

**In-Cave Data Logger Project (DLP)**  
Sponsored by the  
Central Connecticut Grotto

www.ctcavers.org  
www.ctcavers.org/datalogger

This project is a work in progress, is frequently updated, and done entirely by unpaid volunteers. For more information, updates, and other documents, please contact [info@ctcavers.org](mailto:info@ctcavers.org) and put "CCG Data Logger" in the subject line. If you don't get a reply within a week, please call 860-621-2080.

**CCG DLP - MS Access Analysis**

Contents:

- Run the routines which will analyze data and make the event groups. This is Public Sub StartHere in the module basLogger.
- Run the routine to make data table for plotting. This is Public Sub StartHere in the module basLoggerGraphing.

Below is the Access table "tData" after the Excel data from the CSV file is pasted (see document "Logger Hobo Data To MS Excel to MS Access")

LogID	LogDate	LogTime	LogState	LogDateTime
-2	5/3/2008	2:17:30 AM	0	
-1	5/3/2008	2:17:30 AM	1	
0	5/3/2008	2:17:30 AM	0	
203	5/3/2008	2:17:30 AM	1	
204	5/3/2008	2:17:31 AM	0	
205	5/3/2008	2:17:35 AM	1	
206	5/3/2008	2:17:37 AM	0	
207	5/3/2008	2:17:42 AM	1	
208	5/3/2008	2:17:43 AM	0	
209	5/3/2008	2:17:47 AM	1	
210	5/3/2008	2:17:49 AM	0	
211	5/3/2008	2:18:31 AM	1	
212	5/3/2008	2:18:36 AM	0	
213	5/3/2008	2:18:41 AM	1	
214	5/3/2008	2:18:44 AM	0	

Run the routines which will analyze data and make the event groups. This is Public Sub StartHere in the module basLogger.

Below is the Access table "tDetails" which is made in basLogger

LogID	LogDateTime	LogState	StateLength	GroupID	GroupDuration	GroupIDSub	GrpState	NewState
-2	5/3/2008 2:17:30 AM	0	0	1	0	1	0	0
-1	5/3/2008 2:17:30 AM	1	0	1	0	2	0	0
0	5/3/2008 2:17:30 AM	0	0	1	0	3	0	0
203	5/3/2008 2:17:30 AM	1	1	1	1	4	0	0
204	5/3/2008 2:17:31 AM	0	4	1	5	5	0	0
205	5/3/2008 2:17:35 AM	1	2	2	2	1	1	1
206	5/3/2008 2:17:37 AM	0	5	2	7	2	1	0
207	5/3/2008 2:17:42 AM	1	1	2	8	3	1	0
208	5/3/2008 2:17:43 AM	0	4	2	12	4	1	0
209	5/3/2008 2:17:47 AM	1	2	2	14	5	1	0
210	5/3/2008 2:17:49 AM	0	42	2	56	6	1	0
211	5/3/2008 2:18:31 AM	1	5	2	61	7	1	0
212	5/3/2008 2:18:36 AM	0	5	2	66	8	1	0
213	5/3/2008 2:18:41 AM	1	3	2	69	9	1	0
214	5/3/2008 2:18:44 AM	0	257	3	257	1	0	1
215	5/3/2008 2:23:01 AM	1	1	3	258	2	0	0
216	5/3/2008 2:23:02 AM	0	116	3	374	3	0	0

Run the routine to make data table for plotting. This is Public Sub StartHere in the module basLoggerGraphing.

Below is the Access table "tGroupToPlot" which is made in basLoggerGraphing

GroupID	GroupStartDate	GroupStartTime	GroupDuration	LogDateTime
2	124	137	2	5/3/2008 2:17:35 AM
4	124	146	423	5/3/2008 2:26:10 AM
6	124	710	52	5/3/2008 11:50:48 AM
8	124	1103	4	5/3/2008 6:23:31 PM
10	124	1128	1	5/3/2008 6:48:09 PM
12	125	982	2	5/4/2008 4:22:17 PM
14	125	1072	1	5/4/2008 5:52:04 PM
16	128	928	3	5/7/2008 3:28:39 PM
18	130	1028	2	5/9/2008 5:08:07 PM
20	130	1065	1	5/9/2008 5:45:06 PM
22	132	1020	1	5/11/2008 5:00:55 PM
24	132	1027	1	5/11/2008 5:07:54 PM
26	133	989	6	5/12/2008 4:29:02 PM
28	133	1193	7	5/12/2008 7:53:08 PM
30	135	1137	2	5/11/2008 6:57:17 PM

Below is a section of the Access table "tGroupToPlot" showing the groups created when a group (of events) that started on 5/30/2008 at 10:42:23 PM and continued past midnight is broken into two groups. The second group starts on midnight of 5/31/2008, and Access does not display (in the table) the time when it is midnight.

