

# GTS ELD Solution

Global Telecommunication Services, Inc. (GTS)

## *User Guide*

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WORK FOR A BETTER WORLD!

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## 1 Overview of ELD Solution

ELD Solution is a package of data collection and process consisting of web, mobile, and texting message applications that provide all transportation vendors and carriers (commercial or non-commercial, cargo or passengers) to manage their fleet (vehicles and drivers), trips and events, GIS data (raw and processed), live monitors and violations, alarm and reminding, ELOG and HOS, and help to meet the compliance and regulations of the DOT and FMCSA.

## 2 Modules and Features

The main modules are as follows:

Account Management

Fleet Management

Trip Scheduling and Management

ELOG and Report Center

Roadside Inspection Support

Live Tracking, Monitoring, and Alarm

Modules can be accessed via the dashboard directly or at from the top head menu bars. Menus of all modules are listed on the left side of the web pages and within the sub dashboard in the mobile application.

## 3 Account Management

Through this module, carriers can open and edit its office clerk and dispatcher accounts, driver login accounts, and associated information.

### 3.1 Account Info and Preference

#### 3.1.1 Account Info (Required and Optional)

Enter/Edit carrier name, DOT identity info, address, contact phone number, ELOG reporting email address, SMS alarm/notification phone numbers at company level, and general time zone.

#### 3.1.2 System Admin and User Accounts

Carrier account is created by GTS with System Admin privilege.

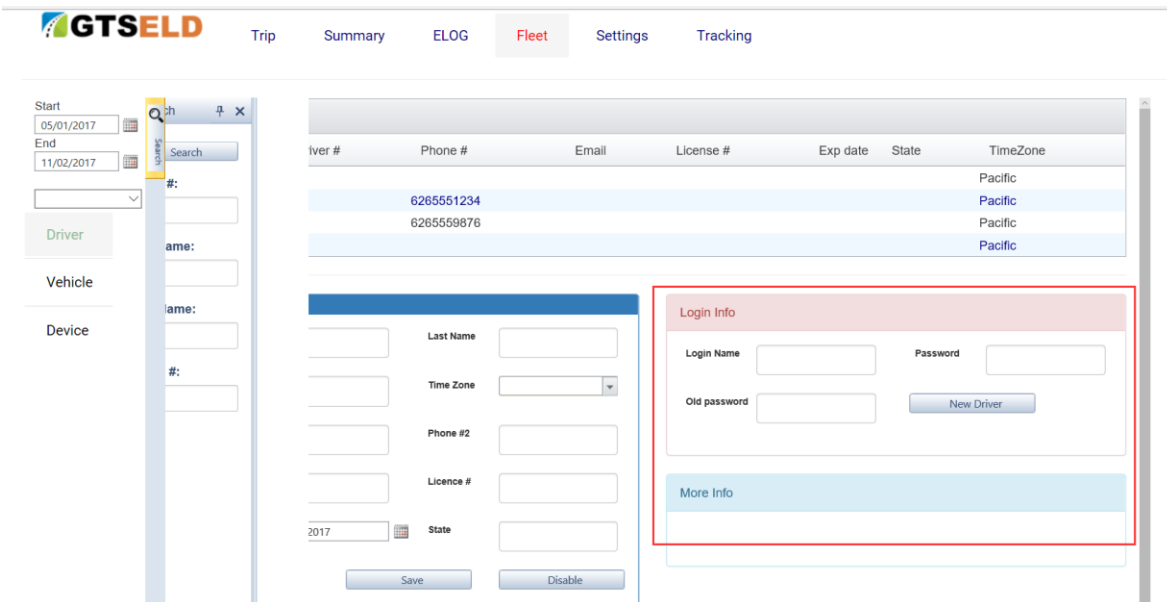
The rest of the employee accounts do not have full privilege with certain functionalities disabled, such as disable/delete vehicle/driver info, and etc. This setup is not configurable or customizable.

### 3.2 Management office clerk / dispatcher accounts

#### 3.2.1 Employee Accounts maintenance

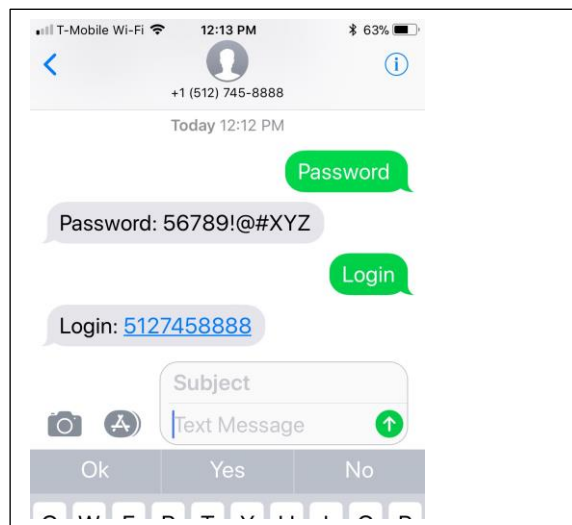
Enter/Edit employee name and phone numbers, email address and login name. The rest of the info is optional.

