



***NP200G-Cellular
User's Manual***

*Rev. 2.0
Date: 18th June 2020*

This manual belongs to: _____

Company: _____



Proprietary Notice

This document and its contents are proprietary to Sena World, Inc. and shall not be reproduced, copied or used in whole or in part without the written consent of an officer of Sena World, Inc., a Texas corporation.

This document is for information purposes only and is subject to change without notice.

Thank You

Sena World, Inc. thanks you for purchasing this product and hopes that it can fulfil all your CNG controller needs now and in the future.



Revision History

Version	Page	Date	Reason
1.0		03/07/19	Initial release
2.0		18/06/20	Update

Please Note:

Sena World, Inc. encourages and appreciates customer feedback regarding this document errors or improvements. If you have any questions regarding this manual or this product, please call or write to the following:

Please respond to:

Sena World, Inc.
10606 Shady Trail, suite 106
Dallas, TX 75220
Factory Tel: (972) 488-8724



Internet Home page:
E-mail:

www.Sena World.com
patelnp@sena-corp.com



Table of Content

Contents

Table of Contents

<i>Introduction.....</i>	<i>5</i>
<i>Shipping Carton.....</i>	<i>6</i>
<i>Install NP200G-Cellular unit</i>	<i>7</i>
<i>Setup NP200 G-Cellular unit.....</i>	<i>8</i>
<i>NP200 Operations.....</i>	<i>10</i>
<i>LCON Operations.....</i>	<i>11</i>
<i>Notes:</i>	<i>22</i>





Introduction

SENA's NP200G provides the same "near real time" tank monitoring information through SENA's LCON website as our NP200G but does so by using cellular networks. Ideal for locations/operations that do not have internet access the NP200G supports global 2G,3G/4G and LTE networks and works with various cellular partners. Values are periodically transferred (frequency is user-defined) utilizing cellular data to the LCON site for customer web-based applications. The LCON website is a secure web portal which gives customers multilevel global access to the NP-200 series tank monitors via the internet. All NP200 series of products can be used as a stand-alone monitoring and control system with built-in MODBUS protocol. Ideal for SCADA systems interface.

NP200 inputs/outputs

- 4 Analog Input
- 4 Digital Input
- 4 Digital Output
- RS485 channel



Shipping Carton

- 1) NP200G-Cellular
- 2) 8AA Battery
- 3) Manual
- 4) Warranty card
- 5) Mounting Screws



GSM Antenna



Back Side

Front Side

NP200W-LPG



GPS Antenna



Battery

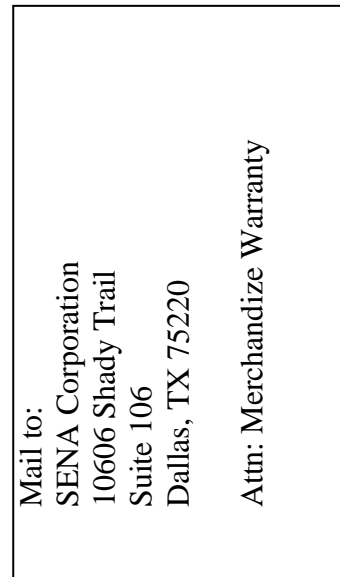


Figure 1

Install NP200G-Cellular unit

1. Survey site the NP200 is to be installed
2. Mark spot where unit is to be installed i.e. position of the 4 mounting holes
3. Using the appropriate screws, install the unit on the wall so that it is vertical
4. This mark should be about 2' or 600 mm from wall where unit is installed
5. Remove the caps for attach GSM and GPS antenna. Attach the appropriate antenna's to connector as shown in figure 2.

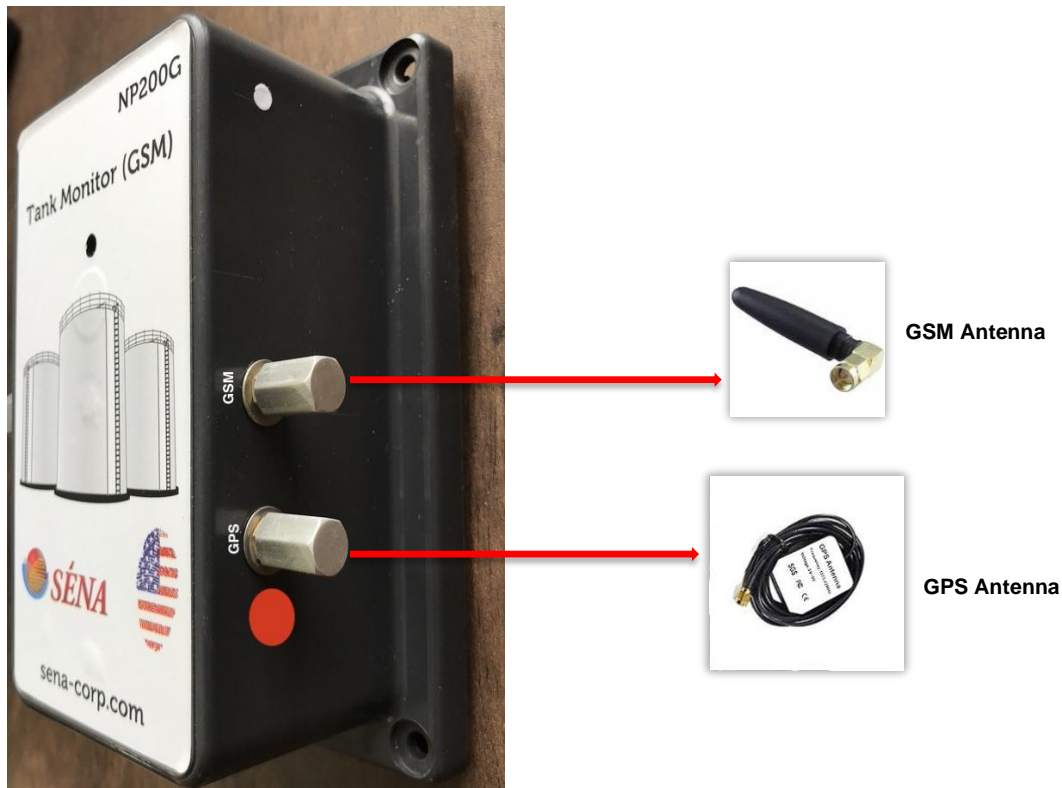


Figure 2

Setup NP200 Unit

- Open the lid of Unit and plug the batteries as shown in the figure 3.
- To wake up system, customer needs to hold magnet in front of Red dot on the unit for 3 sec as shown in figure 4.
- Unit indicator LED will flash every one second and send the report to the server.