GroupID	GroupStartDate	GroupStartTime	GroupDuration	LogDateTime
116	149	1414	1	5/28/2008 11:34:36 PM
118	151	690	1	5/30/2008 11:30:27 AM
120	151	759	1	5/30/2008 12:39:29 PM
122	151	765	1	5/30/2008 12:45:49 PM
124.01	151	1362	78	5/30/2008 10:42:23 PM
124.02	152	0	102	5/31/2008
126	152	816	2	5/31/2008 1:36:18 PM
128	152	824	6	5/31/2008 1:44:19 PM
130	152	830	4	5/31/2008 1:50:32 PM
132	152	835	1	5/31/2008 1:55:20 PM
134	152	837	2	5/31/2008 1:57:30 PM
136	152	844	5	5/31/2008 2:04:07 PM
138	152	951	5	5/31/2008 3:51:26 PM
140	152	957	1	5/31/2008 3:57:55 PM
142	153	633	3	6/1/2008 10:33:16 AM
144	153	646	1	6/1/2008 10:46:28 AM

Below is the access table "tDetails" showing the events that created the group past midnight (see prior page for group table).

Note the events LogID 3697 - LogID 3725. These are considered to be on event and grouped into one On group. The group started on 5/30/2008 at 10:42:23 and ended on 5/31/2008 at 1:42:28 AM. It is composed of 29 On and Off events.

LogID	LogDateTime	LogState	StateLength	GroupID	GroupDuration	GroupIDSub	GrpState	NewState
3692	5/30/2008 12:45:47 PM	0	2	121	347	5	0	0
3693	5/30/2008 12:45:49 PM	1	2	122	2	1	1	1
3694	5/30/2008 12:45:51 PM	0	35790	123	35790	1	0	1
3695	5/30/2008 10:42:21 PM	1	1	123	35791	2	0	0
3696	5/30/2008 10:42:22 PM	0	1	123	35792	3	0	0
3697	5/30/2008 10:42:23 PM	1	5	124	5	1	1	1
3698	5/30/2008 10:42:28 PM	0	10	124	15	2	1	0
3699	5/30/2008 10:42:38 PM	1	3	124	18	3	1	0
3700	5/30/2008 10:42:41 PM	0	39	124	57	4	1	0
3701	5/30/2008 10:43:20 PM	1	2	124	59	5	1	0
3702	5/30/2008 10:43:22 PM	0	8	124	67	6	1	0
3703	5/30/2008 10:43:30 PM	1	1	124	68	7	1	0
3704	5/30/2008 10:43:31 PM	0	13	124	81	8	1	0
3705	5/30/2008 10:43:44 PM	1	2	124	83	9	1	0
3706	5/30/2008 10:43:46 PM	0	3	124	86	10	1	0
3707	5/30/2008 10:43:49 PM	1	1	124	87	11	1	0
3708	5/30/2008 10:43:50 PM	0	8	124	95	12	1	0
3709	5/30/2008 10:43:58 PM	1	1	124	96	13	1	0
3710	5/30/2008 10:43:59 PM	0	1	124	97	14	1	0
3711	5/30/2008 10:44:00 PM	1	2	124	99	15	1	0
3712	5/30/2008 10:44:02 PM	0	1	124	100	16	1	0
3713	5/30/2008 10:44:03 PM	1	1	124	101	17	1	0
3714	5/30/2008 10:44:04 PM	0	4	124	105	18	1	0
3715	5/30/2008 10:44:08 PM	1	1	124	106	19	1	0
3716	5/30/2008 10:44:09 PM	0	1	124	107	20	1	0
3717	5/30/2008 10:44:10 PM	1	1	124	108	21	1	0
3718	5/30/2008 10:44:11 PM	0	3	124	111	22	1	0
3719	5/30/2008 10:44:14 PM	1	1	124	112	23	1	0
3720	5/30/2008 10:44:15 PM	0	2	124	114	24	1	0
3721	5/30/2008 10:44:17 PM	1	8	124	122	25	1	0
3722	5/30/2008 10:44:25 PM	0	2	124	124	26	1	0
3723	5/30/2008 10:44:27 PM	1	1	124	125	27	1	0
3724	5/30/2008 10:44:28 PM	0	2	124	127	28	1	0
3725	5/30/2008 10:44:30 PM	1	10668	124	10795	29	1	0
3726	5/31/2008 1:42:18 AM	0	5930	125	5930	1	0	1
3727	5/31/2008 3:21:08 AM	1	1	125	5931	2	0	0