If preferred login name is not provided, then account email address shall be used as the default login name. The default password is the same as login name until employee updates it in the future.



If only phone number is provided, the default login name is that number and the default password is same (that phone number), this information can be changed after login.

If you are a registered user, login name and password can be received via text message.



### 3.2.2 Configuration of Live Alarm Notification Recipients.

Specify who should be notified automatically when Live Tracking, Monitoring, and Alarm Module captures suspicious activities or behavior and initiated an SMS notification. Specified recipients must have phone number available.

The screenshot shows the 'Merchant 2-Way SMS Configuration Center' interface. It features a table with columns: #, Reply #, Voice Forward #, Location, Forward SMS, Forward SMS #, Send Email, Email Address, is Default, Status, Notes, and Effective. Below the table is a configuration form for a specific recipient. The form includes fields for LocationID (SMS4a), Forward SMS (6262336898), Email Address (tom@sms4a.com), and Notes (SMS Demo number). On the right side of the form, there are three checkboxes: 'Forward Customer Reply via SMS', 'Forward Email to Merchant', and 'is Default Reply #', all of which are checked. A red circle highlights these three checkboxes. At the bottom right of the form, there are 'Save' and 'Cancel' buttons, with 'Save' also circled in red.

## 4 Fleet Management

Through this module, carriers can manage their vehicle and drivers

The screenshot shows the 'Fleet' management interface on the ELOG123.com website. The browser address bar shows 'elog123.com/GIS/DriverExt'. The navigation menu includes 'Trip', 'Summary', 'ELOG', 'Fleet', 'Settings', and 'Tracking'. On the left, there are filters for 'Start' (05/01/2017), 'End' (11/03/2017), and a 'Driver' dropdown. The main area displays a table of drivers with columns: Name, Driver #, Phone #, Email, License #, Exp date, State, and TimeZone. The table lists four drivers: A Fei, Jerry (6265551234), Tom (6265559876), and Jerry. A red box highlights a '+ Add new record' button above the table. Below the table, there is a form to add a new driver with fields for First Name, Last Name, Driver #, Time Zone, Phone #, Phone #2, Email, Licence #, Exp Date (11/03/2017), and State. To the right of the form is a 'Login Info' section with fields for Login Name, Password, and Old password, and a 'New Driver' button. At the bottom of the form are 'Save' and 'Disable' buttons.

### 4.1 Vehicle Management

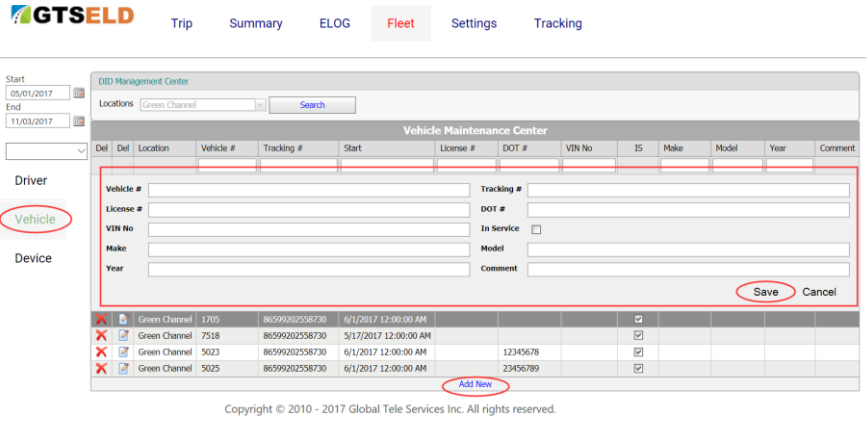
Create / Edit / Delete vehicles (tractor and trailer)

View vehicle info and reports

Required vehicle Information:

VIN, Plate, DOT#

Plate is used to identify the vehicles on the map for animation, static, and live view.



