

# I/O Controls Corp.

## Health Alert Management System (HAMS)

### User Manual



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Prepared by **I/O Controls Corporation**

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## Start HAMS Web Based Application and Log In

1. Start your web browser and navigate to: <http://hams.iocontrols.com/web/>
2. The first screen is the sign in screen, enter the “User Name” and “Password” provided by I/O Controls then press the “Log In” button.



## Choose Fleet

1. The next page shows the available fleets. Click on the desired fleet.

The screenshot shows the HAMS interface. At the top, there is a header bar with the HAMS logo, a bus icon, a heart rate monitor icon, and network signal icons. On the right side of the header are 'Setting' and 'Log Off' buttons. Below the header is a sidebar with user information: User Type (Transit), Login Name (LAMTA), Name (LAMTA), Email (N/A), Mobile (16262240268), and Last Login (5/2/2016 10:22 AM). To the right of the sidebar is a 'Fleets' section containing a list of available fleets. One fleet, 'LAGMTA', is highlighted with a red box around its thumbnail icon. The bottom of the screen has a footer bar with contact information: Tel: (626) 610 2270, Fax: (626) 812 5332, Email: [besssupport@iicontrols.com](mailto:besssupport@iicontrols.com), and I/O Controls Corporation ©2016.

## Fleet Dashboard

1. The next screen shows the fleet dashboard.

The screenshot shows the HAMS Fleet Dashboard for the LACMTA fleet. On the left, a sidebar menu includes 'Fleet' (selected), 'LACMTA', 'Daily Analysis', 'Alert Analysis', 'Alert', 'Snapshot', 'Monthly Report', 'SMS Daily Report', and 'Daily log'. The main area displays a table of vehicle status for 1001 through 1005. A red box highlights the table area. The table columns are: No., SOC (Status of Charge), Charging Status, Speed (mph), Range (miles), Total Mileage (miles), Updated, Snapshot Alert, Daily log, and Request. The data is as follows:

No.	SOC	Charging Status	Speed (mph)	Range (miles)	Total Mileage (miles)	Updated	Snapshot Alert	Daily log	Request	
1001	<div style="width: 91.1%;">91.1%</div>	Motor mode	0	173.6	8104.7	10:22:58				
1002	<div style="width: 88.1%;">88.1%</div>	Motor mode	0	167.1	8492.3	10:22:58				
1003	<div style="width: 85.9%;">85.9%</div>	Motor mode	0	162.2	7110.9	20:34:34				
1004	<div style="width: 98.3%;">98.3%</div>	Motor mode	0	186.8	9511	10:22:58				
1005	<div style="width: 78.2%;">78.2%</div>	Motor mode	0	149.1	7538.8	10:23:04				

At the bottom, there is contact information: Tel : (626) 610 2270, Fax: (626) 812 5332, Email:besssupport@iicontrols.com, I/O Controls Corporation ©2016.

2. “No” displays all vehicle numbers in the chosen fleet.
3. For each vehicle, left to right, the dashboard displays the following information from the last snapshot: bus number, status of charge (SOC), charging status, speed, range, total mileage, updated.
4. “SOC” displays the amount of charge available at the last snapshot.
5. “Charging Status” displays the status at the last snapshot. Status shown will be one of seven available: initialization, ready for charging, charging, end of charging, charging pause, charging stop and motor mode.
6. “Speed” is the current speed of the vehicle at the last snapshot.
7. “Range” is the current remaining range of the vehicle at the last snapshot.
8. “Total Mileage” is the current total mileage of the vehicle at the last snapshot.
9. “Updated” is the time that the last snapshot was taken. A snapshot is taken and transmitted to the sever every five minutes.
10. Clicking on the “Snapshot” button for any vehicle switches the screen to a list of snapshots for that particular vehicle.
11. Clicking on the “Alert” button for any vehicle switches the screen to a list of alerts for that particular vehicle.
12. Clicking on the “Daily log” button switches the screen to a list of logs for that particular vehicle.
13. Clicking on the “Request” button sends a request for update to that particular vehicle.
14. Placing the mouse cursor over the fleet name shows a list of vehicle numbers in the fleet. Clicking a vehicle number will take the user to a

screen that shows the bus panel for that vehicle. Clicking a vehicle number on the dashboard will also take the user to the bus panel for that vehicle.

	Charging Status	Speed (mph)	Range (miles)	Total Mileage (miles)	Updated	Snapshot Alert	Daily log	Request
1001	91.1%	0	173.6	8104.7	10:22:58			
1002	88.1%	0	167.1	8492.3	10:22:58			
1003	85.9%	0	162.2	7110.9	20:34:34			
1004	98.3%	0	186.8	9511	10:22:58			
1005	78.2%	0	149.1	7538.8	10:23:04			

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Fax: (626) 812 5332  
Email:[besssupport@iocontrols.com](mailto:besssupport@iocontrols.com) ©2016

[hams.iocontrols.com/web/UserCenter/VehicleList.aspx?FleetID=8a5bb0e51d174aa1b14c95446b3fd9a19f704b9a9816ac614](http://hams.iocontrols.com/web/UserCenter/VehicleList.aspx?FleetID=8a5bb0e51d174aa1b14c95446b3fd9a19f704b9a9816ac614)

## Bus Panel

The bus panel for LACMTA 1002 is on the next page.

1. The left half of the page displays the gauge information and detail list from the latest snapshot.
2. The right half of the page displays the daily operation charts. Note that you can change the date to retrieve operation charts from other days. You can also output the daily operation charts to a pdf document with the “Output Chart” button.
3. On the top right of the screen you have a green “SMS” button to request a new snapshot from the vehicle. The green “Refresh” button updates the screen to the latest SMS data already on file. There is also a blue “Back” button that takes you back to the previous screen.
4. The bottom third of the screen displays a “Selectable Analysis Chart”. Check/uncheck the appropriate box to add/delete desired chart options then click the “OK” button.
5. Below the “Selectable Analysis Chart” is a list of latest alerts, below that a list of latest snapshots. Clicking on an alert or snapshot switches to a new screen that displays the appropriate information.

**HAMS** Health Alert Management System

Setting Log Off

Home Page

Fleet Daily Analysis Alert Analysis Alert Snapshot Monthly Report SMS Daily Report Daily log

**Bus No: 1002 / LACMTA Last Time: 2016-05-02 10:22:58**

**Chart Date:** 5/2/2016 **Ok** Output Chart

**SOC** **Range**

**Total Voltage** **Highest Battery Temp**

**Vehicle Speed** **Lowest Battery Temp**

**84923** **OFF** **OFF**

**Total Mileage** **Left Charge Gun** **Right Charge Gun**

TypeCode	Name	Value
0E	Left Charge Gun	0 bit
0F	Right Charge Gun	0 bit
1D	Vehicle Speed	0 mph
1E	SOC	88.1 %
1F	Total Voltage	550 V
2F	Total current	0.8 A
1G	Lowest Battery Temp	62.6 F
2G	Highest Battery Temp	109.4 F
1H	Total Mileage	8492.3 miles
2H	Range	167.1 miles
1I	Charging Status	Motor mode

**Selectable Analysis**

**Latest Alert**

- 2016-04-26 10:07:49
- 2016-04-26 10:06:58
- 2016-04-26 10:05:33
- 2016-04-22 09:55:57
- 2016-04-22 09:54:57
- 2016-04-22 09:53:57
- 2016-04-22 09:51:53
- 2016-04-22 09:50:53
- 2016-04-22 09:49:57
- 2016-04-20 18:36:47

