

Telemetry Address Allocations

each address contains 1 byte = 8 bits
 bits are numbered 0-7; bit 7 is MSB, bit 0 is LSB

Dec	Hex	Oct	
0	00	000	PST Clock MSB
1	01	001	PST Clock
2	02	002	PST Clock
3	03	003	PST Clock LSB
4	04	004	
5	05	005	
6	06	006	
7	07	007	
8	08	010	
9	09	011	
10	0A	012	
11	0B	013	
12	0C	014	
13	0D	015	
14	0E	016	
15	0F	017	
			motor driver 0x10
16	10	020	12-bit DAC 0 = modulator C
17	11	021	.
18	12	022	.
19	13	023	.
20	14	024	.
21	15	025	.
22	16	026	.
23	17	027	.
24	18	030	.
25	19	031	.
26	1A	032	.
27	1B	033	.
28	1C	034	.
29	1D	035	.
30	1E	036	.
31	1F	037	.
32	20	040	Resolver 1 High Byte Azimuth
33	21	041	Resolver 1 Low Byte
34	22	042	Resolver 2 High Byte Elevation
35	23	043	Resolver 2 Low Byte
36	24	044	Resolver 3 High Byte
37	25	045	Resolver 3 Low Byte
38	26	046	Resolver 4 High Byte
39	27	047	Resolver 4 Low Byte
40	28	050	Resolver 5 High Byte
41	29	051	Resolver 5 Low Byte
42	2A	052	Resolver 6 High Byte
43	2B	053	Resolver 6 Low Byte
44	2C	054	Digital Velocity Filter Azimuth High Byte
45	2D	055	Digital Velocity Filter Azimuth Low Byte

46	2E	056	Digital Velocity Filter Elevation High Byte
47	2F	057	Digital Velocity Filter Elevation Low Byte
48	30	060	Azimuth Cosine High Byte
49	31	061	Azimuth Cosine Low Byte
50	32	062	Azimuth Sine High Byte
51	33	063	Azimuth Sine Low Byte
52	34	064	Elevation Cosine High Byte
53	35	065	Elevation Cosine Low Byte
54	36	066	Elevation Sine High Byte
55	37	067	Elevation Sine Low Byte
56	38	070	Encoder Control
57	39	071	Encoder Status
58	3A	072	Set Phase
59	3B	073	Analog Status
60	3C	074	Offset Control bit 7: 1=phase reset next Walsh epoch bit 1: 1= -78.125 Hz; 0= +78.125 Hz bit 0: 1= no 78 Hz; 0= 78 Hz on
61	3D	075	Offset Frequency 0 High byte
62	3E	076	Offset Frequency 0 Center byte
63	3F	077	Offset Frequency 0 Low byte
64	40	100	Walsh 0
65	41	101	Offset Frequency 1 High byte
66	42	102	Offset Frequency 1 Center byte
67	43	103	Offset Frequency 1 Low byte
68	44	104	Walsh 1
69	45	105	Offset Phase 0 High byte
70	46	106	Offset Phase 0 Low byte (12 bits left justified)
71	47	107	Offset Phase 1 High byte
72	48	110	Offset Phase 1 Low byte (12 bits left justified)
73	49	111	
74	4A	112	
75	4B	113	
76	4C	114	
77	4D	115	
78	4E	116	
79	4F	117	
80	50	120	12 bit DAC 0 - modulator B
81	51	121	.
82	52	122	12 bit DAC 1 - YIG tune
83	53	123	.
84	54	124	12 bit DAC 2 - heater
85	55	125	.
86	56	126	12 bit DAC 3 - Vmixer
87	57	127	.
88	58	130	(w) lock code (0x95 to enable tuning) (r) card status bit 7: -- bit 6: 0=motor driver overtemp bit 5: -- bit 4: 1=tuning enabled bit 3: -- bit 2: 1=lock code OK bit 1: 0=pwr on reset active

			bit 0: 0=start enabled
89	59	131	toggle byte
90	5A	132	direction byte
			bit 7: subreflector
			bit 6: atten B
			bit 5: mmosc B
			bit 4: mmback B
			bit 3: --
			bit 2: mmback C
			bit 1: atten C
			bit 0: mmosc C = mxrback B
91	5B	133	bits out to antenna (none used)
92	5C	134	bits out to antenna
			bit 2: open loop/closed loop
			bit 1: band select A1
			bit 0: band select A0
93	5D	135	(w) 8 bit DAC 1 (unused)
			(no readback)
94	5E	136	(w) 8 bit DAC 2 (unused)
			(r) bits in from antenna (none used)
95	5F	137	(w) 8 bit DAC 3 (unused)
			(r) bits in from antenna
			bit 2: 1=Lband locked
			bit 1: 1=Xband locked
96	60	140	12 bit DAC 0 = modulator A
97	61	141	.
98	62	142	12 bit DAC 1 (unused)
99	63	143	.
100	64	144	12-bit DAC 2 = mm osc Vop
101	65	145	(000 - fff = 7.5 V to 10.0 V)
102	66	146	12-bit DAC 3 = mm loop gain
103	67	147	(000=max gain; fff=min gain)
104	68	150	(w) lock code (0x96 enables tuning)
			(r) card status:
			bit 7: --
			bit 6: 0=motor driver overtemp
			bit 5: --
			bit 4: 1=tuning enabled
			bit 3: --
			bit 2: 1=lock code OK
			bit 1: 0=pwr on reset active
			bit 0: 0=start enabled
105	69	151	toggle byte
106	6A	152	direction byte
			bit 7: --
			bit 6: atten A
			bit 5: mmosc A
			bit 4: mmback A
			bit 3: --
			bit 2: polarizers
			bit 1: atten D
			bit 0: calibration wheel
107	6B	153	bits out to antenna (none used)
108	6C	154	bits out to antenna:
			bit 7: mm sweep

