

CR510 PROMPT SHEET

This prompt sheet is intended for field use or as a reference by those familiar with CR510 programming; additional details and examples are in the CR510 Operator's manual. Computer-assisted programming is supported by EDLOG and Short Cut; communication is supported by GraphTerm, TELCOM (DOS), PC200W and PC208W (Windows).

CR10KD Keystrokes

The CR510 can be interrogated or programmed via the 16 keys and display on the CR10KD. The ***** key is the most important because it controls access to each of the CR510's 14 programming, data storage, and status areas ("star" modes).

Once in a star mode, use **A** & **B** to move between entries. To enter a value, use the **0** through **9** keys, then press **A**. To exit a star mode, key in a different star mode. To exit all star modes and begin logging, key in ***** **0**.



General Keystrokes

- 0** - **9** Key in data or instructions
- A** Enter (Advance)
- B** Back up
- C** Change value, Index a parameter
Change sign of a number
- D** Decimal point
- #** Clear digit just keyed

*** 0 BEGIN LOGGING (compiles program and logs data)**

*** 1 ENTER PROGRAM TABLE 1**

- 01:xxxx Advance to a given Instruction location ("fast forward")
- 01:x.xxxx Enter Execution Interval between 1/64 and 8191s.
Valid entries are multiples of for Range of
1/8 (0.125) s. 1/8 to 32 s.
1 s. 32 to 8191 s.
- 01:Pxx Enter a Program Instruction (select appropriate instructions from the following pages).
Entering an instruction number also loads blank entries for its associated parameters.
For example, if Instruction 2 (differential volts) is desired, key in **2** **A** which loads:
01:P2
01:00 (Reps - repeats measurements on consecutive channels and places results in consecutive input locations)
02:00 (Range - see option codes)
03:00 (First differential channel to make measurement)
04:0000 (First input location where measured result will be stored)
05:0.0000 (Multiplier)
06:0.0000 (Offset)
Key in values for each parameter then advance to next instruction in program.

*** 2 ENTER PROGRAM TABLE 2**
Same structure as *1. Allows use of a different Execution Interval.

*** 3 ENTER PROGRAM TABLE 3 (subroutines only)**
Same structure as *1 except no Execution Interval

- *1, *2, and *3 Commands*
- # A** Advance to next instruction
 - # B** Back up to previous instruction
 - # D** Delete entire instruction

*** 4 PARAMETER ENTRY TABLE** - See CR510 manual.

*** 5 CLOCK (set or display CR510 time)**
:HH:MM:SS (displays current datalogger time)
05:xxxx Year
05:xxxx Day of Year (Calendar on back)
05:HHMM Hours Minutes

*** 6 INPUT STORAGE (display data values, flags, or port status. Compile program without resetting input storage, flags or ports)**
06:xxxx Advance to a given Input Storage Location

- *6 Commands*
- #** Display Input Location Number or enter location to advance to
 - C** Enter value in Input Location; change sign
 - D** Display flags 1-8, toggle flag w/keys 1-8
 - 0** Display ports 2-1, toggle port w/keys 1-2

*** 7 FINAL STORAGE (display values stored in area 1 or 2)**
07:xx Select area 1 or 2 (skipped if 2 not allocated)
07:xxxxx DSP location; enter location to advance to

- *7 Commands*
- #** Display Final Storage location No.; enter location to advance to, or C to display data
 - # A** Advance to same element in next array w/ same ID
 - # B** Back up to same element in previous array w/ same ID

*** 8 MANUAL DATA DUMP**
08:xx Select Storage Area 1 or 2 (skipped if 2 not allocated)
01:xx Output Device/Baud Code (see Inst. 96 options)
02:xxxxx Current or start Final Storage Location
03:xxxxx DSP or end Final Storage Location
04:xx Enter any number to start dump
Aborts dump