**Latest Snapshot**

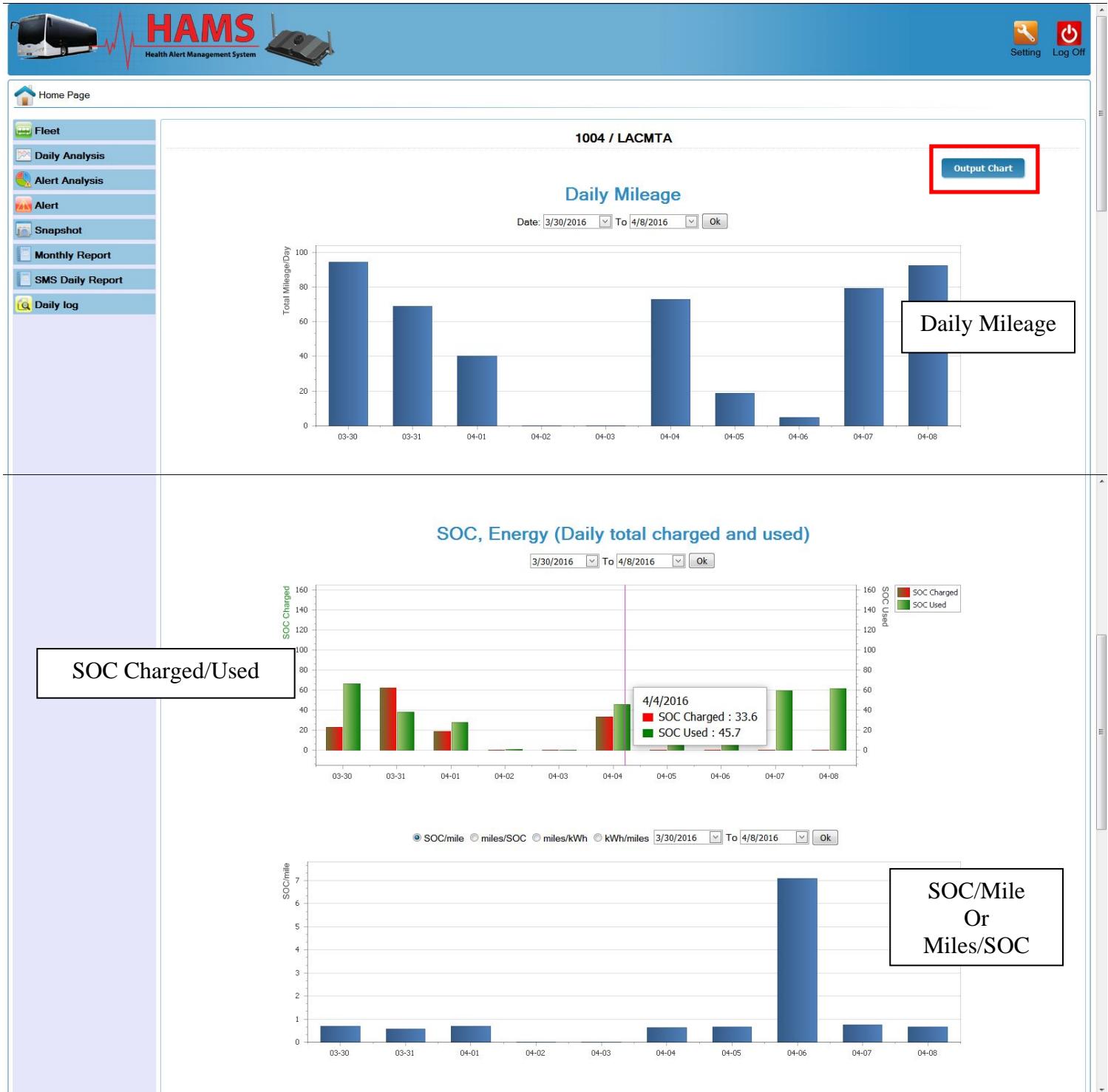
**Snapshot List**

Tel : (626) 610 2270  
Fax : (626) 812 5332  
Email: [besssupport@iicontrols.com](mailto:besssupport@iicontrols.com)  
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## Daily Analysis

The daily analysis panel for LACMTA 1004 is on the next page.

1. To navigate to a daily analysis panel for a particular vehicle click on the "Daily Analysis" button on the left side of the screen then click on the desired vehicle number.
2. The following charts are displayed in order top to bottom: Daily Mileage, SOC Charged/Used, SOC/Mile or Miles/SOC, Selectable Parameters and Vehicle Fleet Selectable Parameters.
3. All charts are configurable with a custom range of dates. Select the desired date range then click the "Ok" button.
4. On the "SOC/Mile or Miles/SOC" chart place a bullet in the desired chart then click the "Ok" button.
5. On the "Selectable Parameters" chart put a check mark in the appropriate box for the desired parameters then click the "Ok" button.
6. On the "Vehicle Fleet Selectable Parameters" chart place a bullet in the desired parameters, place a check mark in the desired vehicle number then click the "OK" button.
7. You can also output the displayed charts to a pdf document with the "Output Chart" button located in the upper right of the screen.





## Alert Analysis

The Alert analysis panel for LACMTA 1004 is on the next page.

1. To navigate to a alert analysis panel for a particular vehicle click on the “Alert Analysis” button on the left side of the screen then click on the desired vehicle number.
2. This screen displays three different graphs: Alert Percentage, Daily Alert Analysis and Fleet Alert Rate.
3. All charts are configurable with a custom range of dates. Select the desired date range then click the “Ok” button.
4. The “Alert Percentage” chart shows the percentage of all alerts for the selected vehicle for the selected date range.
5. The “Daily Alert Analysis” chart shows the analysis for the selected alerts. Put a check mark in the appropriate box for the desired parameters then click the “Ok” button.
6. The “Fleet Alert Rate” chart shows the percentage of alerts for all vehicles in the fleet.
7. You can also output the displayed charts to a pdf document with the “Output Chart” button located in the upper right of the screen.



## Alert Panel

The Alert panel is below.

1. Clicking on the “Alert” button on the left side of the screen navigates to the Alert Panel. This panel displays all alerts for the fleet.
2. On the bottom right of the page are “Page” buttons for use to navigate to different pages.
3. At the top of the screen are fields for use for custom searches. You may enter a particular vehicle number, dates and even times. Select the desired parameters then click the “Search” button.
4. On the right side of the screen for each alert listed is a “View” button. Clicking this button navigates to a screen that shows the gauge and detailed information for the vehicle at the time the alert was logged.
5. On the right side of the screen for each alert there is also a “Message” button. Clicking on this button shows the raw data for the alert.

**Alert Panel Screenshot Description:**

- Left Sidebar:** Contains links for Home Page, Fleet, Daily Analysis, Alert Analysis, Alert (highlighted with a red box), Snapshot, Monthly Report, SMS Daily Report, and Daily log.
- Header:** Features a bus icon, the HAMS logo, and a search bar with fields for Bus No., Date, and a Search button.
- Table:** Displays a list of alerts for LACMTA vehicles. Columns include Fleet, Bus No., SIM, OccurTime, View (button), and Message (button). The entire table area is highlighted with a red box.
- Bottom:** Includes a set of page navigation buttons numbered 1 through 10, with the number 1 highlighted with a red box.

Fleet	Bus No.	SIM	OccurTime	View	Message
LACMTA	1005	16263273584	2016-04-27 11:33:37	[View]	[Message]
LACMTA	1005	16263273584	2016-04-27 11:32:37	[View]	[Message]
LACMTA	1005	16263273584	2016-04-27 11:32:23	[View]	[Message]
LACMTA	1005	16263273584	2016-04-26 13:14:56	[View]	[Message]
LACMTA	1005	16263273584	2016-04-26 13:13:56	[View]	[Message]
LACMTA	1005	16263273584	2016-04-26 13:12:56	[View]	[Message]
LACMTA	1005	16263273584	2016-04-26 12:25:33	[View]	[Message]
LACMTA	1001	16262539788	2016-04-26 10:49:13	[View]	[Message]
LACMTA	1001	16262539788	2016-04-26 10:48:49	[View]	[Message]
LACMTA	1001	16262539788	2016-04-26 10:48:15	[View]	[Message]
LACMTA	1002	16263274715	2016-04-26 10:07:49	[View]	[Message]
LACMTA	1002	16263274715	2016-04-26 10:06:58	[View]	[Message]
LACMTA	1001	16262539788	2016-04-26 10:06:58	[View]	[Message]
LACMTA	1002	16263274715	2016-04-26 10:05:33	[View]	[Message]
LACMTA	1001	16262539788	2016-04-26 10:05:06	[View]	[Message]
LACMTA	1001	16262539788	2016-04-26 10:04:06	[View]	[Message]
LACMTA	1005	16263273584	2016-04-26 10:02:08	[View]	[Message]
LACMTA	1005	16263273584	2016-04-26 10:01:29	[View]	[Message]
LACMTA	1004	16262533592	2016-04-26 10:01:17	[View]	[Message]
LACMTA	1004	16262533592	2016-04-26 10:00:17	[View]	[Message]
LACMTA	1005	16263273584	2016-04-26 09:59:17	[View]	[Message]
LACMTA	1005	16263273584	2016-04-22 09:57:15	[View]	[Message]
LACMTA	1005	16263273584	2016-04-22 09:56:15	[View]	[Message]
LACMTA	1002	16263274715	2016-04-22 09:55:57	[View]	[Message]
LACMTA	1005	16263273584	2016-04-22 09:55:18	[View]	[Message]
LACMTA	1002	16263274715	2016-04-22 09:54:57	[View]	[Message]
LACMTA	1004	16262533592	2016-04-22 09:54:30	[View]	[Message]
LACMTA	1002	16263274715	2016-04-22 09:53:53	[View]	[Message]

## Snapshot Panel

The “Snapshot” panel is below.