## 4.2 Driver Management

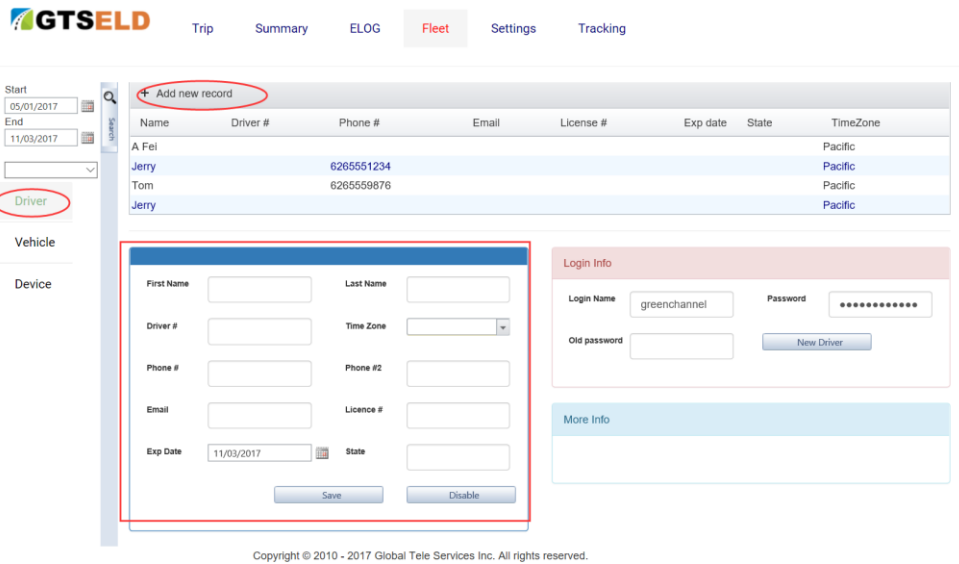
Create / Edit / Delete drivers

View vehicle info and reports

Required vehicle Information:

Name, driver license #, DOT#

If phone numbers are not provided, SMS notification shall not be delivered to drivers.



## 4.3 ELD Device Assignment

Assign ELD to vehicles.

Must provide start and end time for the coverage period of the ELD device and vehicle.

Default end time for first time ELD assignment is no end time.

Default end time for assigning an ELD device from one vehicle to another is the exact current time of assignment unless the end time is provided.

Start: 05/01/2017  
End: 11/03/2017

+ Add new record

	Device Code	Location	Start Service	End Service	Vehicle
Driver	86599202558730	Green Channel	03/26/2017 00:00	06/26/2017 00:00	1705
	86599202558730	Green Channel	06/26/2017 00:00	03/02/2020 00:00	7518
	86599202783122	Green Channel	05/17/2017 22:18	06/26/2017 00:00	7518
Vehicle	G5023	Green Channel	06/26/2017 00:00		5023
Device	G5025	Green Channel	06/26/2017 00:00		5025

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### 4.3 Driving Scheduling

Carriers can pre schedule drivers driving certain vehicles. This info is used to auto generate trip info daily.

If in case a driver is assigned to drive a different vehicle, please refer to Section 5 for Trip Scheduling and Editing.



## 5 Trip Scheduling and Management

The screenshot shows the 'Trip Center' interface. At the top, there are navigation tabs: Trip (highlighted with a red circle), Summary, ELOG, Fleet, Settings, and Tracking. Below the tabs, there are date pickers for 'Start' (05/01/2017) and 'End' (11/03/2017), and a search button. A '+ Add new record' button is also highlighted with a red circle. The main area contains a table of trip records. The table has the following columns: Date, Vehicle, Driver, Pre Inspection, Post Inspection, Move, Distance, Park, S Mile, E Mile, Type, and Comment. The records show various dates from 2017-10-30 to 2017-11-03, with drivers Tom and Jerry, and inspection statuses of 'Not yet'. The table also includes pagination controls at the bottom, showing 'Page size: 10' and '171 items in 18 pages'.

Date	Vehicle	Driver	Pre Inspection	Post Inspection	Move	Distance	Park	S Mile	E Mile	Type	Comment
2017-11-03	5023	Tom	Not yet	Not yet				0.0	0.0	General	
2017-11-03	5025	Jerry	Not yet	Not yet				0.0	0.0	General	
2017-11-02	5023	Tom	Not yet	Not yet				0.0	0.0	General	
2017-11-02	5025	Jerry	Not yet	Not yet	35308.8	946970.8	8.0	0.0	0.0	General	
2017-11-01	5023	Tom	Not yet	Not yet				0.0	0.0	General	
2017-11-01	5025	Jerry	Not yet	Not yet				0.0	0.0	General	
2017-10-31	5023	Tom	Not yet	Not yet				0.0	0.0	General	
2017-10-31	5025	Jerry	Not yet	Not yet				0.0	0.0	General	
2017-10-30	5023	Tom	Not yet	Not yet				0.0	0.0	General	
2017-10-30	5025	Jerry	Not yet	Not yet	13480.1	1813703.7	47.6	0.0	0.0	General	

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### 5.1 Pre-Trip and Post-Trip Inspection

Driver should always conduct Pre-Trip and Post-Trip inspections on time. Driver may put notes to each inspected items and may edit the inspections later. All original and later altered inspection reports are saved as historical trail. Unpassed items may be reported.

