

**Argo program IDG SOLOII Engineering Table
V00.03**

Last updated October 21st, 2011 Adapted from SOLO2_Xformat 9/12/2011

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ID=0xe0, Engineering message in first diagnostic dive at start of mission	
Byte	Contents
0	ID/Mission phase = 0xe0
1-2	Number of bytes= 76 = 0x4C
3-4	empty
5-6	empty
7-8	empty
9-10	empty
11-12	empty
13-14	DP->Vcpu: CPU battery voltage counts (0.01V), on surface at start of Xmit after data processed ARGO TECHNICAL NAME: VOLTAGE_BatteryCPUStartXmit_VOLTS
15-16	DP->Vpmp: Pump battery counts at surface (0.01V) ARGO TECHNICAL NAME: VOLTAGE_PumpBatteryNoLoad_VOLTS
17-18	DP->Vple: Pump battery counts at end of last pump on ascent (0.01V) ARGO TECHNICAL NAME: VOLTAGE_PumpBatteryLoad_VOLTS
19-20	DP->Air[0]: Pressure case vacuum at end of transmission on surface (0.01 inHG) ARGO TECHNICAL NAME: PRESSURE_InternalVacuumEndTransmission_inHG
21-22	DP->Air[1]: Pressure case vacuum after filling bladder on surface (0.01 inHG) ARGO TECHNICAL NAME: PRESSURE_InternalVacuumSleeveBladderFull_inHG
23-24	DP->Air[2]: Pressure case vacuum before filing bladder on surface (0.01 inHG) ARGO TECHNICAL NAME: PRESSURE_InternalVacuumSleeveBladderEmpty_inHG
25-26	DP->ISRID: i.d. of last interrupt
27-28	DP->HPavgl: Average pump motor current taken at start of ascent (LSB=1ma) ARGO TECHNICAL NAME: CURRENT_AvgPumpAtStartAscent_mAMPS
29-30	DP->HPmaxl: Maximum pump motor current taken at start of ascent (LSB=1ma) ARGO TECHNICAL NAME: CURRENT_MaxPumpAtStartAscent_mAMPS
31-32	Total seconds pumping to get to the surface
33-34	Seconds pumped at the surface
35-36	PRE: Surface pressure counts at end of ascent (LSB = 0.04 dBAR) ARGO TECHNICAL NAME: PRES_AscentToSurfaceEnd_dBAR
37-38	SPRX: Surface pressure before resetoffset (pertains to BIT) (dBAR) ARGO TECHNICAL NAME: PRES_SurfaceOffsetBeforeReset_dBAR or ...Reset_4mBarResolution_dBAR
39-40	SPRXL: Surface pressure after resetoffset (pertains to BIT) (dBAR) ARGO TECHNICAL NAME: PRES_SurfaceOffsetAfterReset_dBAR or ...Reset_4mBarResolution_dBAR
41-42	diagP[0]: Pressure when "in water" sensed by float after deployment ARGO TECHNICAL NAME: PRES_WhenInWaterSensed_dBAR
43-44	diagT[0]: Temperature when "in water" sensed by float after deployment ARGO TECHNICAL NAME: TEMP_WhenInWaterSensed_dBAR
45-46	diagS[0]: Salinity when "in water" sensed by float after deployment