1. Clicking on the “Snapshot” button on the left side of the screen navigates to the Snapshot Panel. This panel displays all snapshots for the fleet.
2. On the bottom right of the page are “Page” buttons for use to navigate to different pages.
3. At the top of the screen are fields for use for custom searches. You may enter a particular vehicle number, dates and even times. Select the desired parameters then click the “Search” button.
4. On the right side of the screen for each snapshot listed is a “View” button. Clicking this button navigates to a screen that shows the gauge and detailed information for the vehicle at the time the snapshot was logged.
5. On the right side of the screen for each snapshot there is also a “Message” button. Clicking on this button shows the raw data for the snapshot.

Fleet	Bus No.	SIM	OccurTime		
LACMTA	1005	16263273584	2016-05-02 13:23:29		
LACMTA	1004	16262533592	2016-05-02 13:23:29		
LACMTA	1002	16263274715	2016-05-02 13:23:29		
LACMTA	1001	16262539788	2016-05-02 13:23:29		
LACMTA	1005	16263273584	2016-05-02 13:18:12		
LACMTA	1004	16262533592	2016-05-02 13:18:03		
LACMTA	1004	16262533592	2016-05-02 13:13:02		
LACMTA	1002	16263274715	2016-05-02 13:13:02		
LACMTA	1001	16262539788	2016-05-02 13:13:02		
LACMTA	1005	16263273584	2016-05-02 13:08:07		
LACMTA	1004	16262533592	2016-05-02 13:08:01		
LACMTA	1001	16262539788	2016-05-02 13:08:01		
LACMTA	1002	16263274715	2016-05-02 13:08:01		
LACMTA	1005	16263273584	2016-05-02 13:03:06		
LACMTA	1004	16262533592	2016-05-02 13:03:06		
LACMTA	1002	16263274715	2016-05-02 13:03:06		
LACMTA	1001	16262539788	2016-05-02 13:03:06		
LACMTA	1005	16263273584	2016-05-02 12:58:26		
LACMTA	1004	16262533592	2016-05-02 12:58:26		
LACMTA	1002	16263274715	2016-05-02 12:58:26		
LACMTA	1001	16262539788	2016-05-02 12:58:26		
LACMTA	1005	16263273584	2016-05-02 12:53:03		
LACMTA	1004	16262533592	2016-05-02 12:53:01		
LACMTA	1002	16263274715	2016-05-02 12:53:01		
LACMTA	1001	16262539788	2016-05-02 12:53:01		
LACMTA	1005	16263273584	2016-05-02 12:48:08		
LACMTA	1004	16262533592	2016-05-02 12:48:03		

## Daily Log Panel

The “Daily Log” panel is below.

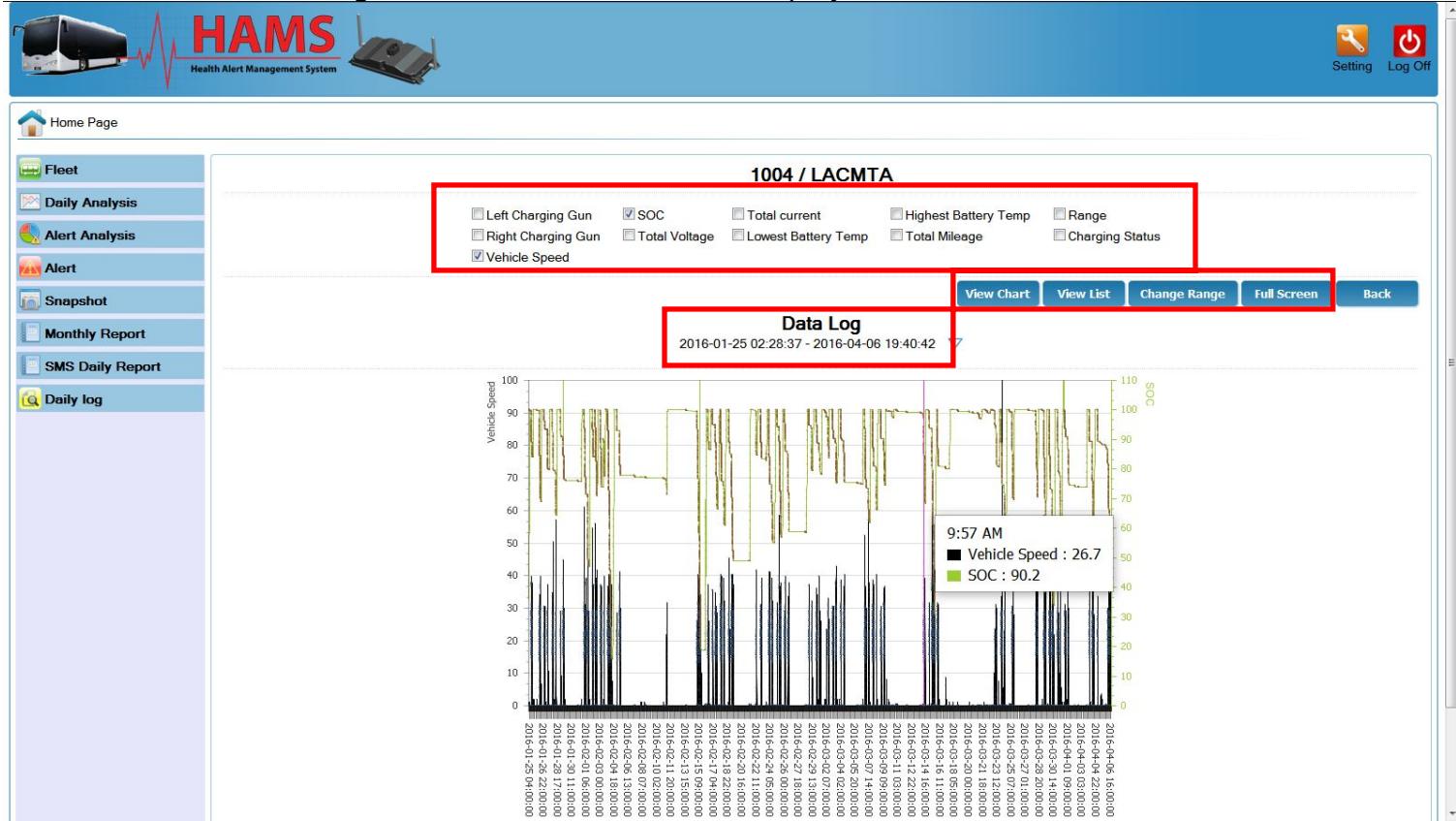
1. On the left side of the screen clicking on the “Daily Log” button displays another “Daily Log” choice. Clicking on the second “Daily Log” navigates to the Daily Log Panel. This panel displays all logs for the fleet.
2. On the bottom right of the page are “Page” buttons for use to navigate to different pages.
3. At the top of the screen are fields for use for custom searches. You may enter a particular vehicle number, dates and even times. Select the desired parameters then click the “Search” button.
4. On the right side of the screen for each log listed is a “View Chart” button. Clicking this button navigates to a screen that shows the logged data in a chart format.
5. Also on the right side of the screen is an “Output to Excel” button. Put a check in the box associated with the desired log to output then press the “Output to Excel” button. Follow the onscreen instructions to output the file to Excel.

The screenshot shows the HAMS (Health Alert Management System) interface. The top navigation bar includes a bus icon, the HAMS logo, and links for Setting and Log Off. The left sidebar has a tree view with Home Page, Fleet, Daily Analysis, Alert Analysis, Alert, Snapshot, Monthly Report, SMS Daily Report, and Daily log (which is selected and highlighted with a red box). Below the sidebar is a search bar with fields for Bus No., Date, and a Search button, followed by an Output to excel button. The main content area displays a table of bus logs with columns for Fleet, Bus No., Date, and File Name. Each log entry has a View Chart button (highlighted with a red box) and an Output to excel checkbox. At the bottom of the table is a set of page navigation buttons numbered 1 through 10, with the first button highlighted in blue.

