

Dec Value	Hex Value	Read/Write		Bytes Rcvd by Co-Proc	Bytes Xmit from Co-Proc	Default Value after reset Norm/Robot	Notes
0	00	Read	Timer Value - Timer # 0	1	1	0	
1	01	Read	Timer Value - Timer # 1	1	1	0	
2	02	Read	Timer Value - Timer # 2	1	1	0	
3	03	Read	Timer Value - Timer # 3	1	1	0	
4	04	Read	Timer Value - Timer # 4	1	1	0	
5	05	Read	Timer Value - Timer # 5	1	1	0	
6	06	Read	Timer Value - Timer # 6	1	1	0	
7	07	Read	Timer Value - Timer # 7	1	1	0	
8	08	Read	Servo Setpoint - (Left) Channel # 0	1	1	127/Left Stop	
9	09	Read	Servo Setpoint - (Right) Channel # 1	1	1	127/Right Stop	
10	0A	Read	Servo Setpoint - Channel # 2	1	1	127 = 1.5ms	
11	0B	Read	Servo Setpoint - Channel # 3	1	1	127 = 1.5ms	
12	0C	Read	Servo Setpoint - Channel # 4	1	1	127 = 1.5ms	
13	0D	Read	Servo Setpoint - Channel # 5	1	1	127 = 1.5ms	
14	0E	Read	Servo Setpoint - Channel # 6	1	1	127 = 1.5ms	
15	0F	Read	Servo Setpoint - Channel # 7	1	1	127 = 1.5ms	
16	10	Read	Servo Ramp - (Left) Channel # 0	1	1	0/24	24 = 6 counts per 20ms
17	11	Read	Servo Ramp - (Right) Channel # 1	1	1	0/24	
18	12	Read	Servo Ramp - Channel # 2	1	1	0	0 = no ramp
19	13	Read	Servo Ramp - Channel # 3	1	1	0	
20	14	Read	Servo Ramp - Channel # 4	1	1	0	
21	15	Read	Servo Ramp - Channel # 5	1	1	0	
22	16	Read	Servo Ramp - Channel # 6	1	1	0	
23	17	Read	Servo Ramp - Channel # 7	1	1	0	
24	18	Read	Servo Position - (Left) Channel # 0	1	1	127 = 1.5ms	
25	19	Read	Servo Position - (Right) Channel # 1	1	1	127 = 1.5ms	
26	1A	Read	Servo Position - Channel # 2	1	1	127 = 1.5ms	
27	1B	Read	Servo Position - Channel # 3	1	1	127 = 1.5ms	
28	1C	Read	Servo Position - Channel # 4	1	1	127 = 1.5ms	
29	1D	Read	Servo Position - Channel # 5	1	1	127 = 1.5ms	
30	1E	Read	Servo Position - Channel # 6	1	1	127 = 1.5ms	
31	1F	Read	Servo Position - Channel # 7	1	1	127 = 1.5ms	
32-63	20-3F		Undefined instructions	1	0		