### 5.2 Trip Creation and Editing

Trip is auto generated whenever driver is entering the pre-trip inspection. Trip may also be manually created and edited by Carrier and driver.

#### 5.2.1 Shift and Cycle

Carrier and driver should verify and update the shift and cycle of each trip carefully since this greatly affect the violation check of the trip.

If any trip's shift and cycle info is modified, the violation check shall be conducted again and new ELOG report is generated for that trip and carrier or driver needs to certify and sign again.

#### 5.2.2 Driver / Co-Driver login/out and Driver Switch

Driver and Co-Driver may login to website and takeover the control over the vehicle. Or use Mobile App to either claim the control of the vehicle or use QR Scanner to scan the vehicle's QR code.

Co-Driver info and events can be entered and edited later for the generated trip.

When one driver is taking over the control of the vehicle, this driver's status is set to On-Duty, and the status of the other driver is turned into Off-Duty mode by default and can be edited later.

### **5.3 HOS Maintenance / Event Creation and Editing**

Estimated events shall be generated automatically by checking the breakdown timeline of the trip. This auto generated trip events are then accessible to the carrier and driver for further editing.

Carrier and driver may insert/edit/delete events later and specify the event type, as well as start and end time.

The GIS and address information shall be attached to the events automatically (this part is not editable).

#### **5.3.1 Start / Stop Engine**

The start / stop engine information is collected automatically by ELD. However, if this information is not available, carrier or driver may create this event with time stamp.

#### **5.3.2 On / Off Duty**

Carrier or driver must verify and enter this information for any events under the trip.

#### **5.3.3 Sleep Berth / Break / Personal Period**

Carrier or driver may enter events of sleep berth, break and personal period and the sum of this time and mileage shall not be counted into final driving reports.

#### **5.3.4 Exceptions and Exempt Driver**

Driver may enter exception event complying with FMCSA regulation.

If the driver is an Exempt Driver, or a driver that operates under the short-haul exemption (395.1 (e)), driver should also confirm whether to continue as an exempt driver.

Driver or carrier should confirm that "No logs for Non-CDL-Driver / Short-Haul drivers operating within 150 air-miles" and Exempt Driver Option is enabled.

### **5.4 Additional Event information**

Carrier and driver should also provide additional event information for odometer value and time, gas/dollar amount and time

## 5.5 Recap

Click Recap button to bring up the recap information for the specified duty day and its corresponding cycle data.

## 5.6 Shipping Document

Carrier and driver may upload all shipping document images and attach with Trip Logs (Feature available for subscribed carriers only)