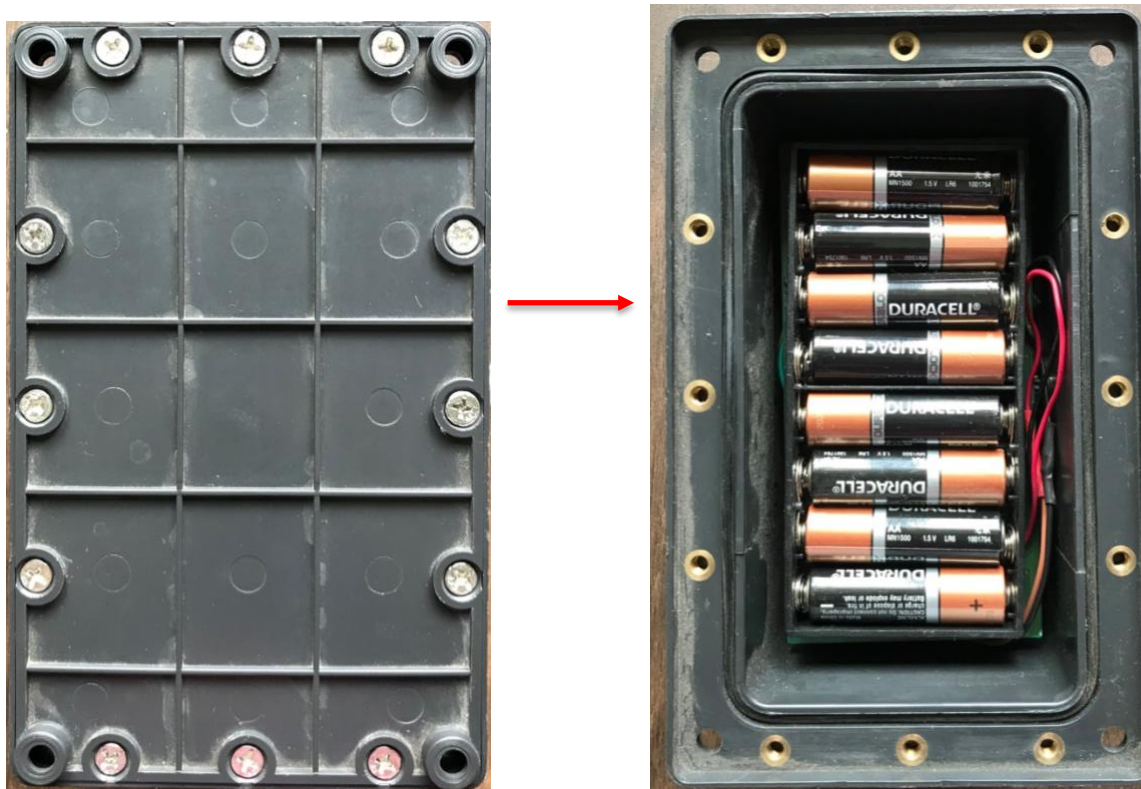


Figure 3



Figure 4

NP200 Operations

- To wake up system, customer needs to hold magnet in front of Red dot on the unit for 3 sec as shown in figure 4.
- When unit starts, it will blink green LED and take all readings and when it tries to register SIM on network, it will blink red LED. Once it is successfully registered and connected to the server, it will start flashing green led and will send report to server.
- It will send report two times a day i.e. 5 am and 3 pm as per default setting.
- When server communicates with RS485 sensor it will blink Green, Orange, Red till the communication with sensor is over.
- After sending report, it will start flashing Green, Orange, Red LED for 2-3 sec and will go back to sleep.
- If customer needs to change the report time then he can change it from “sena-corp.com” website.

LCON Operations

- 1) Access your internet and go to sena-corp.com
- 2) In the upper right corner click on “Login”
- 3) Login into LCON with your credentials. (If you don’t have login credentials please contact Sena Email: patelnp@sena-corp.com)
- 4) Click on “Submit” figure 5
- 5) LCON page will now display
- 6) Dashboard Page will now display. figure 6