Fleet	Bus No.	Date	File Name	View Chart	Output to excel
LACMTA	1004	2016-05-02 07:34:19	DataLogger_20160502.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-05-01 07:38:34	DataLogger_20160501.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-30 07:40:25	DataLogger_20160430.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-29 07:33:55	DataLogger_20160429.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-28 07:34:10	DataLogger_20160428.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-27 07:29:17	DataLogger_20160427.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1005	2016-04-27 07:12:44	DataLogger_20160427.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-26 07:37:46	DataLogger_20160426.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1005	2016-04-25 22:56:29	DataLogger_20160426.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-25 07:33:12	DataLogger_20160425.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-24 07:39:54	DataLogger_20160424.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-23 07:30:35	DataLogger_20160423.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-22 07:35:51	DataLogger_20160422.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-21 07:32:18	DataLogger_20160421.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1005	2016-04-21 07:11:07	DataLogger_20160421.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-20 07:34:38	DataLogger_20160420.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1005	2016-04-20 07:10:22	DataLogger_20160420.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1005	2016-04-19 07:14:06	DataLogger_20160419.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-19 01:29:02	DataLogger_20160419.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-12 07:31:07	DataLogger_20160412.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-11 07:25:44	DataLogger_20160411.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-09 20:33:21	DataLogger_20160410.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-08 22:15:31	DataLogger_20160409.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1004	2016-04-07 04:04:07	DataLogger_20160407.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1002	2016-04-04 01:59:07	DataLogger_20160404.Bin	[View Chart]	<input type="checkbox"/>
LACMTA	1005	2016-03-28 01:27:27	DataLogger_20160328.Bin	[View Chart]	<input type="checkbox"/>

1 2 3 4 5 6 7 8 9 10

6. Clicking on the “View Chart” button displays the data in a chart format.



7. If additional chart items are desired to be displayed put a check mark in the desired items then click the “View Chart” button. Additional items will be displayed in a revised chart.
8. Clicking the “Down Arrow” under the “View Chart” button displays a list of available logs to view. Highlight the desired file with the mouse and left click. The new chart for the selected data will be displayed.
9. Clicking the “View List” button displays a list of logged items for the file selected under “Daily Log”.



**Setting** **Log Off**

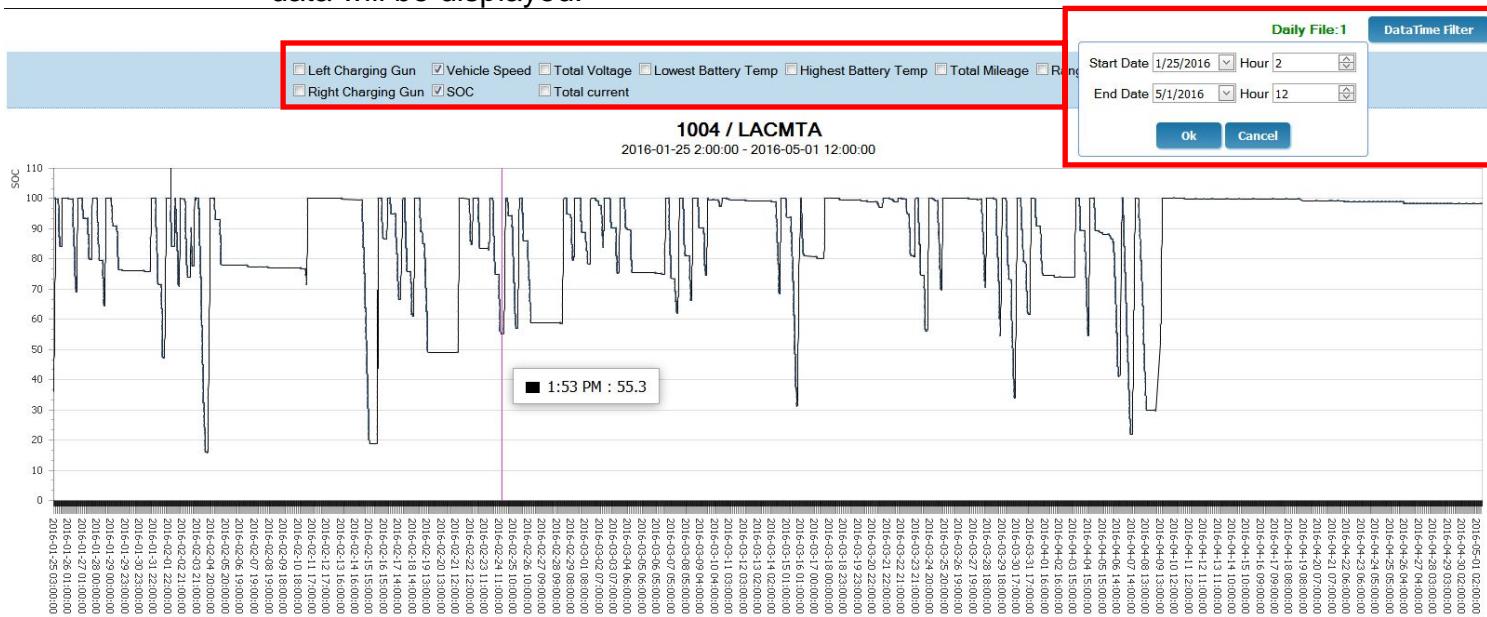
[Home Page](#) 1004 / LACMTA

**Fleet** **Daily Analysis** **Alert Analysis** **Alert** **Snapshot** **Monthly Report** **SMS Daily Report** **Daily log**

**Data Log**  
2016-01-25 07:28:37 - 2016-04-29 17:04:57  
Full Screen

Date/Time	Left Charging Gun (bit)	Right Charging Gun (bit)	Vehicle Speed (mph)	SOC (%)	Total Voltage (V)	Total current (A)	Lowest Battery Temp (F)	Highest Battery Temp (F)	Total Mileage (miles)	Range (miles)	Charging Status
2016-01-25 07:28:37	Connect	Disconnect	0	36	545	0.1	53.6	64.4	7006	67.9	10
2016-01-25 07:28:38	Connect	Disconnect	0	36	544	0.2	-40	59	7006	67.9	1
2016-01-25 07:28:40	Connect	Connect	0	36	545	0	53.6	64.4	7006	67.9	1
2016-01-25 07:28:52	Connect	Connect	0	36	544	2.6	53.6	64.4	7006	67.9	2
2016-01-25 07:32:13	Connect	Connect	0	36.8	554	-119.8	-40	64.4	7006	69.8	2
2016-01-25 07:34:50	Connect	Connect	0	37.6	554	-120.2	-40	64.4	7006	71.7	2
2016-01-25 07:37:52	Connect	Connect	0	38.5	554	-120.1	53.6	64.4	7006	73.6	2
2016-01-25 07:38:20	Connect	Connect	0	38.6	554	-122.2	-40	64.4	N/A	73.6	2
2016-01-25 07:39:31	Connect	Connect	0	39	554	-120.4	-40	64.4	7006	73.6	2
2016-01-25 07:41:53	Connect	Connect	0	39.6	554	-120.3	-40	64.4	7006	75.5	2
2016-01-25 07:47:50	Connect	Connect	0	41.4	554	-118.6	55.4	66.2	7006	79.2	2
2016-01-25 07:50:17	Connect	Connect	0	42.1	554	-119.2	-40	66.2	7006	81.1	2
2016-01-25 07:50:34	Connect	Connect	0	42.2	554	-121.8	-40	66.2	N/A	81.1	2
2016-01-25 07:51:28	Connect	Connect	0	42.4	554	-121.3	-40	66.2	N/A	81.1	2
2016-01-25	Connect	Connect	0	44.3	554	-117.9	55.4	66.2	7006	84.9	?

10. Clicking the “Change Range” button opens a new window with an expanded chart view. In this view place a check in the associated box for any additional parameters to view. Click on “DataTime Filter” button, make changes to filter parameters if desired then click “Ok”. Revise chart data will be displayed.



11. Clicking on “Daily Log” on the left side of the screen displays two choices, “Daily Log” discussed above and “Upload Daily File”.
12. Clicking on “Upload Daily File” navigates to an upload screen. This screen is used to upload data that was downloaded directly from the HAMS module while on the vehicle. This function is used to upload that data for viewing in the HAMS web based software.

## Request Updated Snapshot

When requesting an update in the “Fleet” screen for a particular vehicle allow up to two minutes for the request to be sent to the vehicle and the data to be received.

1. To request an update snapshot of a particular vehicle in the fleet simply click on the “Request” button associated with that vehicle.
2. To view the updated snapshot click on the “Snapshot” button after the time has been updated under the column marked “Updated” for the vehicle that the update was requested for.