ID=0xE2, Engineering message in normal dive cycle	
Byte	Contents
0	ID/Mission phase = 0xe2
1-2	Number of bytes= 90 = 0x5A
3-4	#packets in previous surface session
5-6	#tries to connect in previous surface session
7-8	parse_X_reply status in previous surface session
9-10	ATSBD return status in previous surface session
11-12	EP->sattime: Seconds taken in previous surface session to send all SBD messages
13-14	DP->Vcpu: CPU battery voltage counts (0.01V), on surface at start of Xmit after data processed ARGO TECHNICAL NAME: VOLTAGE_BatteryCPUStartXmit_VOLTS
15-16	DP->Vpmp: Pump battery counts at surface (0.01V) ARGO TECHNICAL NAME: VOLTAGE_PumpBatteryNoLoad_VOLTS
17-18	DP->Vple: Pump battery counts at end of last pump on ascent (0.01V) ARGO TECHNICAL NAME: VOLTAGE_PumpBatteryLoad_VOLTS
19-20	DP->Air[0]: Pressure case vacuum at end of transmission on surface (0.01 inHG) ARGO TECHNICAL NAME: PRESSURE_InternalVacuumEndTransmission_inHG
21-22	DP->Air[1]: Pressure case vacuum after filling bladder on surface (0.01 inHG) ARGO TECHNICAL NAME: PRESSURE_InternalVacuumSleeveBladderFull_inHG
23-24	DP->Air[2]: Pressure case vacuum before filing bladder on surface (0.01 inHG) ARGO TECHNICAL NAME: PRESSURE_InternalVacuumSleeveBladderEmpty_inHG
25-26	DP->ISRID: i.d. of last interrupt
27-28	DP->HPavgl: Average pump motor current taken at start of ascent (LSB=1ma) ARGO TECHNICAL NAME: CURRENT_AvgPumpAscentToSurfaceStart_mAMPS
29-30	DP->HPmaxl: Maximum pump motor current taken at start of ascent (LSB=1ma) ARGO TECHNICAL NAME: CURRENT_MaxPumpAtAscenttoSurfaceStart_mAMPS
31-32	Total seconds pumping to get to the surface
33-34	Seconds pumped at the surface
35-36	SPRX: Surface pressure before resetoffset (pertains to previous dive) (dBAR) ARGO TECHNICAL NAME: PRES_SurfaceOffsetBeforeReset_dBAR or ...Reset_4mBarResolution_dBAR
37-38	SPRXL: Surface pressure after resetoffset (pertains to previous dive) (dBAR) ARGO TECHNICAL NAME: PRES_SurfaceOffsetAfterReset_dBAR or ...Reset_4mBarResolution_dBAR
39-40	diagP[0]: Pressure at the start of ascent ARGO TECHNICAL NAME: PRES_AscentToSurfaceStart_dBAR
41-42	diagT[0]: Temperature at diagP[0] ARGO TECHNICAL NAME: TEMP_AscentToSurfaceStart_DecC
43-44	diagS[0]: Salinity at diagP[0] ARGO TECHNICAL NAME: PSAL_AscentToSurfaceStart_PSU
45-46	Snnscan: # scans recorded by CTD (1 Hz): // -1 (0xFFFF) indicates unable to get scan count from SBE // -2 (0xFFFE) indicates SBE never started so SBE didn't reset scan count before returning an old value ARGO TECHNICAL NAME: TIME_ProfileDuration_SECONDS
47-48	Compacted Sbntry, Sbstrt, Sbstop status (see misspec.h) ((DP->Sbentry&0xF) ((DP->Sbstrt&0x3)<<2) DP->Sbstop&0x3))

49-50	DP->P[0]: Pressure counts before begin of descent to park (LSB = 0.04 dBAR) ARGO TECHNICAL NAME: PRES_DescentToParkStart_dBAR
51-52	DP->P[1]: Pressure counts at end of descent to park (LSB = 0.04 dBAR) ARGO TECHNICAL NAME: PRES_DescentToParkEnd_dBAR
53-54	DP->P[2]: Pressure counts at beginning of drift (park) (LSB = 0.04 dBAR) ARGO TECHNICAL NAME: PRES_ParkStart_dBAR
55-56	DP->P[3]: Pressure counts at end of drift (park) (LSB = 0.04 dBAR) ARGO TECHNICAL NAME: PRES_ParkEnd_dBAR
57-58	DP->P[5]: Surface pressure counts at end of ascent (LSB = 0.04 dBAR) ARGO TECHNICAL NAME: PRES_AscenttoSurfaceEnd_dBAR
59-60	DP->PAVG[0]: Average pressure over first half of drift – TRAJECTORY INFORMATION
61-62	DP->TAVG[0]: Average temperature over first half of drift – TRAJECTORY INFORMATION
63-64	DP->SAVG[0]: Average salinity over first half of drift – TRAJECTORY INFORMATION
65-66	DP->PAVG[1]: Average pressure over second half of drift – TRAJECTORY INFORMATION
67-68	DP->TAVG[1]: Average temperature over second half of drift – TRAJECTORY INFORMATION
69-70	DP->SAVG[1]: Average salinity over second half of drift – TRAJECTORY INFORMATION
71-72	DP-> fall_time = seconds from open air valve (surface) to end of sink ~ 100dbar
73-74	DP-> fall_rate = avg mm/sec while sinking during fall_time to ~100dbar
75-76	DP->SeekT= tenths of pumping in first seek of drift ARGO TECHNICAL NAME: TIME_PistanRanDuringFirstSeek_SECONDS
77-78	DP->SeekP = change of depth (signed 0.1dbar) in first seek ARGO TECHNICAL NAME: PRES_ChangeInFirstSeek_dBAR
79-80	Exception flags (can be added to) 0x0001 Valve failed to open 0x0002 Valve failed to close 0x0004 Questionable pressure 0x0008 Antenna was toggled 0x0010 Antenna switch failure (no satellites even after toggling) 0x0020 GPS communication error (can talk to GPS unit) 0x0080 Float took too long to leave the surface (toggled valve) 0x1000 Valve failure during sinking phase 0x2000 Valve failure during ascend phase of mission
81	Vent (air bubble) data: # 0.1 seconds vent motor ran
82	Vent (air bubble) data: LLD status before and after vent ran
83-84	SBE P offset (times 800): Cumulative auto-pressure offset correction ARGO TECHNICAL NAME: PRES_SurfaceOffsetCumulativeResetApplied_dBAR
85-86	PP->SeekSc: # of seconds pumped to target (park) depth
87-88	Number of Packets sent this cycle
89	; terminator