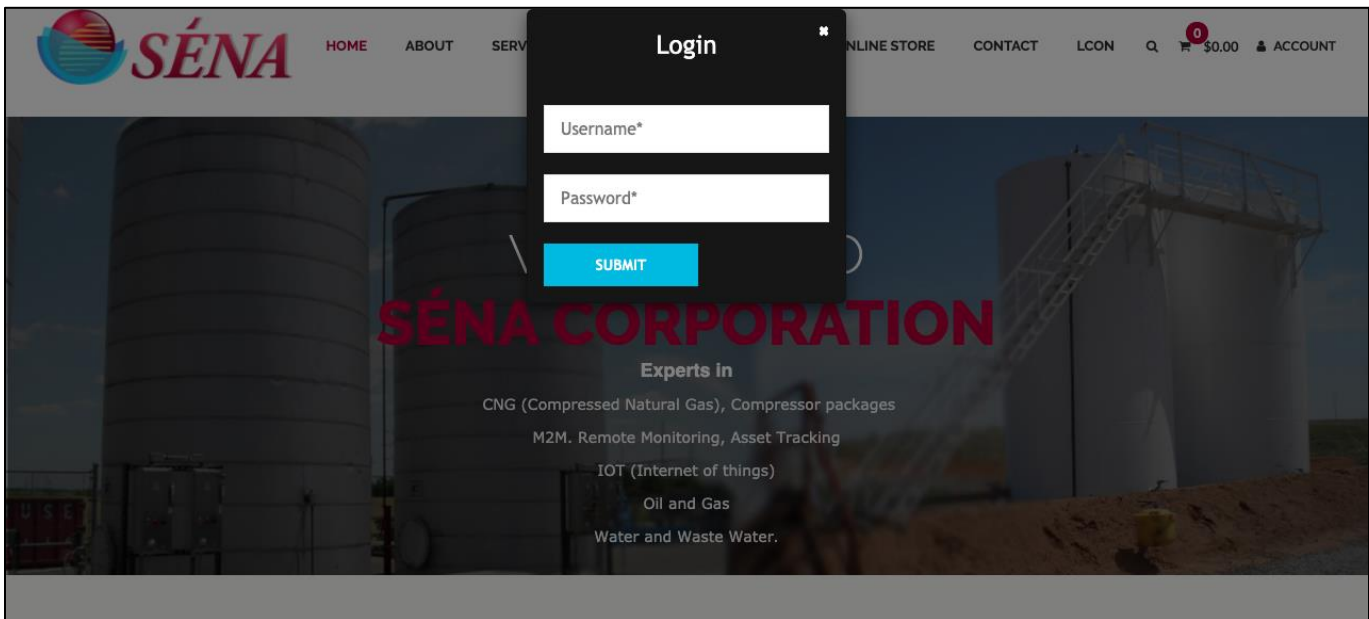


Figure 5

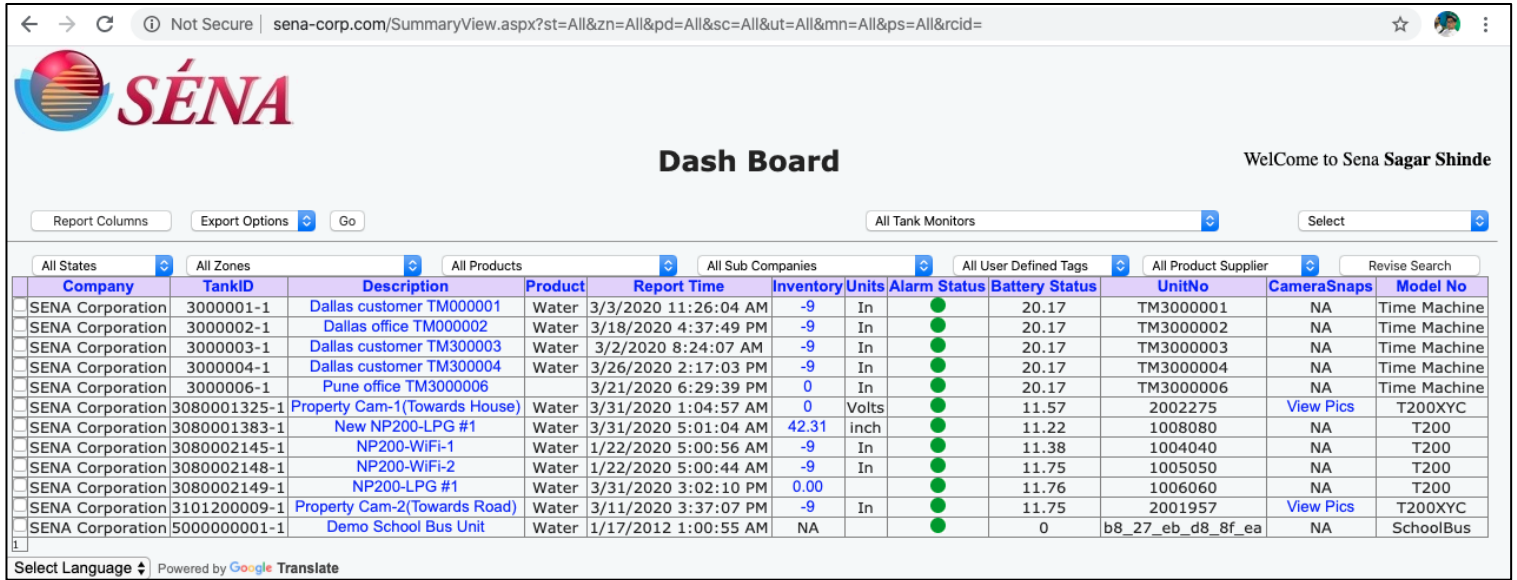
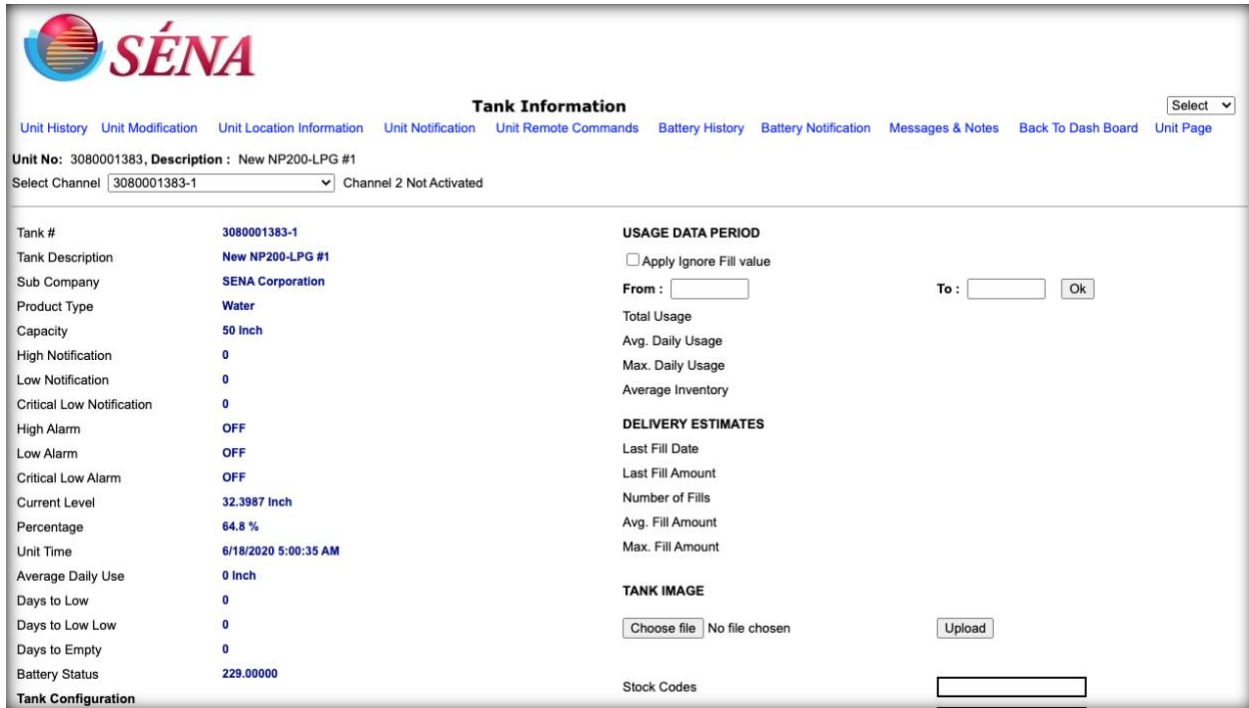


Figure 6

- 7) Identify the Unit and click on text in Description tab
- 8) Now Tank Information Page will open. (figure 7)



Tank Information Select ▾

Unit History Unit Modification Unit Location Information Unit Notification Unit Remote Commands Battery History Battery Notification Messages & Notes Back To Dash Board Unit Page

Unit No: 3080001383, Description : New NP200-LPG #1
 Select Channel 3080001383-1 Channel 2 Not Activated

Tank #	3080001383-1	USAGE DATA PERIOD	
Tank Description	New NP200-LPG #1	<input type="checkbox"/> Apply Ignore Fill value	
Sub Company	SENA Corporation	From :	<input type="text"/> To : <input type="text"/> <input type="button" value="Ok"/>
Product Type	Water	Total Usage	
Capacity	50 Inch	Avg. Daily Usage	
High Notification	0	Max. Daily Usage	
Low Notification	0	Average Inventory	
Critical Low Notification	0	DELIVERY ESTIMATES	
High Alarm	OFF	Last Fill Date	
Low Alarm	OFF	Last Fill Amount	
Critical Low Alarm	OFF	Number of Fills	
Current Level	32.3987 Inch	Avg. Fill Amount	
Percentage	64.8 %	Max. Fill Amount	
Unit Time	6/18/2020 5:00:35 AM	TANK IMAGE	
Average Daily Use	0 Inch	<input type="button" value="Choose file"/> No file chosen	<input type="button" value="Upload"/>
Days to Low	0	Stock Codes	<input type="text"/>
Days to Low Low	0		
Days to Empty	0		
Battery Status	229.00000		
Tank Configuration			

Figure 7

- 9) For check Report history click on hyper link “Unit History”. You will navigate to Unit History Page. Figure 8.