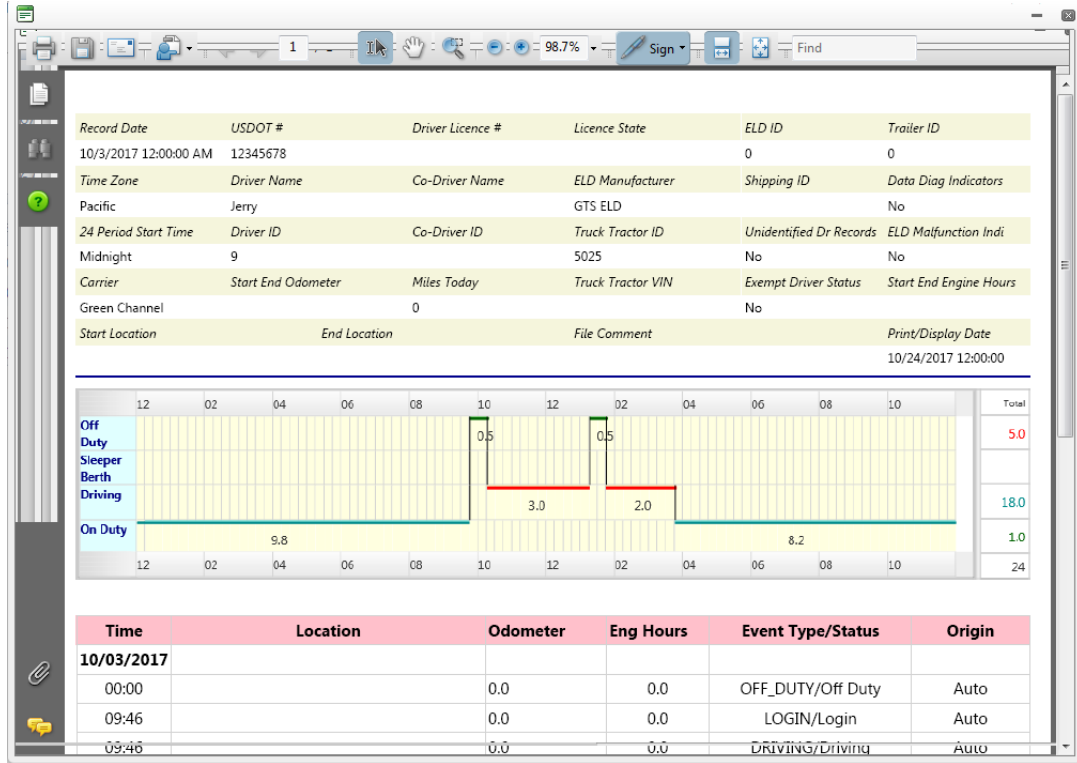
## 6 ELOG and Report Center

ELOG and Report center archives all customers ELOG files and reports for up to one year for immediate online and Mobile App access. For files and reports old than one year, contact our customer services to specially retrieve data from historical archiving servers.



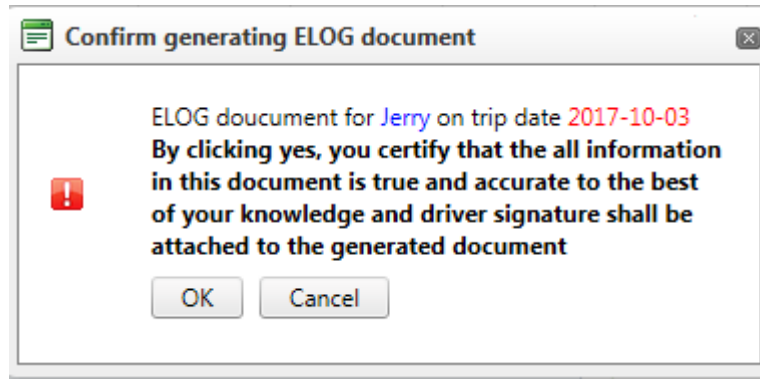
### 6.1 ELOG Certify and Sign

Both carrier and driver may certify and sign the trip related information, such as inspection and events. After all events are certified, the ELOG report is generated and waiting for the signature. Once ELOG report is signed, it is ready for reporting and downloading.



## 6.2 Electronic Certification and Signature

When carrier or driver click the certify button for each event, and click the sign button to the ELOG report, carrier or driver understands that the commitment to the statement that “I hereby certify that my data entries and my record of duty status for this 24-hour period are true and correct” is completed.



Carrier and driver should also provide signature images for electronic preparation of the ELOG reports.

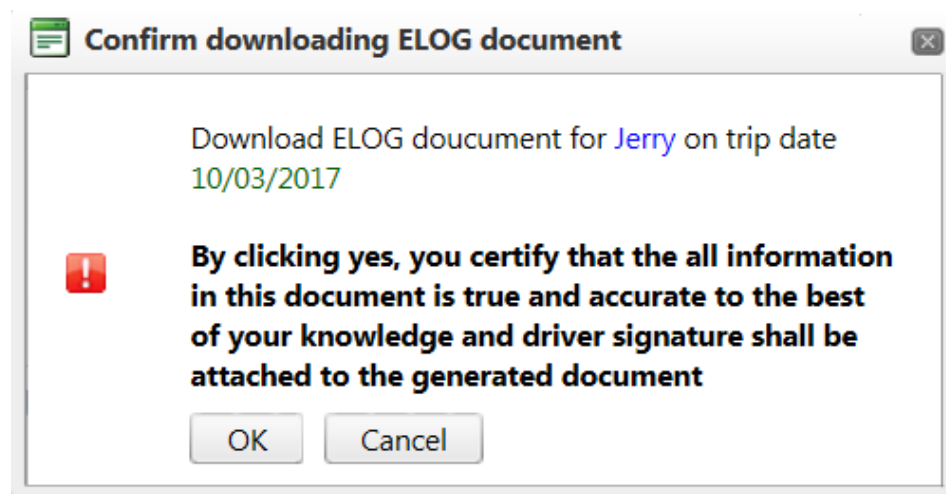
### 6.3 Notification of ELOG Reports Readiness

Whenever ELOG reports are prepared, a link to access this report is provided at website. And readiness notification is sent to Carrier via SMS and email. Driver also receives notification via SMS as long as driver provides the mobile phone number.