*** 9 STORAGE MODULE COMMANDS** - See Storage Module manual

*** A MEMORY ALLOCATIONS (display or change)**

- 01:xxxx Input Storage Locations
- 02:xxxx Intermediate Storage Locations
- 03:x Final Storage Locations - Area 2
- 04:xxxxx Final Storage Locations - Area 1
- 05:xxxx.x Memory allocated for program (bytes)
- 06:xxxx.x Remaining program memory (bytes)

*** B CR510 STATUS/ON-BOARD FIRMWARE**

- 01:xxxxx Program signature
- 02:xxxxx Operating System signature
- 03:xxxxx K bytes memory: Flash + SRAM
- 04:xx No. of E08's (Key 88 to reset)
- 05:xx No. of table overruns (Key 88 to reset)
- 06:x.xxxx Operating system version number
- 07:xxxx Revision number
- 08:x.xxxx Lithium battery voltage
- 09:xx Low 12 V batt. detect counter (Key 88 to reset)
- 10:xx Extended mem. error counter (Key 88 to reset)
- 11:x.xxxx Extended memory time to erase, seconds

*** C SECURITY (display or change)**

- 01:xxxx Lock *1, *2, *3, *A, *D
- 02:xxxx Lock *4, *5 & *6 except display
- 03:xxxx Lock *5, *6, *7, *8, *9, *B; telecommunication commands except A, L, N, and E

*** D STORE OR LOAD PROGRAMS**

- 1 Print program (ASCII)
- 2 Load program (ASCII), *0 compile
- 2-- Load program (ASCII), *6 compile
- 6 Store program in Flash
- 7 Load program from Flash
- 7N Store/Load/Clear program in Storage Module N (N = 1-8)
1x Store program x in Storage Module N
2x Load program x from Storage Module N
3x Clear program x from Storage Module N
x = program 1-8
- 8 Set Datalogger ID
- 10 Set Power-Up Options
0 Clear ports, flags, timer, and input and intermediate storage
1 Clear intermediate storage
2 Retain ports, flags, timer and input and intermediate storage
3 Do not change power-up settings



CAMPBELL SCIENTIFIC, INC.

815 W. 1800 N. • Logan, Utah 84321-1784 • (435) 753-2342 • FAX (435) 750-9540 • www.campbellsci.com

ERROR CODES

- 3 Program Table full
- 4 Intermediate Storage full
- 5 Final Storage Area 2 not allocated
- 8 CR510 was reset by watch dog timer
- 9 Insufficient Input Storage
- 10 Low battery voltage
- 11 Attempt to allocate unavailable storage
- 12 Duplicate *4 ID
- 20 Subroutine encountered before END of previous subroutine
- 21 END without IF, LOOP, or SUBROUTINE
- 22 Missing END
- 23 Non-existent SUBROUTINE
- 24 ELSE in SUBROUTINE without IF
- 25 ELSE without IF
- 26 EXIT LOOP without LOOP
- 27 IF CASE without BEGIN CASE
- 30 IFs and/or LOOPS nested too deep

- 31 SUBROUTINES nested too deep
- 32 Instruction 3 and interrupt subroutine use same port
- 40 Instruction does not exist
- 41 Incorrect Execution Interval
- 60 Insufficient Input Storage

*D Mode Errors

- 94 Program storage area full
- 95 Flash program does not exist
- 96 Addressed device not connected
- 97 Data not received within 30 seconds
- 98 Uncorrectable errors detected
- 99 Wrong file type or editor error

DAY OF YEAR CALENDAR

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
JAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
FEB	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60		
MAR	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
APR	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	
MAY	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151
JUN	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	
JUL	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212
AUG	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243
SEP	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	
OCT	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304
NOV	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	
DEC	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365

Add 1 to unshaded values during leap years.



CAMPBELL SCIENTIFIC, INC.

815 W. 1800 N. • Logan, Utah 84321-1784 • (435) 753-2342 • FAX (435) 750-9540
 Offices also located in: Australia • Brazil • Canada • England • France • South Africa