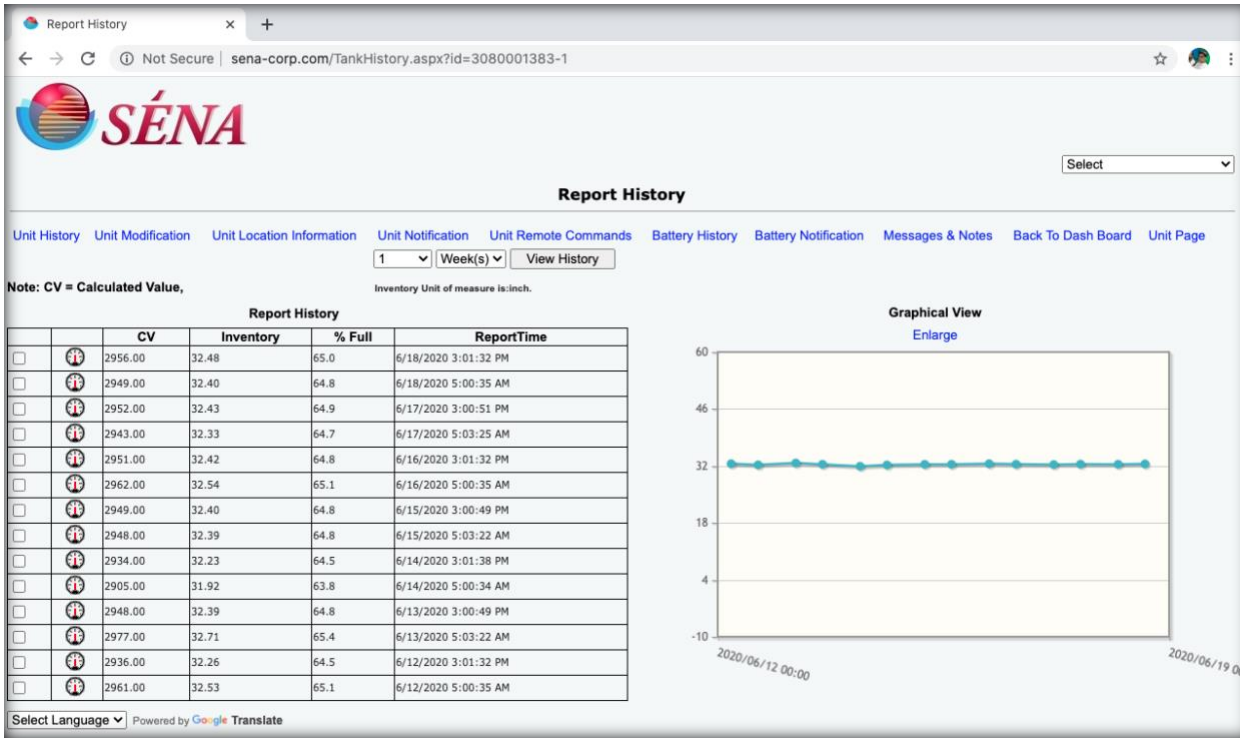


Figure 8

10) For Report Notification (Email alerts) click on hyper link “Unit Notification”. You will navigate to Unit notification Page. Figure 9. (only Admin will have the access of this page)

- For getting alerts on high and low readings. Please Fill the values in the fields (High-High, High, Low- Low, Low) that you think that reading will be alert reading. After That check the check mark. You can select the type of alerts like Hi-Hi, Hi, Lo-Lo, Lo, unit report, etc..