If the underlying ELOG data composing the ELOG reports are modified, a new report shall be generated again and readiness notification is sent out.

### 6.4 Access and Receive ELOG Reports

Carrier and driver may access ELOG reports via website and Mobile App whenever ELOG reports are prepared.



Reports are emailed to Carrier and driver (if driver provides email address). Carrier and driver may also get online and download the report via provided link.

### 6.5 Driver Vehicle Inspection Report (DVIR)

Carrier and driver may access DVIR reports via website and Mobile App whenever DVIR reports are prepared.

Reports are emailed to Carrier and driver (if driver provides email address). Carrier and driver may also get online and download the report via provided link.

### 6.6 Uncertified Driver Event Report

Carrier and driver may view report of uncertified events at website only.

## 6.7 Driver Driving Status Report

Carrier may view report of all drivers' daily driving status report for hours / mileage / violations (feature available for subscribed carriers only)

## 7 Live Tracking, Monitoring, Alarm, and Event Validation

Use Tracking -> GPS Tracking to view driving records (green stands for moving, red for stopping) for any drivers on any days, along with the information of corresponding events, location, parking duration, speed, tracking time (merchant local time).

### 7.1 Live Monitor

The screenshot displays the GTSELD Live Monitor interface. On the left, there are navigation options: Live, GPS Tracking, Live, and Malfunction. The main area is divided into several sections:

- Driver Selection:** A search bar and a table listing drivers.
 

Name	Driver #	Phone #
A Fei	3920	
Jerry	7428	6265551234
Tom	3035	6265559876
Jerry		
- Vehicle Info:** A section for vehicle details.
 

Vehicle Info	Malfunction
10/3/2017 2:46:55 PM	0.0
Last Fuel	
Last Status	Engine off / Stopped
location	
- Event List:** A table showing driving events.
 

Event	Time/Dur
Off Duty	00:00->09:45=9.8
Driving	09:45->10:15=0.5
Duty no driving	10:15->13:15=3.0
Driving	13:15->13:45=0.5
Duty no driving	13:45->15:45=2.0
Off Duty	15:45->23:59=8.2
- Map:** A map showing the vehicle's location and movement. A red marker indicates a parking event with a tooltip: "vehicle parking marker hover to view parking time and duration in minutes". A green marker indicates a moving event with a tooltip: "vehicle moving marker hover to view moving time and speed".

To enable live monitor and surveillance service, users must remove popup blocker of the web browsers.

The live map is auto popup when going into Tracking page and can be closed at any time. To open this page again, simply click the button Live on the left panel.

## 7.2 Tracking History Animation and Review

To enable the tracking animation service, users must remove popup blocker of the web browsers.

The animation map is popup when clicking the vehicle icon in the vehicle list panel and can be closed at any time.

## 7.3 Alarm and Notifications

Alarm and notification is an additional feature to be subscribed.

Here are some items:

- Speeding
- Long time driving
- Inspection incomplete
- Regional Specific (Cycle time) rule violation
- Possible rule violation
- GIS data not receiving in the last one hour

## 7.4 Break / Cycle / On Duty Time Remaining Reminder

This feature is available only when Alarm and Notifications Feature (refer to Section 8.3) is subscribed.

Drivers and carrier dispatch centers shall be notified for the time remaining of the break / cycle / on duty during the current trip.

Drivers' notification is delivered when drivers log onto website or using Mobile App to request. Carrier's dispatch centers need to have alarm dashboard window on for continuous notification.

## 7.5 GIS Info Services

This feature allow carrier to quickly search tracking and vehicle location information, as well as finding actual address for any GIS info.

### 7.5.1 Static Real Time Fleet Info

This feature provides static real time fleet location (GIS and actual address), status with latest tracking events and other related info. The status is updated automatically at an interval of 2 minutes. There are up to 170 vehicles to be monitored per screen and users may open real time monitors as many as needed.

### 7.5.2 Historical Tracking Map

This feature provides static and historical tracking information with speed info. Up to 150 sampling data can be displayed over the

### 7.5.2 Animation of Historical Tracking Map

This feature allows user to view animation of vehicle traveling during selected time range.



## 8 Summary of Malfunctions and Defects

All versions of ELD have built-in rechargeable power to ensure that during the power turned off period, the devices still report the location regularly. The devices also have internal memory to record undelivered data in case wireless data services are not available in certain areas. The hardware of GTS ELD Version 2.0.1 is GTSELD Model S3 that supports 3G and 4G wireless communications with its firmware version of GMS v3.0.

