VOLUMES

					Bps	**GB / hr**	**GB/day**	**GB/mo**	**GB/yr**	**GB missior**	**days online**	**1996**	**2001**	**2006**	**2016**				**N**	**# mnem**	**freq**	**# points**	**%**	
6472	params per maj frame			minor frame	4000	0.014	0.346	10.519	126.230	2145.917		252.46	883.61	1514.8	2145.9				1	202	0.0083	202	0.05%	
161.45	avg data points / mframe 1			a-p flat 4	38907	0.140	3.362	102.317	1227.805	20872.689	297	2455.6	8594.6	14734	20873				2	611	0.0167	1222	0.32%	
20	mframes / sec			raw analog flat 6	6265	0.023	0.541	16.476	197.717	3361.182		395.43	1384	2372.6	3361.2				3	3	0.025	9	0.00%	
3228.9	data points / sec (pps)			c-o major frame	23183	0.083	2.003	60.968	731.610	12437.376	499	1463.2	5121.3	8779.3	12437				4	362	0.0333	1448	0.37%	
20	bytes / data point in DW			c-o maj fr - raw	18547	0.067	1.602	48.774	585.288	9949.901	624	1170.6	4097	7023.5	9949.9				5	1	0.0417	5	0.00%	
1.3	DW expansion factor			a-p dw	83951	0.302	7.253	220.775	2649.305	45038.180	138	5298.6	18545	31792	45038				6	40	0.05	240	0.06%	
1000	GB online for DB			a-p sans raw	67161	0.242	5.803	176.620	2119.444	36030.544	172	4238.9	14836	25433	36031				7	11	0.0583	77	0.02%	
0.33	Unix comp factor			c-o dw	20870	0.075	1.803	54.884	658.606	11196.299	555	1317.2	4610.2	7903.3	11196				8	411	0.0667	3288	0.85%	
800	avg changes / sec 1			zero rate dw 2	1843														9	28	0.075	252	0.07%	
60	snap frequency (secs)			lo rate c-o dw 3	1482														10	1130	0.0833	11300	2.92%	
6048	total mnemonics 2			hi rate dw														,6 Hz	12	1082	0.1	12984	3.35%	
50	hi rate parms 2			hi rate c-o flat 2,6	9164	0.033	0.792	24.099	289.194	4916.295		578.39	2024.4	3470.3	4916.3				13	1	0.1083	13	0.00%	
1744	lo rate parms			hi rate avgs dw 2	646														15	1	0.125	15	0.00%	
4254	zero rate parms 2			sum for c-o	13135	0.047	1.135	34.542	414.508	8290.169	881								16	77	0.1333	1232	0.32%	
1,486	A parms per sec 5			c-o sans hi rate fla	3971	0.014	0.343	10.443	125.315	2506.292	2915								19	35	0.1583	665	0.17%	
921	B parms per sec 5																		20	784	0.1667	15680	4.05%	
299	D parms per sec 5		Unix Compression																30	48	0.25	1440	0.37%	
523	other per sec (assumed)			a-p flat		0.047	1.121	34.106	409.268	6957.563	892								38	1	0.3167	38	0.01%	
				a-p dw		0.101	2.418	73.592	883.102	15012.727	414								39	57	0.325	2223	0.57%	
				c-o dw		0.025	0.601	18.295	219.535	3732.100	1664								40	388	0.3333	15520	4.01%	
Bytes	**Field**			c-o sans flat		0.005	0.114	3.481	41.772	835.431	8744								45	1	0.375	45	0.01%	
0	Data source																		48	27	0.4	1296	0.33%	
0	TLM format																		79	46	0.6583	3634	0.94%	
8	Spacecraft time																		80	350	0.6667	28000	7.23%	26.02%
2	Numeric ID (mnemonic)			c-o w/ raw flat	24812	0.089	2.144	65.250	783.005	13311.083	624	1566	5481	9396.1	13311			1 Hz	119	36	0.9917	4284	1.11%	
4	Raw value			a-p w/ raw flat	73426	0.264	6.344	193.097	2317.160	39391.726	172	4634.3	16220	27806	39392				120	74	1	8880	2.29%	
4	EU value																		159	60	1.325	9540	2.46%	
2	Flags																		160	88	1.3333	14080	3.63%	
	EU type																	2 Hz	239	90	1.9917	21510	5.55%	
																			240	49	2	11760	3.04%	18.08%
																		10 Hz	1196	1	9.9667	1196	0.31%	
	Note - this spreadsheet is dynamic - results for various options depend upon the variables defined in column A.																		1197	40	9.975	47880	12.36%	
	Differences in byte count, DW expansion factor, or telemetry format will propogate to all fields, regardless of whether that field applies to the option of interest.																	20 Hz	2393	8	19.942	19144	4.94%	
																		40 Hz	4786	31	39.883	148366	38.29%	55.90%
																		total		**6174**		**387468**	**100.00%**	#######
																		per sec				**3228.9**		
																		per mframe				**161.45**		

Notes
All calculations assume H format, except estimation for first 5 yrs is 4:1 A format
1 approximation based on R Chu analysis of statistics on 2 major frames and from R Doxsey data
2 derived from R Doxsey data
3 Doxsey memo 10/26/95
4 packed CDF blocks
5 derived from R McMullan sample of AEDP subset
6 assume hourly indexed flat files, CDF