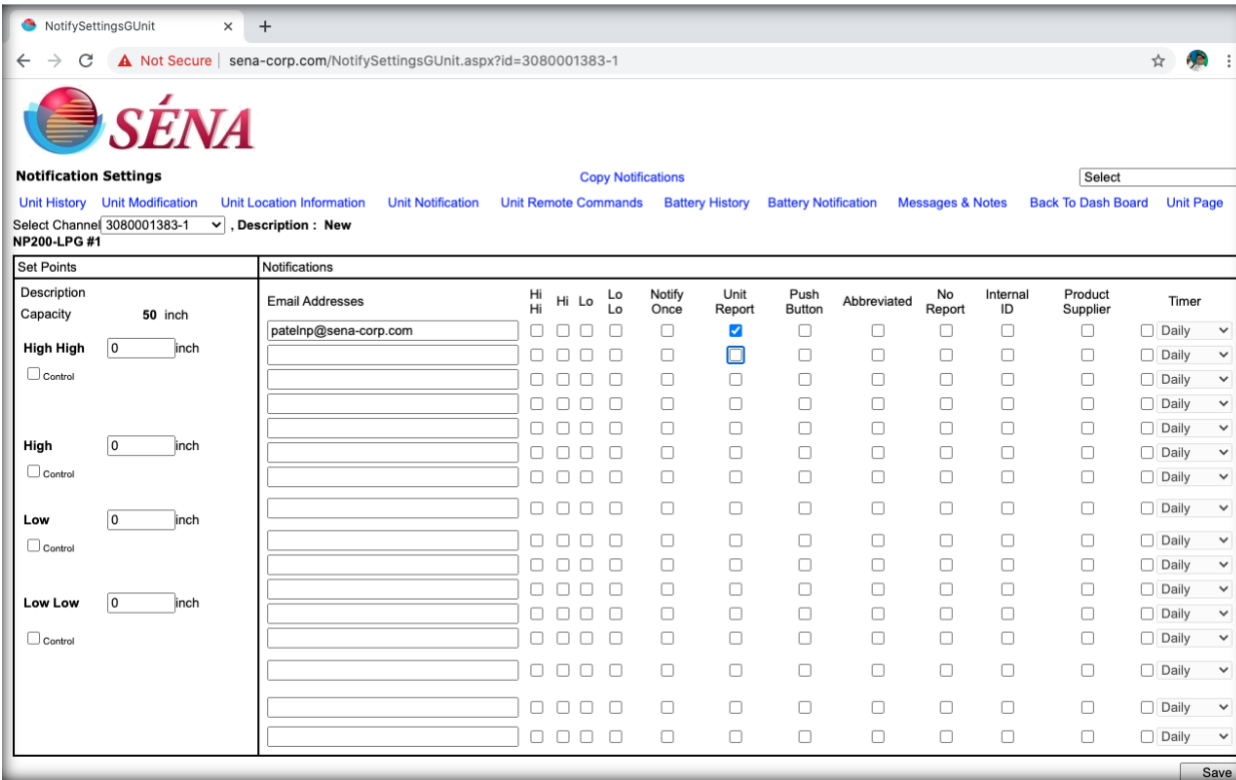


Figure 9

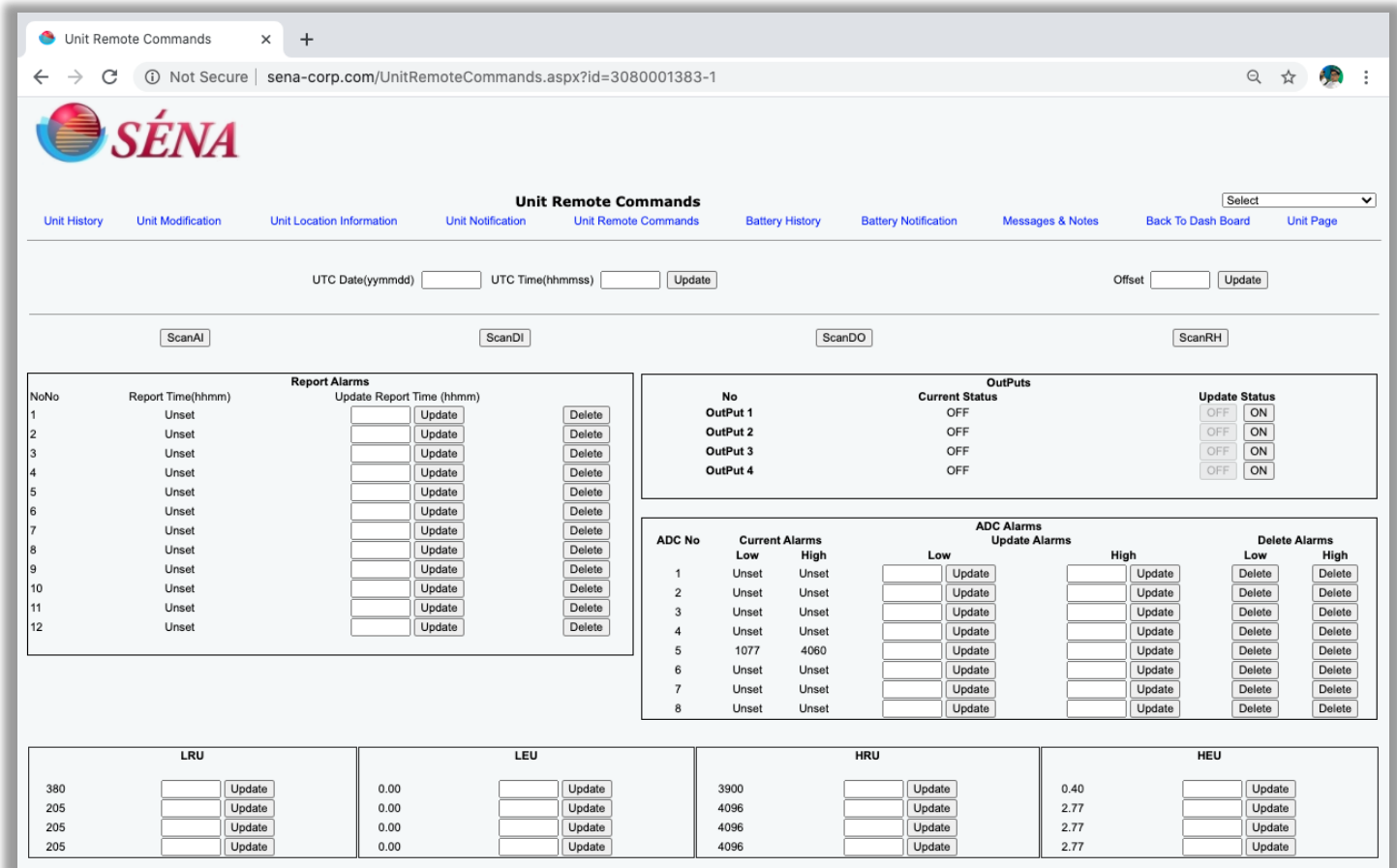
11) For changing Unit setting Remotely click on hyper link “Unit Remote Commands”. You will navigate to Unit Remote Commands Page. Figure 10. (**only Admin will have the access of this page**)

You Can change the below fields remotely.

- **UTC Date and UTC Time:** Date should be in format YYMMDD and time should be in format HHMMSS
- **Offset:** You can change the offset values. For example, you want to set the offset -24 so you should have the enter 24 and if you want set +24 value should 124.
- **Individual Register Scanning:** For Scanning Only one type of registers you can press the buttons ScanAI, ScanDI, ScanDO, ScanRH
- **Reports Alarms:** Here is you have 12 options to set report time alarms. You have to set alarms in format HHMM. Also, if you want hourly report enter 9900 in one filed you will get hourly reports.
- **Change Output’s:** You can change the output values by pressing available buttons. Means if current value is ON then you can press OFF button. If current values are OFF, then you press ON button.



- **ADC Alarms:** You set the High and Low alarm values. This value should be in integer format. You can set values for 8 channels. You can also delete the high and low alarm pressing Delete buttons.
- **Row Units:** You can set the Low and high row units (HRU, LRU) for 4 channels. This value should be in integer format.
- **Engineering Units:** You can set the Low and high Engineering units (HEU, LEU) for 4 channels. This value should be in floating format.

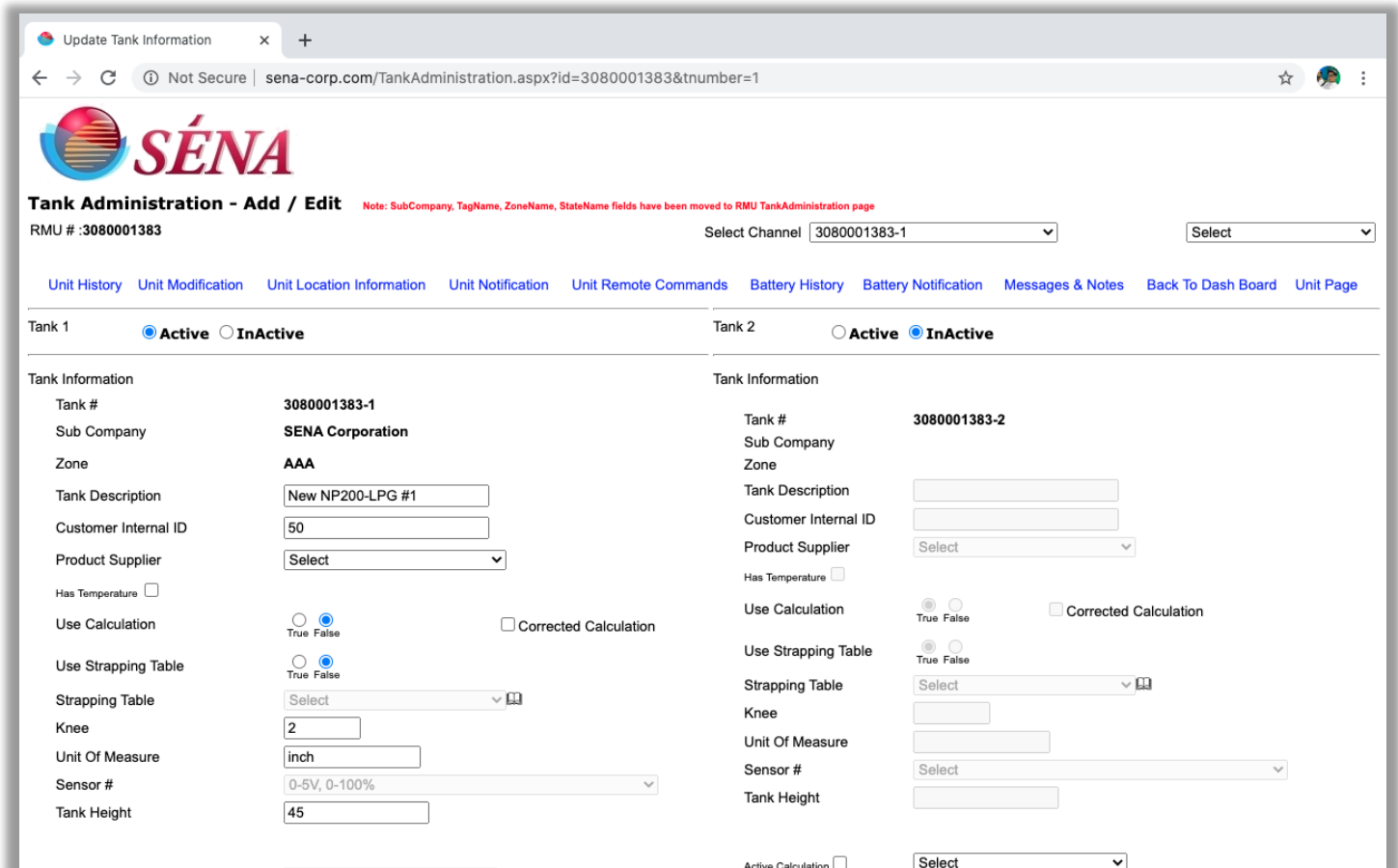


The screenshot shows the SENA Unit Remote Commands web interface. At the top, there is a navigation menu with options like Unit History, Unit Modification, Unit Location Information, Unit Notification, Unit Remote Commands, Battery History, Battery Notification, Messages & Notes, Back To Dash Board, and Unit Page. Below the navigation, there are input fields for UTC Date and Time, and an Offset field. The main content area is divided into several sections:

- Report Alarms:** A table with 12 rows. Each row has a 'NoNo' column, a 'Report Time(hhmm)' column (all 'Unset'), an 'Update Report Time (hhmm)' column with an input field and 'Update' button, and a 'Delete' button.
- OutPuts:** A table with 4 rows. Each row has a 'No' column, a 'Current Status' column (all 'OFF'), and an 'Update Status' column with 'OFF' and 'ON' buttons.
- ADC Alarms:** A table with 8 rows. Each row has an 'ADC No' column, a 'Current Alarms' section with 'Low' and 'High' columns (all 'Unset'), an 'Update Alarms' section with 'Low' and 'High' columns (each with an input field and 'Update' button), and a 'Delete Alarms' section with 'Low' and 'High' columns (each with a 'Delete' button).
- Units:** Four separate tables for LRU, LEU, HRU, and HEU. Each table has 4 rows. Each row has a value column and an 'Update' button.

Figure 10

12) You can change the unit setting for calculation using Unit modification Page. This calculation is only for Lcon side. Visit this page by select hyper link “Unit Modification”. Figure 11.



The screenshot shows a web browser window with the URL `sena-corp.com/TankAdministration.aspx?id=3080001383&number=1`. The page title is "Tank Administration - Add / Edit". A red note states: "Note: SubCompany, TagName, ZoneName, StateName fields have been moved to RMU TankAdministration page".

At the top, there is a "Select Channel" dropdown menu with the value "3080001383-1" and another "Select" dropdown menu.

Navigation links include: Unit History, Unit Modification, Unit Location Information, Unit Notification, Unit Remote Commands, Battery History, Battery Notification, Messages & Notes, Back To Dash Board, and Unit Page.

Two tanks are displayed side-by-side:

- Tank 1:**
 - Active: Active InActive
 - Tank Information:
 - Tank #: 3080001383-1
 - Sub Company: SENA Corporation
 - Zone: AAA
 - Tank Description: New NP200-LPG #1
 - Customer Internal ID: 50
 - Product Supplier: Select
 - Has Temperature:
 - Use Calculation: True False Corrected Calculation
 - Use Strapping Table: True False
 - Strapping Table: Select
 - Knee: 2
 - Unit Of Measure: inch
 - Sensor #: 0-5V, 0-100%
 - Tank Height: 45
- Tank 2:**
 - Active: Active InActive
 - Tank Information:
 - Tank #: 3080001383-2
 - Sub Company: [Empty]
 - Zone: [Empty]
 - Tank Description: [Empty]
 - Customer Internal ID: [Empty]
 - Product Supplier: Select
 - Has Temperature:
 - Use Calculation: True False Corrected Calculation
 - Use Strapping Table: True False
 - Strapping Table: Select
 - Knee: [Empty]
 - Unit Of Measure: [Empty]
 - Sensor #: Select
 - Tank Height: [Empty]
 - Active Calculation: Select

Figure 11

13) For check Battery history click on hyper link “Battery History”. You will navigate to battery History Page. Figure 12.

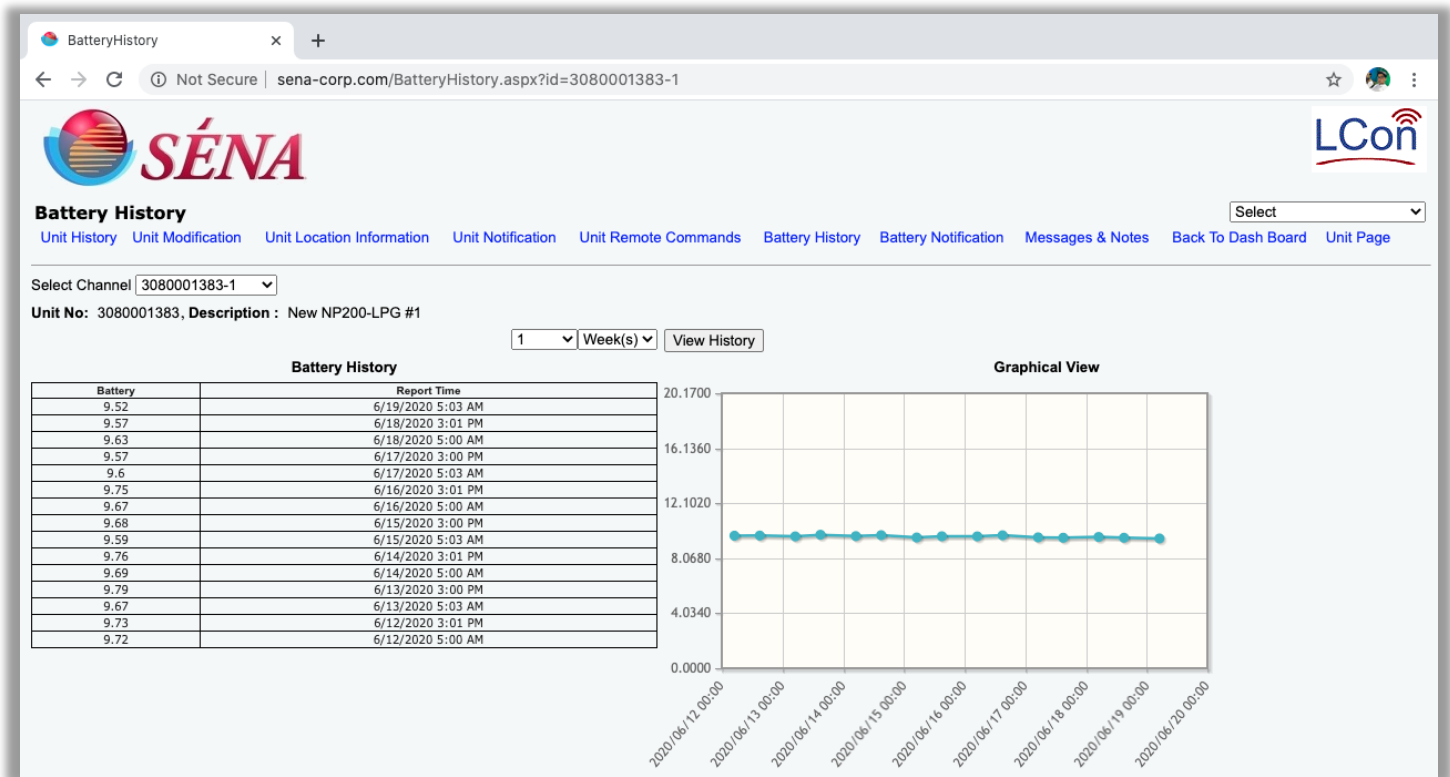
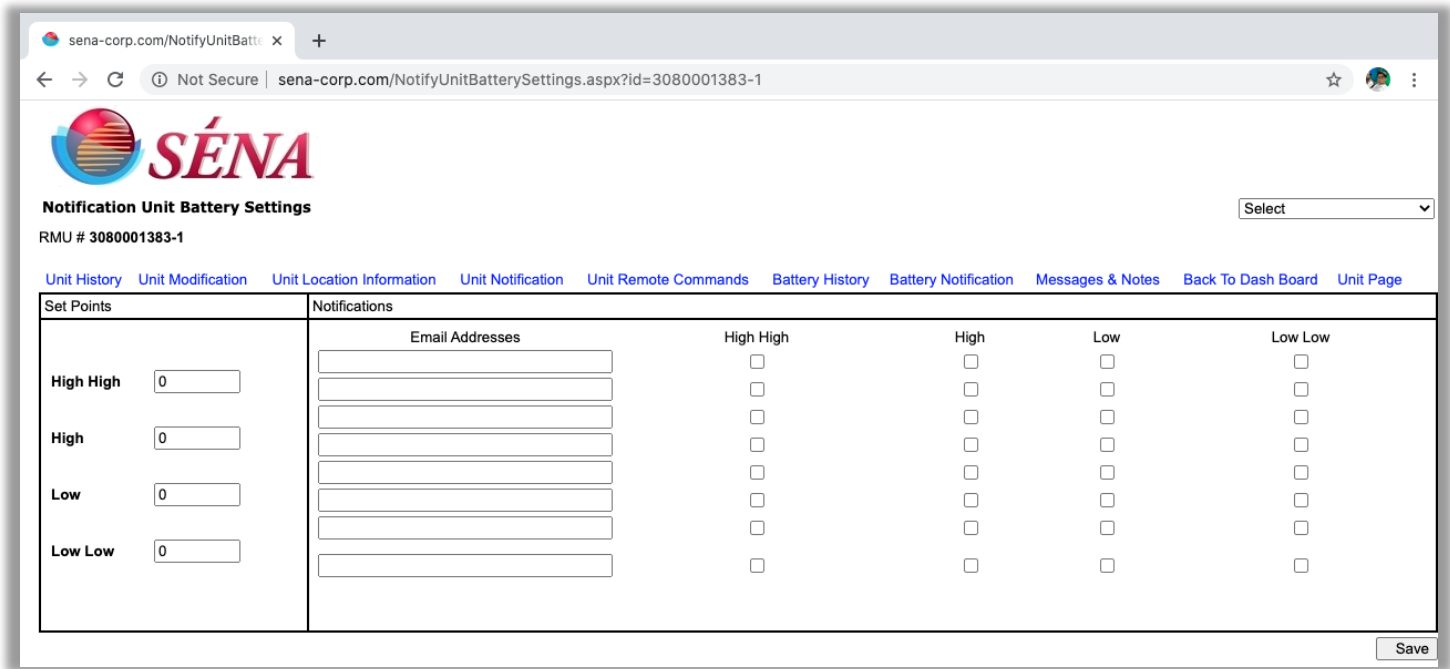