No.	SOC	Charging Status	Speed (mph)	Range (miles)	Total Mileage (miles)	Updated	Snapshot	Alert	Daily log	Request
1001	<div style="width: 91.1%;">91.1%</div>	Motor mode	0	173.6	8104.7	10:22:58				
1002	<div style="width: 88.1%;">88.1%</div>	Motor mode	0	167.1	8492.3	10:22:58				
1003	<div style="width: 85.9%;">85.9%</div>	Motor mode	0	162.2	7110.9	20:34:34				
1004	<div style="width: 98.3%;">98.3%</div>	Motor mode	0	186.8	9511	10:22:58				
1005	<div style="width: 78.2%;">78.2%</div>	Motor mode	0	149.1	7538.8	10:23:04				

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3. In the next screen click on the “View” button associated with the correct time for the updated snapshot to be viewed.

The screenshot shows the HAMS interface with a sidebar on the left containing links for Fleet, Daily Analysis, Alert Analysis, Alert, Snapshot, Monthly Report, SMS Daily Report, and Daily log. The main content area displays a table of bus alerts for LACMTA bus 1004. The columns are: Fleet, Bus No., SIM, OccurTime, View, and Message. The 'OccurTime' column is highlighted with a red box. Two rows are selected, corresponding to the times 2016-05-02 14:28:25 and 2016-05-02 14:30:04. Each row has a 'View' button (a camera icon) and a 'Message' button (a speech bubble icon).

Fleet	Bus No.	SIM	OccurTime	View	Message
LACMTA	1004	16262533592	2016-05-02 14:33:04	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 14:28:25	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 14:23:02	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 14:18:34	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 14:17:28	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 14:13:49	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 14:08:02	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 14:03:04	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 13:58:06	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 13:53:17	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 13:48:10	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 13:43:27	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 13:38:01	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 13:33:06	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 13:28:27	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 13:23:29	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 13:18:03	[View]	[Message]
LACMTA	1004	16262533592	2016-05-02 13:13:02	[View]	[Message]

4. Once the “View” button is clicked the new window will show the updated snapshot information, see next page.

The screenshot shows the HAMS interface with the following details:

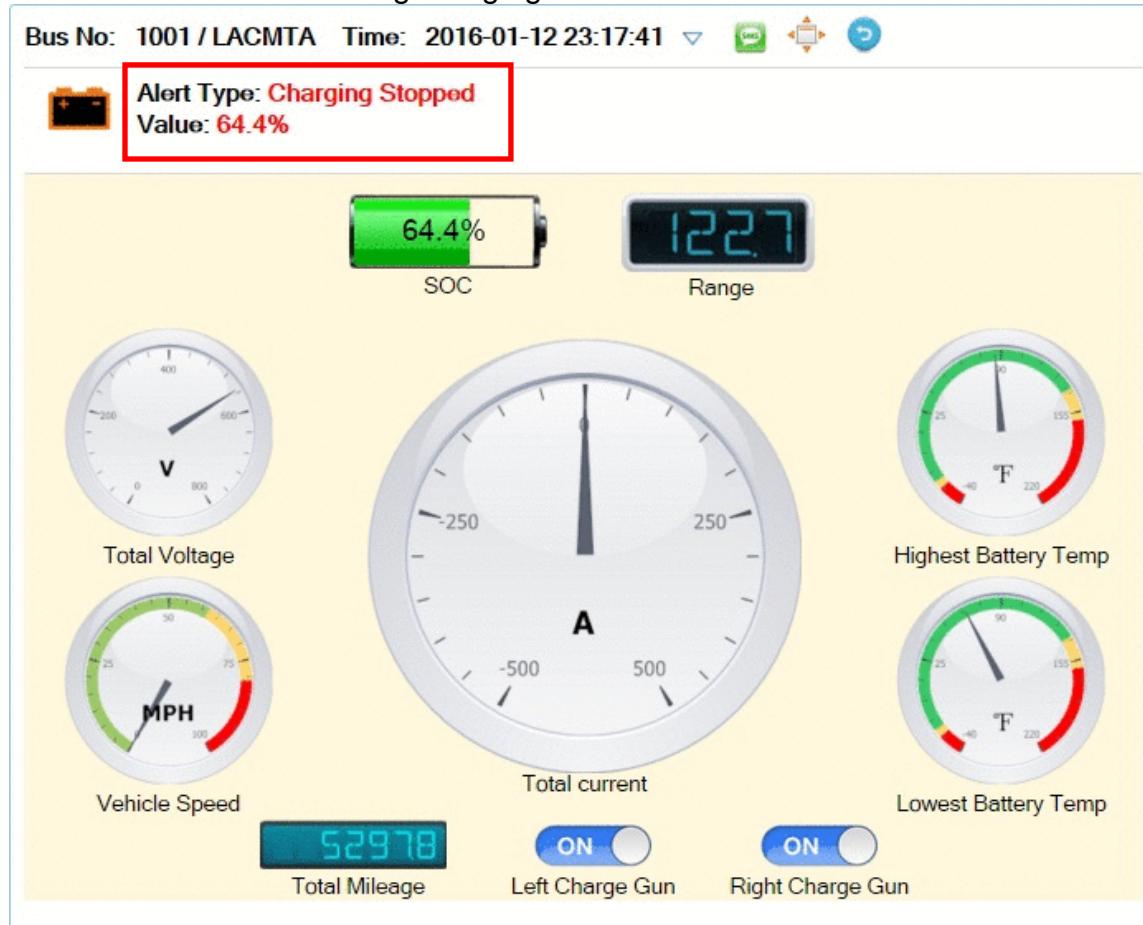
- Header:** Features a bus icon, the HAMS logo with "Health Alert Management System", and navigation icons for Setting and Log Off.
- Left Sidebar:** Includes links for Home Page, Fleet, Daily Analysis, Alert Analysis, Alert, Snapshot, Monthly Report, SMS Daily Report, and Daily log.
- Top Bar:** Displays Bus No: 1004 / LACMTA, Time: 2016-05-02 14:33:04, and various connectivity and refresh icons.
- Middle Section:** A large yellow panel displays real-time vehicle metrics:
  - SOC:** 98.3% (represented by a green battery icon).
  - Range:** 186.8 miles (displayed in blue digital text).
  - Total Voltage:** 550 V (displayed in blue digital text).
  - Total current:** 0.6 A (displayed in blue digital text).
  - Highest Battery Temp:** 75.2 F (displayed in blue digital text).
  - Lowest Battery Temp:** 64.4 F (displayed in blue digital text).
  - Vehicle Speed:** 0 mph (displayed in blue digital text).
  - Total Mileage:** 95110 miles (displayed in blue digital text).
  - Control Buttons:** Three toggle switches labeled "OFF" for Left Charge Gun, Right Charge Gun, and Motor mode.
- Table:** A table listing TypeCode, Name, and Value for various metrics:
 

TypeCode	Name	Value
0E	Left Charge Gun	0 bit
0F	Right Charge Gun	0 bit
1D	Vehicle Speed	0 mph
1E	SOC	98.3 %
1F	Total Voltage	550 V
2F	Total current	0.6 A
1G	Lowest Battery Temp	64.4 F
2G	Highest Battery Temp	75.2 F
1H	Total Mileage	9511 miles
2H	Range	186.8 miles
1I	Charging Status	Motor mode
- Bottom Footer:** Contains contact information: Tel: (626) 610 2270, Fax: (626) 812 5332, Email: [besssupport@iobcontrols.com](mailto:besssupport@iobcontrols.com), and I/O Controls Corporation ©2016.

## SMS Text Message Alerts

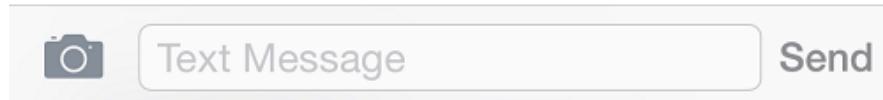
The HAMS application is configurable by the System Administrator to send text alerts to the appropriate parties within an organization authorized to receive those alerts. As an example, if an issue is detected during charging a text alert can be sent so appropriate action can be taken to solve the issue and the vehicle can finish charging. This allows for a fully charged vehicle prior to the next required use of that vehicle.

1. Issue detected during charging.



2. Text alert sent to Night Shift Supervisor.

Charging Stopped, Value:  
64.4%, Fleet Name:LACMTA,  
Bus No:1001



3. Supervisor takes appropriate action to ensure vehicle completes the charging cycle.

## SMS Daily Report

The menu tab allows the user to download a SMS log in an Excel format. To download a log:

1. Click on “SMS Daily Report” then choose the desired fleet..
2. In the popup window select the vehicle number and month then click the “Search” button.

