge for POS MV (see [PPS formats](#) for more information)

The figure displays four screenshots of the EM122 configuration interface, arranged in a 2x2 grid. The top row shows the 'Input Setup' window for Seapath (left) and POS MV (right). The bottom row shows the 'Settings' window for Seapath (left) and POS MV (right). Each window has a 'Port settings' section and an 'Input Formats' section. In the 'Input Setup' windows, the 'Port' is set to COM1 for Seapath and COM4 for POS MV. The 'Input Formats' section shows 'ZDA Clock' and 'HDT Heading' checked for both. In the 'Settings' windows, the 'Positioning System Ports' are set to COM1 for Seapath and COM4 for POS MV. The 'Active Sensors' section shows 'Position' set to COM1 for Seapath and COM4 for POS MV, 'Altitude' set to COM2 for Seapath and COM3 for POS MV, and 'Heading' set to COM2 for Seapath and COM3 for POS MV. The 'Clock Setup' window at the bottom shows the 'Source' set to 'External ZDA Clock' and the '1PPS Clock Synch' set to 'Rising Edge' for Seapath and 'Falling Edge' for POS MV. Red boxes highlight the 'ZDA Clock' and 'HDT Heading' checkboxes in the 'Input Setup' windows, the 'Active Sensors' section in the 'Settings' windows, and the 'Rising Edge' and 'Falling Edge' dropdowns in the 'Clock Setup' window.

(screenshot from R/V T. G. Thompson)