Figure 12

14) For Battery Report Notification (Email alerts) click on hyper link “Battery Notification”. You will navigate to battery notification Page. Figure 13. (only Admin will have the access of this page).

- For getting alerts on high and low battery readings. Please Fill the values in the fields (High- High, High, Low- Low, Low) that you think that reading will be alert reading. After That check the check mark. You can select the type of alerts like High-High, High, Low-Low, Low, unit report, etc..



SENA

Notification Unit Battery Settings Select

RMU # 3080001383-1

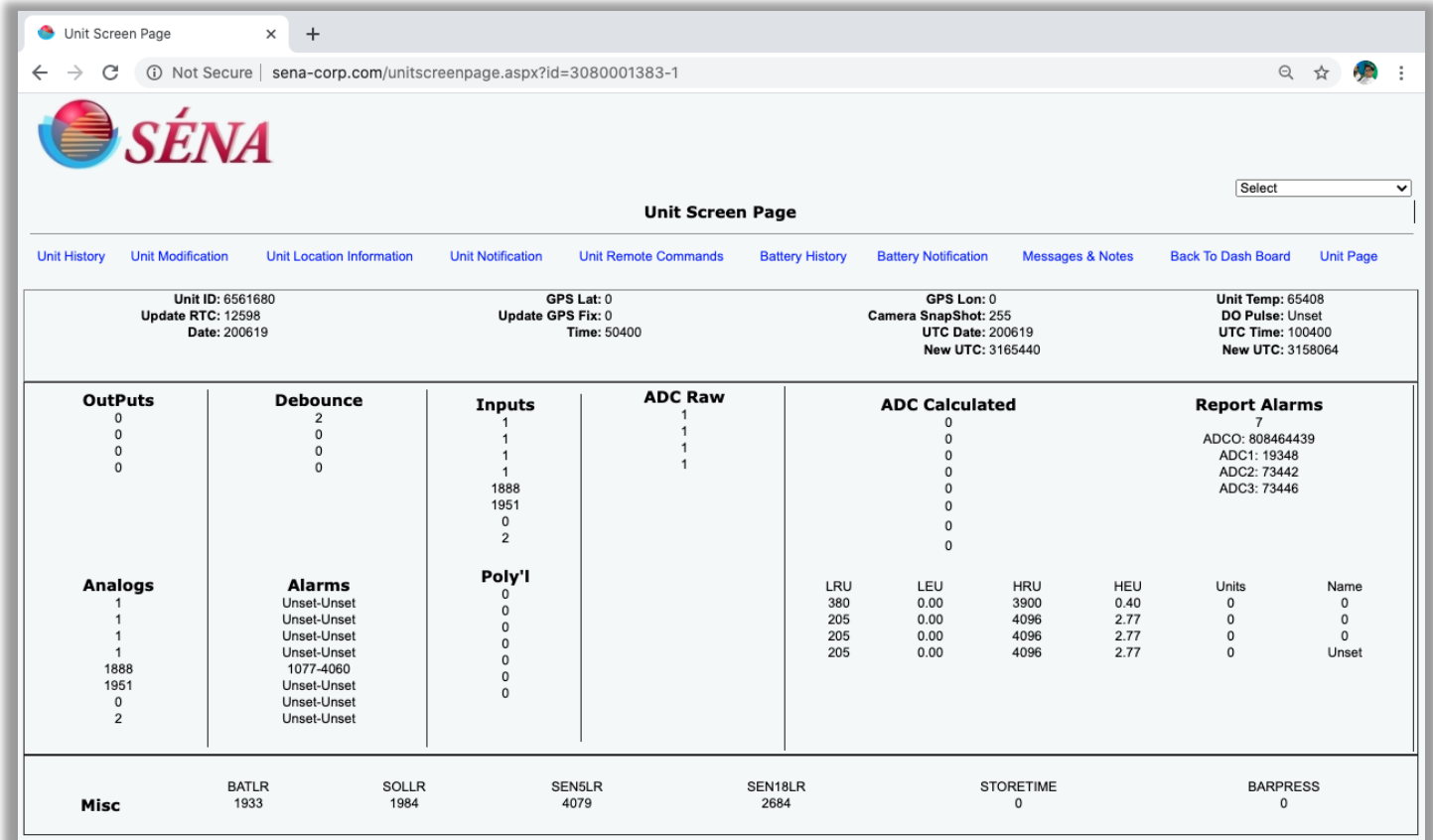
[Unit History](#)
[Unit Modification](#)
[Unit Location Information](#)
[Unit Notification](#)
[Unit Remote Commands](#)
[Battery History](#)
[Battery Notification](#)
[Messages & Notes](#)
[Back To Dash Board](#)
[Unit Page](#)