**HAMS**  
Health Alert Management System

Setting Log Off

Home Page

Fleet Daily Analysis Alert Analysis Alert Snapshot Monthly Report SMS Daily Report LACMTA Daily log

**SMS Daily Report**

Fleet:  LACMTA

Vehicle:  1001  1002  1003  1004  1005

Month:  Jan  Feb  Mar  Apr  May  June  July  Aug  Sept  Oct  Nov  Dec

**Search**

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3. Now the SMS daily logs are displayed for the vehicle chosen, see next page
4. To download a log click the download icon next to the desired log. Follow the on screen instruction to save or view the log in an Excel format.

Bus No.	Date	File Name
1002	2016-04-09	20160410\_1002
1002	2016-04-10	20160411\_1002
1002	2016-04-11	20160412\_1002
1002	2016-04-11	20160412\_1002
1002	2016-04-12	20160413\_1002
1002	2016-04-13	20160414\_1002
1002	2016-04-16	20160417\_1002
1002	2016-04-17	20160418\_1002
1002	2016-04-18	20160419\_1002
1002	2016-04-19	20160420\_1002
1002	2016-04-20	20160421\_1002
1002	2016-04-21	20160422\_1002
1002	2016-04-22	20160423\_1002

 Below the table is a 'Search' button."/>

## Monthly Report

This panel provides the user with an overview of the selected month by total fleet and each vehicle in the fleet. There are two sections, "Monthly Total Data" and "Monthly Alert Data".

Monthly Total Data: This section provides the following data parameters in a table format. Each of these parameters is also individually selectable for display in a graph format. Select the desired Fleet and month then click the "Ok" button. Clicking the "Output Chart" button exports the data to a pdf file. To change the parameter displayed in the graph click on the circle for the desired parameter and the graph will automatically update.

- SOC Charged is the percentage of charge for the month.
- SOC Used is the percentage of charge used for the month.
- Actual Distance is distance in miles the vehicle was driven.
- SOC/Mile is SOC Used per mile.
- Mile/SOC is mile per SOC Used.
- Energy Charged is energy in kWh added for the month.
- Energy Used is energy consumed in kWh for the month.
- kWh/Mile is kWh used per mile.
- Mile/kWh is miles driven per kWh.

**Home Page**

- Fleet
- Daily Analysis
- Alert Analysis
- Alert
- Snapshot
- Monthly Report**
- LBT
- SMS Daily Report
- Daily log

**Monthly Report**

Fleet:  LBT  
Month:  Jan  Feb  Mar  Apr  May  June  July  Aug  Sept  Oct  Nov  Dec

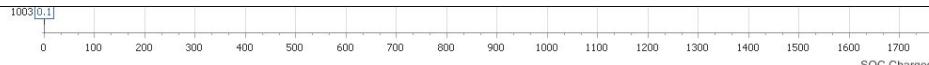
**Monthly Total Data**

Bus No.	SOC Charged	SOC Used	Actual Distance	SOC/Mile	Miles/SOC	Energy Charged	Energy Used	kWh/Mile	Miles/kWh
All	0.1	2.2	2.7	0.8	1.2	0.3	7.5	2.8	0.4
1601	0.1	2.2	2.7	0.8	1.2	0.3	7.5	2.8	0.4

( SOC Charged  SOC Used  Actual Distance  SOC/Mile  Miles/SOC  Energy Charged  
 Energy Used  kWh/Mile  Miles/kWh)

**Monthly Alert Data:** This section provides the total number in a month of the alerts received in a table format. Below this table is a pie chart that shows the total percentage of alerts received by each vehicle for the selected month..

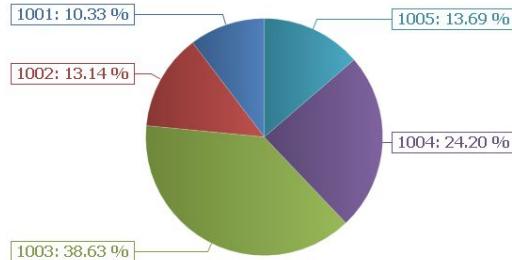
**Monthly Alert Data:** This section provides the total number in a month of the alerts received in a table format. Below this table is a pie chart that shows the total percentage of alerts received by each vehicle for the selected month..



**Monthly Alert Data**

Bus No.	Charging Stopped	Slow Charging	Battery Overheat	Charging System Malfunction	Power Battery Malfunction	Battery Leaking	Electrical Motor Malfunction	ABS Malfunction
All	65	95	0	1160	0	45	10814	7319
1001	0	0	0	102	0	0	815	1098
1002	23	95	0	116	0	0	1273	1055
1003	0	0	0	629	0	0	5506	1397
1004	0	0	0	176	0	45	2154	2344
1005	42	0	0	137	0	0	1066	1425

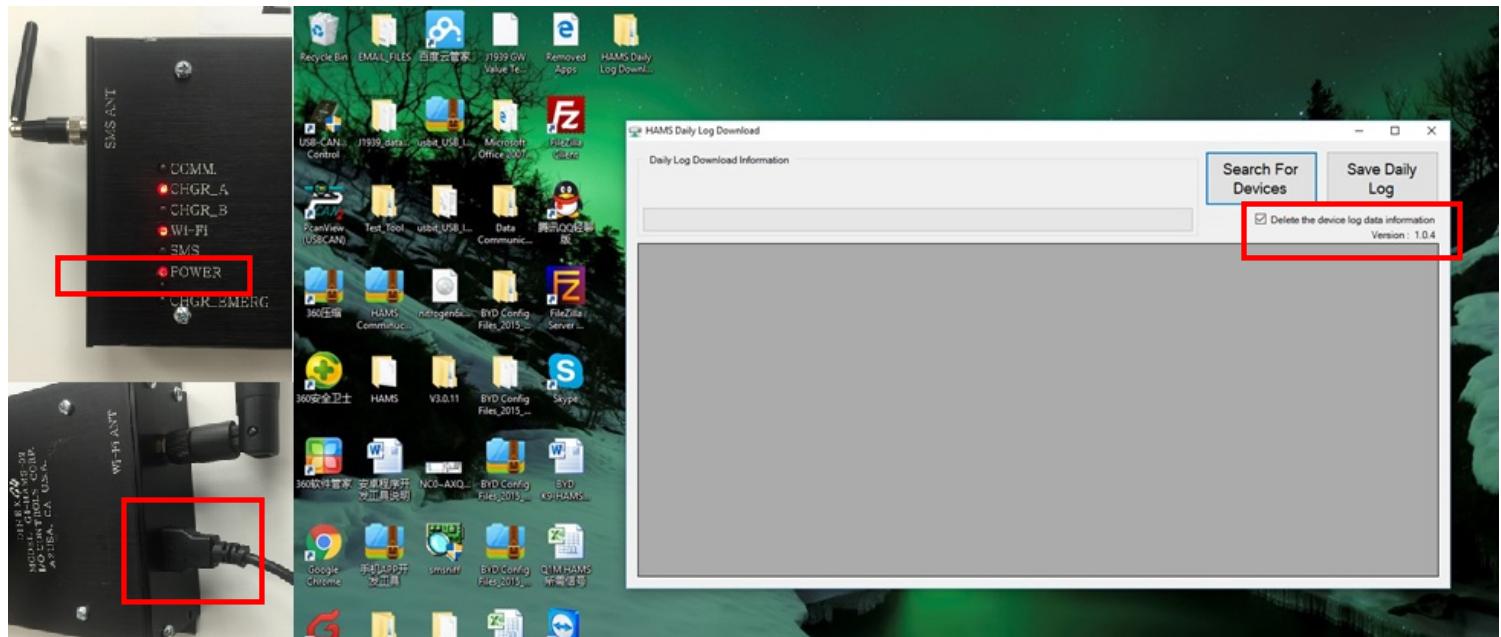
( 1001: 10.33 % 1002: 13.14 % 1003: 38.63 % 1004: 24.20 % 1005: 13.69 %)