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64	40	Read	Drive	1	1	0	
65	41	Read	Wander Direction	1	1	Forward	
66	42	Read	Wander Duration	1	1	20	
67	43	Read	IRPD Direction	1	1	0	
68	44	Read	IRPD Duration	1	1	0	
69	45	Read	Bump Direction	1	1	0	
70	46	Read	Bump Duration	1	1	0	
71	47	Read	Level 1 Direction	1	1	0	
72	48	Read	Level 1 Duration	1	1	0	
73	49	Read	Level 3 Direction	1	1	0	
74	4A	Read	Level 3 Duration	1	1	0	
75	4B	Read	Level 5 Direction	1	1	0	
76	4C	Read	Level 5 Duration	1	1	0	
77	4D	Read	Servo Min	1	1	65 = 1ms	used in Coarse mode only
78	4E	Read	Servo Max	1	1	190 = 2ms	used in Coarse mode only
79	4F	Read	Left Stop	1	1	127 = 1.5ms	
80	50	Read	Right Stop	1	1	127 = 1.5ms	
81	51	Read	Left Min	1	1	0 = 1ms	
82	52	Read	Right Min	1	1	0 = 1ms	
83	53	Read	Left Max	1	1	255 = 2ms	
84	54	Read	Right Max	1	1	255 = 2ms	
85	55	Read	2nd Byte A/D value	1	1	0	
86	56	Read	IRPD Frequency	1	1	0/23	0 = off, 23 = 40.3KHz
87	57	Read	General Purpose Memory Loc # 87	1	1	0	
88	58	Read	Timer 0 Retrigger Value	1	1	0	
89	59	Read	Counter Enables	1	1	0	
90	5A	Read	Robot Control	1	1	0	
91-115	5B-73		Undefined instructions	1	0		
116	74	Read	Reset	1	0		
117	75	Read	Initialize for Robot Mode	1	0		
118	76	Read	Robot Status	1	1	0	
119	77	Read	Timeout Alarm	1	1	0	Reset after read
120	78	Read	Read 1st Byte A/D Channel # 0	1	1	Pwr Supply/2	

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121	79	Read	Read 1st Byte A/D Channel # 1	1	1	floating input?	Reads erratic numbers
122	7A	Read	Read 1st Byte A/D Channel # 2	1	1	" "	unless pins are
123	7B	Read	Read 1st Byte A/D Channel # 3	1	1	" "	tied to something
124	7C	Read	Read 1st Byte A/D Channel # 4	1	1	" "	
125	7D		Undefined instruction	1	0		
126	7E		Undefined instruction	1	0		
127	7F		Undefined instruction	1	0		
128	80	Write	Timer Value - Timer # 0	2	0	0	Starts Timer if data >0
129	81	Write	Timer Value - Timer # 1	2	0	0	" "
130	82	Write	Timer Value - Timer # 2	2	0	0	" "
131	83	Write	Timer Value - Timer # 3	2	0	0	" "
132	84	Write	Timer Value - Timer # 4	2	0	0	" "
133	85	Write	Timer Value - Timer # 5	2	0	0	" "
134	86	Write	Timer Value - Timer # 6	2	0	0	" "
135	87	Write	Timer Value - Timer # 7	2	0	0	" "
136	88	Write	Servo Setpoint - (Left) Channel # 0	2	0	127/Left Stop	Turns on servo mode
137	89	Write	Servo Setpoint - (Right) Channel # 1	2	0	127/Right Stop	" "
138	8A	Write	Servo Setpoint - Channel # 2	2	0	127 = 1.5ms	" "
139	8B	Write	Servo Setpoint - Channel # 3	2	0	127 = 1.5ms	" "
140	8C	Write	Servo Setpoint - Channel # 4	2	0	127 = 1.5ms	" "
141	8D	Write	Servo Setpoint - Channel # 5	2	0	127 = 1.5ms	" "
142	8E	Write	Servo Setpoint - Channel # 6	2	0	127 = 1.5ms	" "
143	8F	Write	Servo Setpoint - Channel # 7	2	0	127 = 1.5ms	" "
144	90	Write	Servo Ramp - (Left) Channel # 0	2	0	0/24	24 = 6 counts per 20ms
145	91	Write	Servo Ramp - (Right) Channel # 1	2	0	0/24	
146	92	Write	Servo Ramp - Channel # 2	2	0	0	0 = no ramp
147	93	Write	Servo Ramp - Channel # 3	2	0	0	
148	94	Write	Servo Ramp - Channel # 4	2	0	0	
149	95	Write	Servo Ramp - Channel # 5	2	0	0	
150	96	Write	Servo Ramp - Channel # 6	2	0	0	
151	97	Write	Servo Ramp - Channel # 7	2	0	0	
152	98	Write	Servo Position - (Left) Channel # 0	2	0	127/Left Stop	
153	99	Write	Servo Position - (Right) Channel # 1	2	0	127/Right Stop	