Set Points	Notifications															
	Email Addresses															
High High <input type="text" value="0"/>	<table border="0" style="width: 100%;"> <tr> <td style="width: 40%;"></td> <td style="text-align: center;">High High</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Low</td> <td style="text-align: center;">Low Low</td> </tr> <tr> <td><input type="text"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><input type="text"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>		High High	High	Low	Low Low	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	High High	High	Low	Low Low												
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
High <input type="text" value="0"/>	<table border="0" style="width: 100%;"> <tr> <td style="width: 40%;"></td> <td style="text-align: center;">High High</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Low</td> <td style="text-align: center;">Low Low</td> </tr> <tr> <td><input type="text"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><input type="text"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>		High High	High	Low	Low Low	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	High High	High	Low	Low Low												
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
Low <input type="text" value="0"/>	<table border="0" style="width: 100%;"> <tr> <td style="width: 40%;"></td> <td style="text-align: center;">High High</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Low</td> <td style="text-align: center;">Low Low</td> </tr> <tr> <td><input type="text"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><input type="text"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>		High High	High	Low	Low Low	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	High High	High	Low	Low Low												
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
Low Low <input type="text" value="0"/>	<table border="0" style="width: 100%;"> <tr> <td style="width: 40%;"></td> <td style="text-align: center;">High High</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Low</td> <td style="text-align: center;">Low Low</td> </tr> <tr> <td><input type="text"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><input type="text"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>		High High	High	Low	Low Low	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	High High	High	Low	Low Low												
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												

Save

Figure 13

15) For seeing register values select “Unit page” hyper link. Figure 14



The screenshot shows the 'Unit Screen Page' for a SENA unit. The page includes a navigation menu with links like 'Unit History', 'Unit Modification', 'Unit Location Information', 'Unit Notification', 'Unit Remote Commands', 'Battery History', 'Battery Notification', 'Messages & Notes', 'Back To Dash Board', and 'Unit Page'. The main content area displays several key parameters:

- Unit ID:** 6561680
- Update RTC:** 12598
- Date:** 200619
- GPS Lat:** 0
- Update GPS Fix:** 0
- Time:** 50400
- GPS Lon:** 0
- Camera Snapshot:** 255
- UTC Date:** 200619
- New UTC:** 3165440
- Unit Temp:** 65408
- DO Pulse:** Unset
- UTC Time:** 100400
- New UTC:** 3158064

Below these parameters are several data tables:

OutPuts	Debounce	Inputs	ADC Raw	ADC Calculated				Report Alarms	
0	2	1	1	LRU	LEU	HRU	HEU	Units	Name
0	0	1	1	380	0.00	3900	0.40	0	0
0	0	1	1	205	0.00	4096	2.77	0	0
0	0	1	1	205	0.00	4096	2.77	0	0
		1888		205	0.00	4096	2.77	0	Unset
		1951							
		0							
		2							

Analogs	Alarms	Poly'l
1	Unset-Unset	0
1	Unset-Unset	0
1	Unset-Unset	0
1	Unset-Unset	0
1888	1077-4060	0
1951	Unset-Unset	0
0	Unset-Unset	0
2	Unset-Unset	0

Misc	BATLR	SOLLR	SEN5LR	SEN18LR	STORETIME	BARPRESS
	1933	1984	4079	2684	0	0

Figure 14

16) For check GPS location of unit click on “Unit Location Information” hyper link. Figure 15.

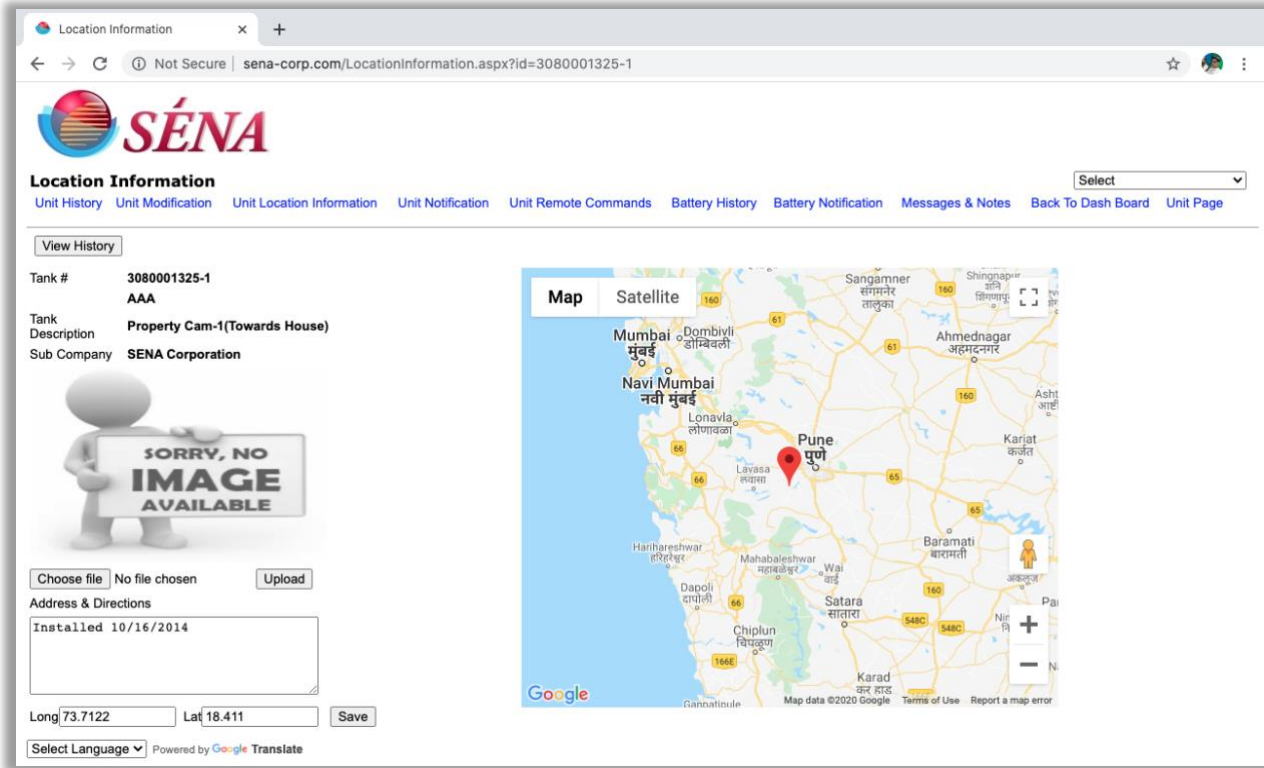


Figure 15