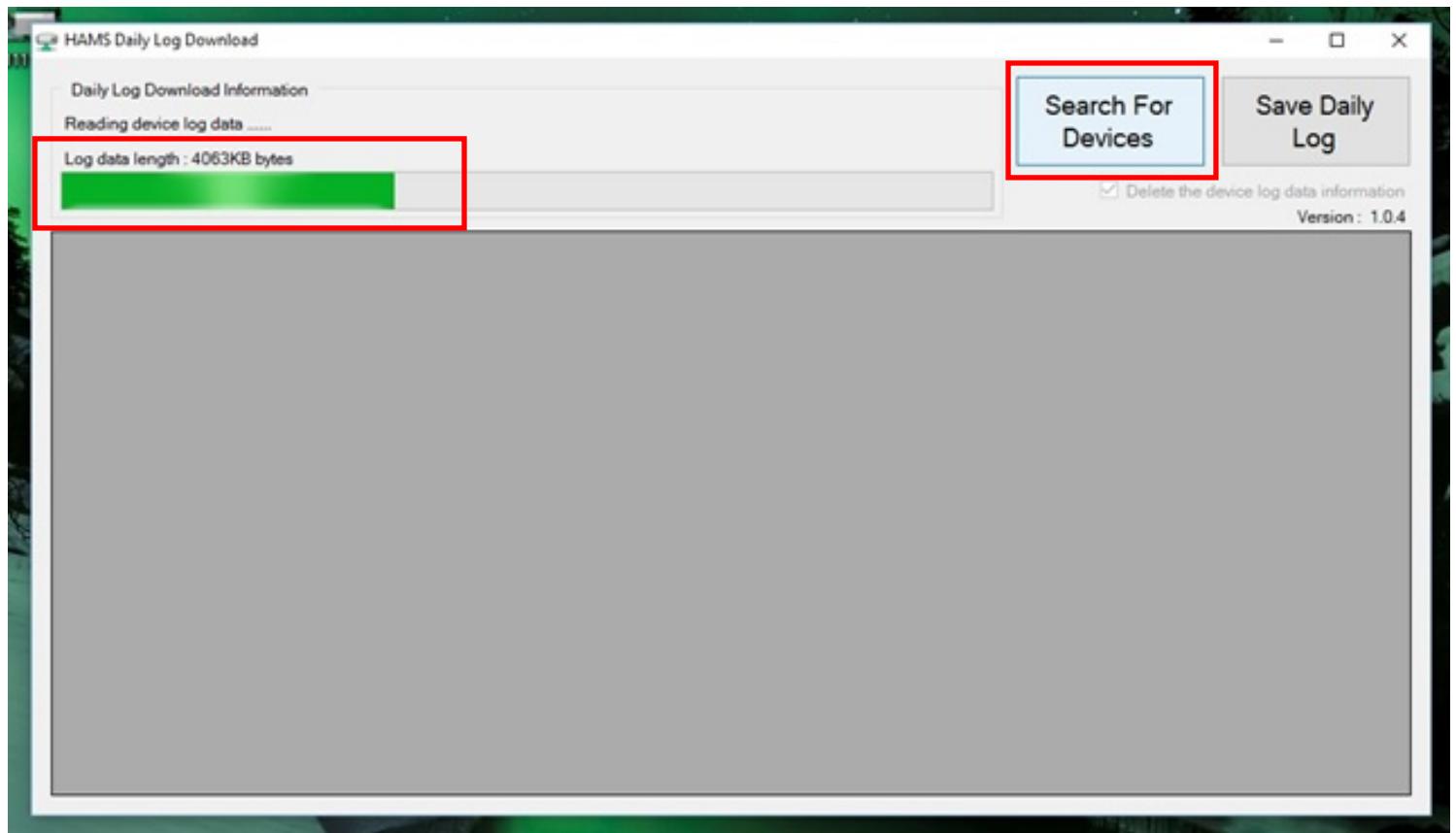
## HAMS Daily Log Download Software

This software allows the user to download the daily log files stored in the 4GB's of memory in the HAMS module on the vehicle to a laptop PC.

1. The HAMS module must be powered on.
2. Plug a USB cable from the laptop into the HAMS module.
3. Open the software on the PC then check "Delete the device log data information" box if the files are to be deleted after download. If the box is not checked the log files in the HAMS module will not be deleted after download is completed.



4. Click the “Search For Devices” button. The log files will start downloading.
5. Check the data length window for progress.