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154	9A	Write	Servo Position - Channel # 2	2	0	127 = 1.5ms	
155	9B	Write	Servo Position - Channel # 3	2	0	127 = 1.5ms	
156	9C	Write	Servo Position - Channel # 4	2	0	127 = 1.5ms	
157	9D	Write	Servo Position - Channel # 5	2	0	127 = 1.5ms	
158	9E	Write	Servo Position - Channel # 6	2	0	127 = 1.5ms	
159	9F	Write	Servo Position - Channel # 7	2	0	127 = 1.5ms	
160-191	A0-BF		Undefined instructions	1	0		
192	C0	Write	Drive	2	0	0	
193	C1	Write	Wander Direction	2	0	Forward	Robot mode writes this
194	C2	Write	Wander Duration	2	0	20	Robot mode writes this
195	C3	Write	IRPD Direction	2	0	0	Robot mode writes this
196	C4	Write	IRPD Duration	2	0	0	Robot mode writes this
197	C5	Write	Bump Direction	2	0	0	Robot mode writes this
198	C6	Write	Bump Duration	2	0	0	Robot mode writes this
199	C7	Write	Level 1 Direction	2	0	0	
200	C8	Write	Level 1 Duration	2	0	0	
201	C9	Write	Level 3 Direction	2	0	0	
202	CA	Write	Level 3 Duration	2	0	0	
203	CB	Write	Level 5 Direction	2	0	0	
204	CC	Write	Level 5 Duration	2	0	0	
205	CD	Write	Servo Min	2	0	65 = 1ms	used in Coarse mode only
206	CE	Write	Servo Max	2	0	190 = 2ms	used in Coarse mode only
207	CF	Write	Left Stop	2	0	127 = 1.5ms	
208	D0	Write	Right Stop	2	0	127 = 1.5ms	
209	D1	Write	Left Min	2	0	0 = 1ms	
210	D2	Write	Right Min	2	0	0 = 1ms	
211	D3	Write	Left Max	2	0	255 = 2ms	
212	D4	Write	Right Max	2	0	255 = 2ms	
213	D5	Write	2nd Byte A/D value	2	0	0	Read A/D writes here
214	D6	Write	IRPD Frequency	2	0	0/23	0 = off, 23 = 40.3KHz
215	D7	Write	General Purpose Memory Loc # 87	2	0	0	
216	D8	Write	Timer 0 Retrigger Value	2	0	0	Start Timer if >0
217	D9	Write	Counter Enables	2	0	0	

Dec Value	Hex Value	Read/Write		Bytes Rcvd by Co-Proc	Bytes Xmit from Co-Proc	Default Value after reset Norm/Robot	Notes
218	DA	Write	Robot Control	2	0	0	
219-239	DB-EF		Undefined instructions	1	0		
240	F0	Write	Set Output Bit = 0	1	0	0	Stops servo mode
241	F1	Write	" "	1	0	0	Stops servo mode
242	F2	Write	" "	1	0	0	Stops servo mode
243	F3	Write	" "	1	0	0	Stops servo mode
244	F4	Write	" "	1	0	0	Stops servo mode
245	F5	Write	" "	1	0	0	Stops servo mode
246	F6	Write	" "	1	0	0	Stops servo mode
247	F7	Write	" "	1	0	0	Stops servo mode
248	F8	Write	Set Output Bit = 1	1	0	0	Stops servo mode
249	F9	Write	" "	1	0	0	Stops servo mode
250	FA	Write	" "	1	0	0	Stops servo mode
251	FB	Write	" "	1	0	0	Stops servo mode
252	FC	Write	" "	1	0	0	Stops servo mode
253	FD	Write	" "	1	0	0	Stops servo mode
254	FE	Write	" "	1	0	0	Stops servo mode
255	FF	Write	" "	1	0	0	Stops servo mode