

AUV Communications

Information Packets used on AUVs

We have looked at what bytes are and how a lot of information can be contained in a 32 byte information packet. Here we see the actual information transferred between the ship and the AUV.

AUV to Ship:

Byte	Description
0	Code tells this message is from the AUV.
1 2 3	X, or east-west position of the AUV with respect to predetermined origin on the sea floor. Three bytes are used for this.
4 5 6	Y, or north-south position of the AUV with respect to predetermined origin on the sea floor.
7	Compass heading of the AUV
8 9	Depth of the AUV in meters measured from the surface
10 11	Altitude of the AUV in meters measured from the sea floor.
12 13	Current goal.- where the AUV is in its mission.
14 15 16	Current goal X position in meters.
17 18 19	Current goal Y position in meters.
20 21	Current goal depth in meters.
22 23	Most recent round trip travel time for LBL transponder A.
24 25	Most recent round trip travel time for LBL transponder B.
26 27 28 29 30	Five bytes available for science data. Puma and Jaguar report Eh sensor values and Optical Backscatter data.
31	One-way travel time data

Ship to AUV:

Byte	Description
0	Code tells this message is from the ship.
1 2 3	X, or east-west position of the ship with respect to predetermined origin on the sea floor. Three bytes are used for this.
4 5 6	Y, or north-south position of the ship with respect to predetermined origin on the sea floor.
7	Compass heading of the ship
8 9	Depth of the ship's sound receiver (acoustic modem) in meters
10 11	Altitude of ship's acoustic modem in meters
12 13	Time value
14 15 16 17 18 19 20 21 22 23 24 25	12 bytes used to relay information from statistical analysis of the vehicle's position.
26 27	Speed of sound in water – difference value from 1500m/s
28 29 30	Unused bytes
31	One-way travel time data