When hear 3 beep sounds after power on or during the trip, means device is working fine or data transfer successful.

Normal working lights should be red, blue and green



Four ways to identify malfunction:

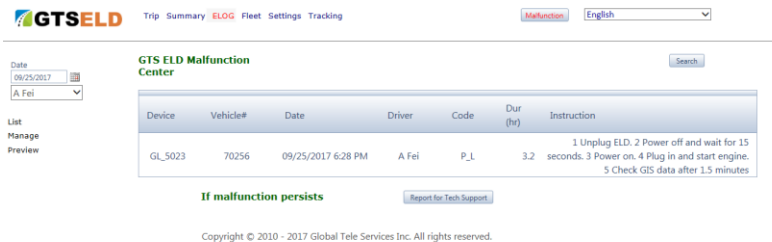
- A. By sound, if hear fast beep sound, after power cycle (reboot), still same, contact customer service or send a text.
- B. By lights, if more than 2 red lights, after power cycle (reboot), no change, contact customer service or send a text.



- C. By text, if receive alert text, after power cycle (reboot), no change, contact customer service or reply a text.



- D. By web/app, if 'Malfunction' button is red or yellow, click it for details:



More details of malfunction are described below:

### 8.1 Type of Malfunction

Possible malfunctions within GTS ELD system can be categorized into three categories as discussed in details in the following sections. All malfunctions that are intercepted by GTS ELD system are automatically recorded for ELD report compliance with FMCSA regulation, and for technical support and further analysis. Certain malfunctions may not be intercepted and recorded automatically. The following sections discuss how GTS ELD system deals with each scenario.

## 8.2 ELD Device and Hardware Malfunction

Make sure that power line is connected and the power indicator is light up. If dashboard camera version of the device is used, then the screen may be blacked out for power saving. However, the power indicator on the device should flash regularly. If no power is indicated, and the power connection is appropriate, then contact us for direct technical support and if it is determined that the device is indeed malfunctioned, a new device shall be delivered for replacement.

The following device malfunctions shall be collected and alarms shall be delivered to Carrier and Driver UI interface or by text message.

### Required ELD Compliance Malfunction

FMCSA Malfunction Code	GTS Extended Malfunction Code	Malfunction Description	GTS ELD Operation	Driver Operation
<b>P</b>	P	Power compliance malfunction	If hardware malfunction, replace with new ELD hardware	Restart device and verify the power is back normally. If yes, verify other functions. If not, contact vendor to arrange the replacement
	P_E	Monitor engine ECM data receiving		
	P_A	Validate aggregated in-motion driving time		
<b>O</b>	PL	Other ELD detected malfunction - Power Level Low	Notification (SMS, email, Online)	Check power connection
<b>E</b>	E	Engine Synchronization compliance malfunction	GTS ELD device shall conduct self-reset operation	Restart device. If error persists, contact vendor for technical support
	E_S	Monitor ECM data synchronization		
	E_C	ECM data connectivity		
	E_DL	Validate aggregated data lost period		
<b>T</b>	T	Timing compliance malfunction - GIS timing data error  Device UTC time off sync with server	GTS ELD device shall conduct self-reset operation and send alarm out	Restart device. If error persists, contact vendor for technical support
<b>L</b>	L	Positioning compliance malfunction -	GTS ELD device shall conduct	Restart device. If error persists, contact vendor

	L_V X / E M / E	GIS Latitude/Longitude data error - Monitor GPS data validation with elapsed distance and duration Failed collection of valid GPS Failed GPS data – user entering	self-reset operation and send alarm out	for technical support
<b>O</b>	MA	Other ELD detected malfunction - GIS heading /speed/ altitude data error	GTS ELD device shall conduct self-reset operation and send alarm out	Driver may ignore or turn off alarm options for this error, or restart device. If error persists, contact vendor for technical support
<b>S</b>	S	Data Transfer compliance malfunction - failed on ELD data transfer	No auto fix option. Provide online support to verify device status before any device restart	Contact vendor for technical support
<b>O</b>	DR	Other ELD detected malfunction - ELD data local buffering reading error Local data buffer error	No auto fix option. Provide online support to verify device status before any device restart or replacement	If error persists, contact vendor for technical support
<b>R</b>	R R_F R_M	Data recording compliance malfunction - local data buffering writing error No longer record or retain data Required data field missing		

Please note that the power failure malfunction is possibly not able to be automatically recorded due to the complete power failure. GTS ELD system shall screen GIS data for any data loss over 3 hours and identify it as power failure/data loss. The driver or carrier can update the actual status/event later via provided UI.