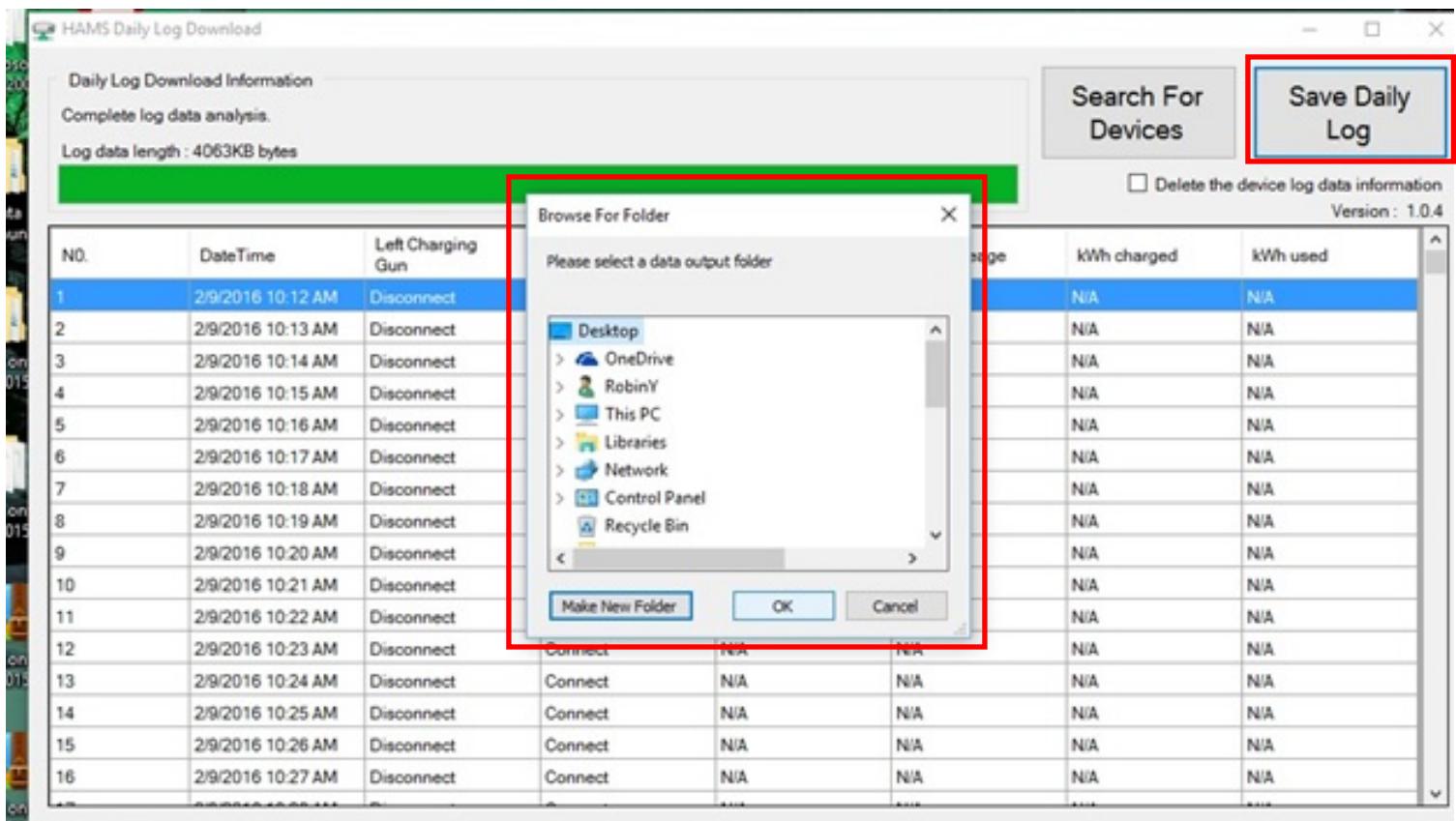


6. When download has completed the software will display all downloaded files in the bottom window.

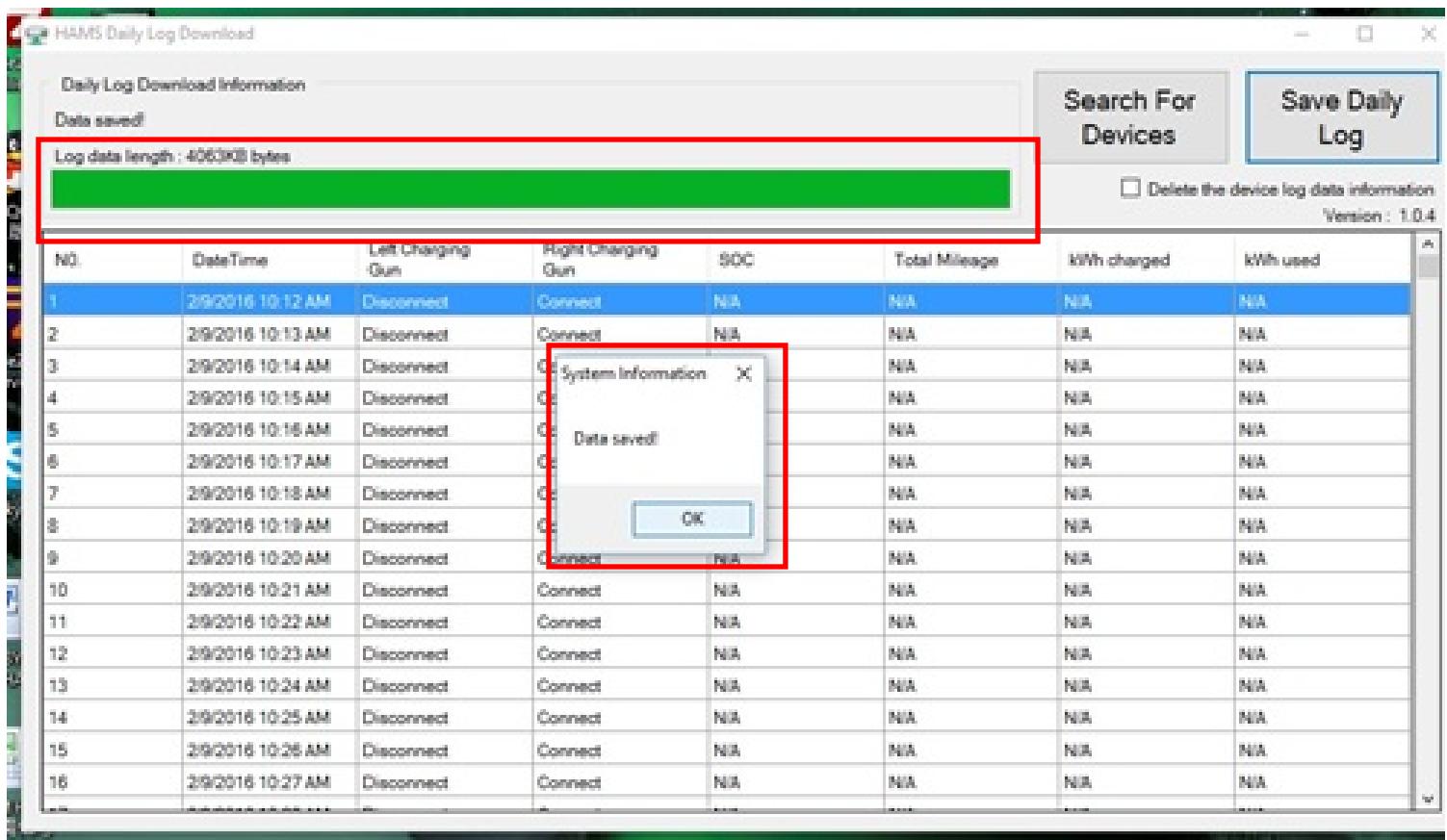
The screenshot shows a software window titled "HAMS Daily Log Download". The window contains a table with 16 rows of log data. The columns are labeled: NO., DateTime, Left Charging Gun, Right Charging Gun, SOC, Total Mileage, kWh charged, and kWh used. All cells in the table contain the text "N/A". Above the table, there is a message: "Complete log data analysis." and "Log data length : 4063KB bytes". To the right of the table, there are two buttons: "Search For Devices" and "Save Daily Log". Below these buttons is a checkbox labeled "Delete the device log data information" and the text "Version : 1.0.4".

NO.	DateTime	Left Charging Gun	Right Charging Gun	SOC	Total Mileage	kWh charged	kWh used
1	2/9/2016 10:12 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
2	2/9/2016 10:13 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
3	2/9/2016 10:14 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
4	2/9/2016 10:15 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
5	2/9/2016 10:16 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
6	2/9/2016 10:17 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
7	2/9/2016 10:18 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
8	2/9/2016 10:19 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
9	2/9/2016 10:20 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
10	2/9/2016 10:21 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
11	2/9/2016 10:22 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
12	2/9/2016 10:23 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
13	2/9/2016 10:24 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
14	2/9/2016 10:25 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
15	2/9/2016 10:26 AM	Disconnect	Connect	N/A	N/A	N/A	N/A
16	2/9/2016 10:27 AM	Disconnect	Connect	N/A	N/A	N/A	N/A

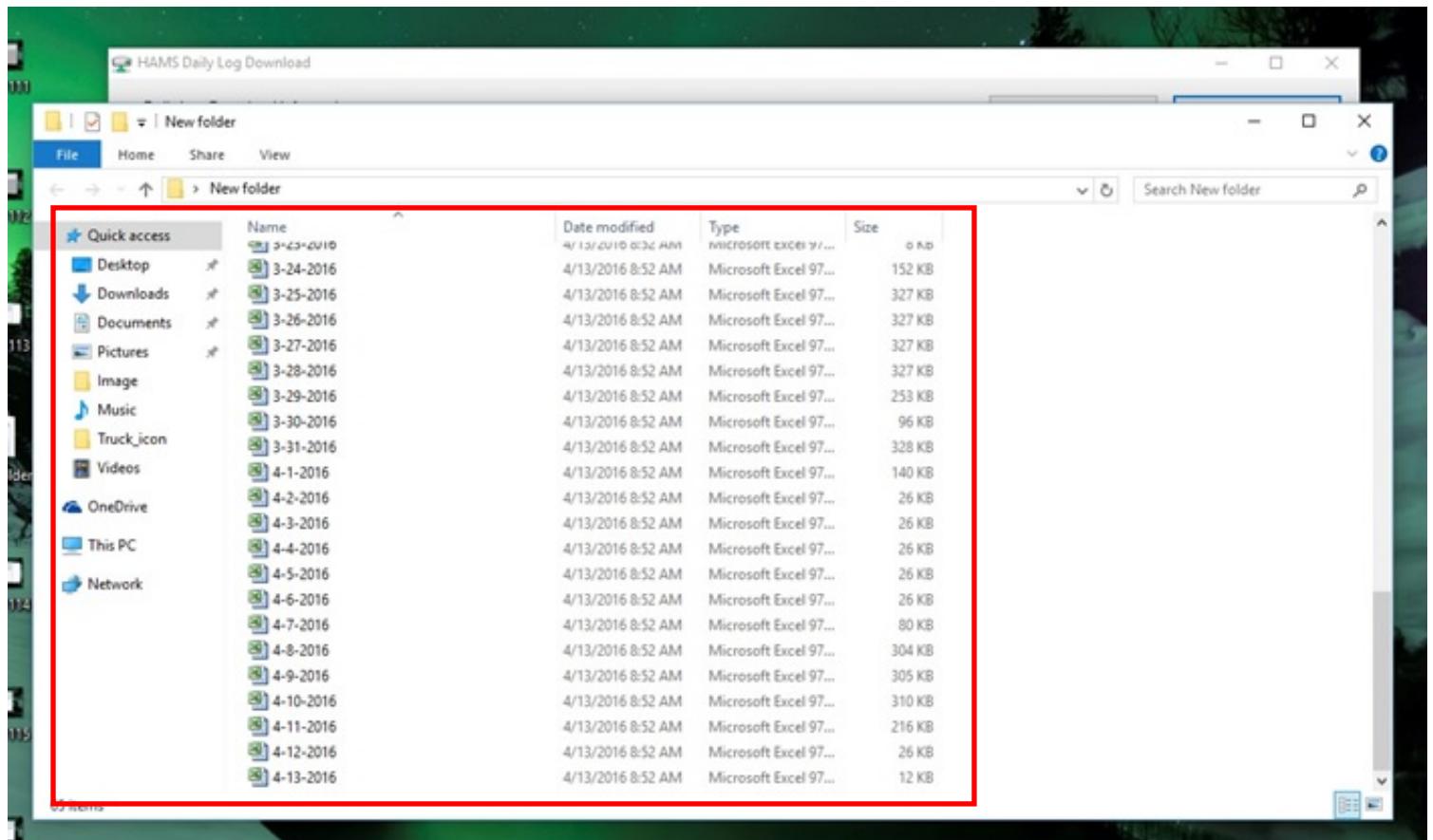
7. Next click the “Save Daily Log” button then in the popup window save the logs to the desired location.



- The software converts the data to an Excel format. Progress is shown on the “Log data length” progress bar. When completed a popup window confirms that the data is converted and saved.



9. Navigate to the location of the saved files and open the desired files in Excel.



## Daily Log Auto Download Network

The daily log files stored in the 4GB's of memory in the HAMS module may be automatically downloaded if the proper network is in place. There are two options to automatically download the files.

1. The garage is equipped with a Wi-Fi router and that router is setup to transfer the files to the HAMS website cloud storage location.
2. Each vehicle is equipped with an on-board router and this router is setup to transfer the files to the HAMS website cloud storage location.