			bit 6: mmosc on/off	
			bit 5: 2nd IF on/off	
			bit 4: 2nd IF 13 dB atten	
			bit 3: phslck select 1	
			bit 2: phslck select 0	
			bit 1: band select 1	
			bit 0: band select 0	
109	6D	155	(w) 8-bit DAC 1 = echo level	
			(no readback)	
110	6E	156	(w) 8-bit DAC 2 = balance B	
			(r) bits in from antenna:	
			bit 2: line length ref status	
			bit 1: mm lock ref status	
			bit 0: mm lock status	
111	6F	157	(w) 8-bit DAC 3 = balance A	
			(r) bits in from antenna (none used)	
112	70	160	mmosc A	LO plate AD High Byte
113	71	161		Low Byte
114	72	162	Imxr A	dewar control
115	73	163		
116	74	164	Vop A	LO plate AD
117	75	165		
118	76	166	spare 1	dewar control
119	77	167		
120	78	170	atten C	LO plate BC
121	79	171		
122	7A	172	T3	therm fanout 1
123	7B	173		
124	7C	174	T harm gen	IF plate
125	7D	175		
126	7E	176	T9	therm fanout 1
127	7F	177		
128	80	200	+15 mon	IF plate
129	81	201		
130	82	202	T15	therm fanout 2
131	83	203		
132	84	204	xband IF lev rcvr mon panel	
133	85	205		
134	86	206	T21	therm fanout 2
135	87	207		
136	88	210	T heat exch	He compressor
137	89	211		
138	8A	212	T amb	cal/pol
139	8B	213		
140	8C	214	T water in	water flometer
141	8D	215		
142	8E	216	tilt 1	tiltmeter 1
143	8F	217		
144	90	220	mmbck A	LO plate AD
145	91	221		
146	92	222	VmxrA	dewar control
147	93	223		
148	94	224	tripler	LO plate AD
149	95	225		
150	96	226	sensor 1	dewar control

151	97	227		
152	98	230	T bc	LO plate BC
153	99	231		
154	9A	232	T4	therm fanout 1
155	9B	233		
156	9C	234	T bp/bs	IF plate
157	9D	235		
158	9E	236	T10	therm fanout 1
159	9F	237		
160	A0	240	-15 mon	IF plate
161	A1	241		
162	A2	242	T16	therm fanout 2
163	A3	243		
164	A4	244	mm err V	rcvr mon panel
165	A5	245		
166	A6	246	T22	therm fanout 2
167	A7	247		
168	A8	250	T oil sump	He compressor
169	A9	251		
170	AA	252	T hot	cal/pol
171	AB	253		
172	AC	254	T water out	water flometer
173	AD	255		
174	AE	256	tilt 2	tiltmeter 2
175	AF	257		
176	B0	260	atten A	LO plate AD
177	B1	261		
178	B2	262	Iheater	dewar control
179	B3	263		
180	B4	264	mmosc B	LO plate BC
181	B5	265		
182	B6	266	sensor 2	dewar control
183	B7	267		
184	B8	270	Vop B	LO plate BC
185	B9	271		
186	BA	272	T5	therm fanout 1
187	BB	273		
188	BC	274	xband tune mon	IF plate
189	BD	275		
190	BE	276	T11	therm fanout 1
191	BF	277		
192	C0	300	+5 mon	IF plate
193	C1	301		
194	C2	302	T17	therm fanout 2
195	C3	303		
196	C4	304	mm IF lev	rcvr mon panel
197	C5	305		
198	C6	306	T23	therm fanout 2
199	C7	307		
200	C8	310	He supply	He manifold
201	C9	311		
202	CA	312	mod A Imon	VME chassis
203	CB	313		
204	CC	314	extra 1	P extra 1
205	CD	315		
206	CE	316	extra 5	P extra 2

