

In-Cave Data Logger Project (DLP)

Sponsored by the
Central Connecticut Grotto

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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 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 - Hobo Data To Excel to Access

Contents:

- Import Hobo data into Excel
- Edit Excel CSV file header row
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Edit Excel CSV file header row

Caution: Be sure to save an unedited csv file as it came from the Hobo logger by making a copy of the CSV file and work with this file.

Edit csv file: add new row on top with the four column names "LogID", "LogDate", "LogTime", "LogState"

	A	B	C	D	E	F	G	
1	LogID	LogDate	LogTime	LogState				
2	Plot Title: C3							
3	#	Date	Time, GMT-04:00	Light Sensor	Button Down	Button Up	Host Connected	Stopped
4	1	3/22/2008	12:35:07	1				
5	2	3/22/2008	12:43:30	0				
6	3	3/22/2008	12:43:32	1				
7	4	3/22/2008	12:43:33	0				
8	5	3/22/2008	12:43:36	1				
9	6	3/22/2008	12:43:37	0				
10	7	3/22/2008	12:43:50	1				

Edit csv file: Delete the next two rows containing the Plot Title and Default column names

	A	B	C	D	E	F	G
1	LogID	LogDate	LogTime	LogState			
2	1	3/22/2008	12:35:07	1			
3	2	3/22/2008	12:43:30	0			
4	3	3/22/2008	12:43:32	1			
5	4	3/22/2008	12:43:33	0			
6	5	3/22/2008	12:43:36	1			
7	6	3/22/2008	12:43:37	0			
8	7	3/22/2008	12:43:50	1			

Verify the Excel CSV file start and end states

The first data row needs to be an on event (shown as "1"). If it is "0", delete the row.
The last data row needs to be an off event (shown as "0"). If it is "1", delete the row.

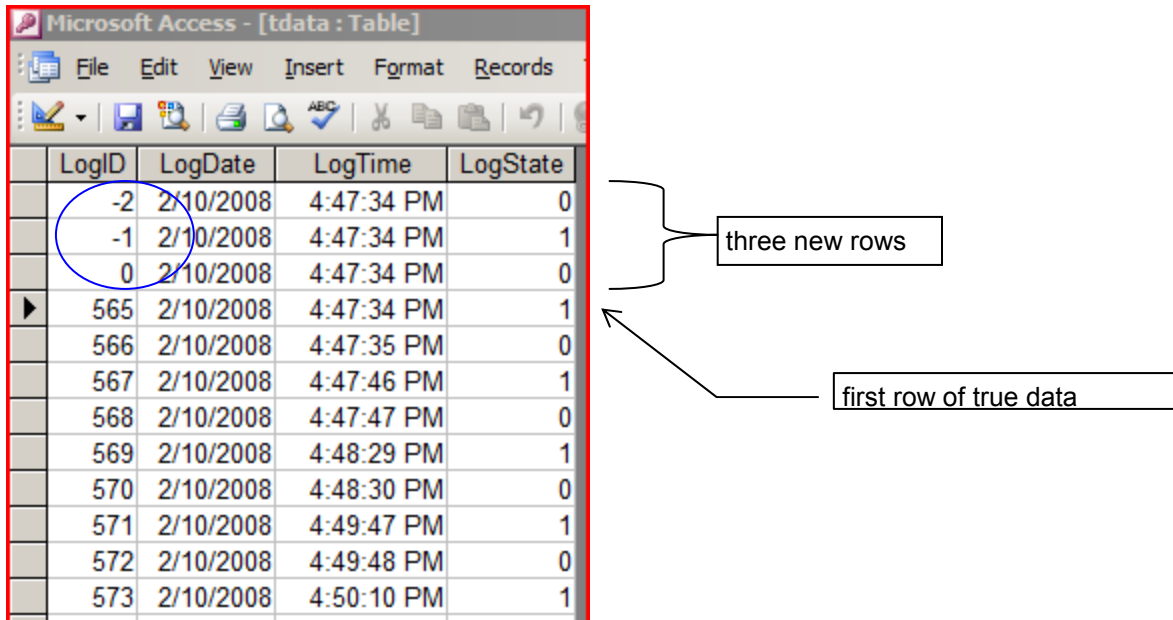
	A	B	C	D	E
1	LogID	LogDate	LogTime	LogLight	
2	565	2/10/2008	4:47:34 PM	1	
3	566	2/10/2008	4:47:35 PM	0	
4	567	2/10/2008	4:47:46 PM	1	
5	568	2/10/2008	4:47:47 PM	0	
6	569	2/10/2008	4:48:29 PM	1	
7	570	2/10/2008	4:48:30 PM	0	
8	571	2/10/2008	4:49:47 PM	1	
9	572	2/10/2008	4:49:48 PM	0	
10	573	2/10/2008	4:50:10 PM	1	
11	574	2/10/2008	4:50:11 PM	0	
12	575	2/10/2008	4:51:19 PM	1	
13	576	2/10/2008	4:51:20 PM	0	
14	577	2/10/2008	4:51:28 PM	1	
15	578	2/10/2008	4:51:29 PM	0	
16	579	2/10/2008	4:52:22 PM	1	
17	580	2/10/2008	4:52:23 PM	0	
18	581	2/10/2008	4:52:39 PM	1	
19	582	2/10/2008	4:53:06 PM	0	
20	583	2/10/2008	4:53:10 PM	1	
21	584	2/10/2008	4:53:11 PM	0	
22	585	2/10/2008	4:53:13 PM	1	

Image shows the beginning of a CSV file (in Excel) after the unwanted data is deleted. Note that this is from a data logger that had been used in a variety of testing projects, and the file had 564 logged events before the true data (real caver data) was logged.

Add initial data rows to the Excel CSV file

Insert three new rows. In this rows use the same LogDate and LogTime as in the first row of data. Use the LogID and LogState values for these rows as shown below. Note: This is to get the sequence check in the Access program primed, though this could be done in the program (not currently supported).

Sample CSV file, shown in Access but would be same in Excel



LogID	LogDate	LogTime	LogState
-2	2/10/2008	4:47:34 PM	0
-1	2/10/2008	4:47:34 PM	1
0	2/10/2008	4:47:34 PM	0
565	2/10/2008	4:47:34 PM	1
566	2/10/2008	4:47:35 PM	0
567	2/10/2008	4:47:46 PM	1
568	2/10/2008	4:47:47 PM	0
569	2/10/2008	4:48:29 PM	1
570	2/10/2008	4:48:30 PM	0
571	2/10/2008	4:49:47 PM	1
572	2/10/2008	4:49:48 PM	0
573	2/10/2008	4:50:10 PM	1

Copy the Excel data into Microsoft Access

Copy the CSV file into the Access database into table tdata. You should compare the number of rows in Excel and Access to be sure all are copied.

Reference: Date and Time in Excel

1440 minutes / 1 day
86400 seconds / 1 day (from 60*60*24)
1 day / 1 second = 1/86400 = .000015740
1 day / 1 minutes = .0008944 round to .0009
1 day / 2 minutes = .001388 round to .0014
1 day / 24 hours = 1/24 = .041667

Date format for "Tue 06-Oct-2007" ddd dd-mmm-yyyy
In Excel, to convert date in text (must be text, not date, format) is =DATEVALUE(P2) where P2 contains the date such as 12/13/2005

first day of year 1/1/2008 as serial date: 39448
Date A: 2/10/2008 as serial date: 39488, Day of year inclusive: 39488-39448+1=41
Date B: 3/22/2008 as serial date: 39529, Day of year inclusive: 39529-39448+1=82
Date B - Date A inclusive = 82-41+1=42