207	CF	317		
208	D0	320	spare 1	LO plate AD
209	D1	321		
210	D2	322	sensor 5	dewar control
211	D3	323		
212	D4	324	mmback B	LO plate BC
213	D5	325		
214	D6	326	sensor 3	dewar control
215	D7	327		
216	D8	330	Vop C	LO plate BC
217	D9	331		
218	DA	332	T6	therm fanout 1
219	DB	333		
220	DC	334	plate htr mon	IF plate
221	DD	335		
222	DE	336	T12	therm fanout 1
223	DF	337		
224	E0	340	Lband err V	rcvr mon panel
225	E1	341		
226	E2	342	T18	therm fanout 2
227	E3	343		
228	E4	344	totpwr	rcvr mon panel
229	E5	345		
230	E6	346	T24	therm fanout 2
231	E7	347		
232	E8	350	He return	He manifold
233	E9	351		
234	EA	352	mod B Imon	VME chassis
235	EB	353		
236	EC	354	extra 2	P extra 1
237	ED	355		
238	EE	356	extra 6	P extra 2
239	EF	357		
240	F0	360	spare 2	LO plate AD
241	F1	361		
242	F2	362	sensor 6	dewar control
243	F3	363		
244	F4	364	atten B	LO plate BC
245	F5	365		
246	F6	366	sensor 4	dewar control
247	F7	367		
248	F8	370	T plate	IF plate
249	F9	371		
250	FA	372	T7	therm fanout 1
251	FB	373		
252	FC	374	mm lp gain mon	IF plate
253	FD	375		
254	FE	376	T13	therm fanout 2
255	FF	377		

The following addresses are read only

256	100	400	Lband IF lev rcvr mon panel
257	101	401	
258	102	402	T19 therm fanout 2
259	103	403	
260	104	404	T inlet air He compressor
261	105	405	

262	106	406	calib	cal/pol
263	107	407		
264	108	410	vac gauge	He manifold
265	109	411		
266	10A	412	mon C Imon	VME chassis
267	10B	413		
268	10C	414	extra 3	P extra 1
269	10D	415		
270	10E	416	extra 7	P extra 2
271	10F	417		
272	110	420	atten D	LO plate AD
273	111	421		
274	112	422	V schottky	dewar control
275	113	423		
276	114	424	mмосc C	LO plate BC
277	115	425		
278	116	426	T1	therm fanout 1
279	117	427		
280	118	430	T 2nd IF	IF plate
281	119	431		
282	11A	432	T8	therm fanout 1
283	11B	433		
284	11C	434	echo level mon	IF plate
285	11D	435		
286	11E	436	T14	therm fanout 2
287	11F	437		
288	120	440	xband err V	rcvr mon panel
289	121	441		
290	122	442	T20	therm fanout 2
291	123	443		
292	124	444	T gas disch	He compressor
293	125	445		
294	126	446	pol	cal/pol
295	127	447		
296	128	450	flowrate	water flometer
297	129	451		
298	12A	452	T VME	VME chassis
299	12B	453		
300	12C	454	extra 4	P extra 1
301	12D	455		
302	12E	456	extra 8	P extra 2
303	12F	457		
304	130	460	T ad	LO plate AD
305	131	461		
306	132	462	spare 2	dewar control
307	133	463		
308	134	464	mmbck C	LO plate BC
309	135	465		
310	136	466	T2	therm fanout 1 High Byte
311	137	467		Low Byte
312	138	470		
313	139	471		
314	13A	472		

control box status bits:
bit 7: cabin power (0=OK; 1=power off)
bit 6: camera flap (0=closed, 1=open)
bit 5: priority pwr (0=normal, 1>manual override)

			bit 4: camera flap bypass (0=bypassed)
			bit 3: --
			bit 2: --
			bit 1: --
			bit 0: always 0
315	13B	473	ant base control box status:
			bit 7: collision (0=OK, 1=collision occurred)
			bit 6: ant drive (0>manual, 1=computer)
			bit 5: spare 1 temperature (1=OK, 0=fault)
			bit 4: cabin temp (1=OK, 0=too high)
			bit 3: rcvr temp (1=OK, 0=too high)
			bit 2: elev drive temp (1=OK, 0=too hot)
			bit 1: camera safe (1=OK, 0=flap not safe)
			bit 0: azim drive temp (1=OK, 0=too hot)
316	13C	474	ant base control box status bits:
			bit 7: ultimate elev limit (0=OK, 1=on limit)
			bit 6: azim limit (0=OK, 1=on limit)
			bit 5: collision protection (0=enabled)
			bit 4: water pressure (0=OK, 1=too low)
			bit 3: key (0=OK, 1=key off/ult lim/safety int)
			bit 2: ultimate limit azim (0=OK, 1=on limit)
			bit 1: service (0=normal; 1=5 minute grace period to service water pump)
			bit 0: elev limit (0=OK, 1=on limit)
317	13D	475	Phase Status
318	13E	476	Error Status - status reg of DP8343 rcvr chip
319	13F	477	Error Address - telem addr of error