Data Diagnostic Events

FMCSA Data Diagnostic Event Code	FMCSA Data Diagnostic Event	GTS ELD Extended Diagnostic Event Code	Event Code Description
1	Power data diagnostic event	1-PWON	Power data diagnostic - Power on diagnostic event
1	Power data diagnostic event	1-PWOFF	Power data diagnostic - Power off diagnostic event
2	Engine synchronization data diagnostic event	E-PDS	Engine synchronization data diagnostic - Engine data sync
3	Missing required data elements data diagnostic event	3-ML	Missing required data element data diagnostic - Timing compliance – GIS UTC timing data error
3	Missing required data elements data diagnostic event	3-MP	Missing required data element data diagnostic - GIS Latitude/Longitude data error
3	Missing required data elements data diagnostic	3-MA	Missing required data element data diagnostic - GIS heading/speed/altitude data error
3	Missing required data elements data diagnostic event	3-MG	Missing required data element data diagnostic - General data error
4	Data transfer data diagnostic event	DS	Data Transfer data diagnostic - failed on ELD data transfer
5	Unidentified driving records data diagnostic event	UD	Unidentified driving records data diagnostic
6	Other ELD identified diagnostic event	6-E-PDG	Other ELD identified diagnostic event - Engine parameter data reading (ODB2 standard PID)
6	Other ELD identified diagnostic event	6-E-SNPS	Other ELD identified diagnostic event - Engine status data snapshot
6	Other ELD identified diagnostic event	6-E-UTS	Other ELD identified diagnostic event - UTC Timing Synchronization

### 8.3 ELD Data Process Malfunction (Data Processing Exception)

All data processing IO exceptions, including UI data input/editing/display/download and backend ELOG Data Engine processing, shall be captured automatically for further analysis. For any immediate support, please contact vendor for alternative solutions meanwhile.

### 8.4 ELD Data Collection/Report Malfunction (Data Collection Exception)

It is possible that in certain area, the wireless service is not available. In this case the GIS data is still collected and stored internally, and reported when wireless service is back available. If GIS data is not reported normally while it is confirmed that power is on and wireless service is available, then contact us for direct technical support to determine the causes and any alternative solutions. Driver may use GTS ELD provided UI features to manually enter the trip, event, and malfunction information for ELOG preparation.

### 8.5 Malfunction Visual and Diagnostic Indicator / Audio Alarm

Detected ELD malfunctions shall be displayed at the Summary dashboard visually with **Red** or **Orange** forecolor. Click on malfunction indicator to obtain more detailed information.

A diagnostic indicator is aligned aside of the malfunction indicator to display active diagnostic events. For ELD type of diagnostic indicators, driver should click and follow the instruction to solve the diagnosed data inconsistencies. For any questions or support, contact GTS support team. For motor diagnostic indicators, driver should click to view the detailed diagnostic information and refer to recommendations in the motor user manual.

Audio alarm sound plays only once at the first time the malfunction alarm is displayed. The audio alarm sound shall not be played if mobile device volume is turned off.

Carrier and driver may also configure accounts to receive short text message (SMS) on designated phone number(s) for any ELD malfunctions.

### 8.6 Driver Responses to ELD Malfunction

Refer to Section 8.2 for quick driver response and action. In addition, driver should follow the procedures listed next in case of GTS ELD malfunction:

1. Note the malfunction of the ELD and provide written notice of the malfunction to the motor carrier within 24 hours;
2. Reconstruct the record of duty status (RODS) for the current 24-hour period and the previous 7 consecutive days, and record the records of duty status on graph-grid paper logs that comply with 49 CFR 395.8, unless the driver already has the records or retrieves them from the ELD; and
3. Continue to manually prepare RODS in accordance with 49 CFR 395.8 until the ELD is serviced and back in compliance. The recording of the driver's hours of service on a paper log cannot continue for more than 8 days after the malfunction; a driver that continues to record his or her hours of service on a paper log beyond 8 days risk being placed out of service.

## 8.7 ELD Data Transfer Compliance Malfunction and Diagnostic Event

ELD data transfer compliance malfunction is Code 6 Type per FMCSA definition. This malfunction is rare but critical when ELD stays in the unconfirmed data transfer mode for three consecutive checks/resets. When this happens, contact vendor for technical support.

ELD data diagnostic event may occur when the operation of the data transfer mechanism is not confirmed. In this case, repeat data transfer procedure again and verify the process is confirmed. If still failed, contact vendor for technical support.

## 9 Web Service and Data Transfer

GTS ELD system provides various ways of ELOG document delivery services and transfer, including email, web service delivery per FMCSA requirement, and to customer specified URL, delivery via web service upon customer URL GET request. ELOG document can also be downloaded directly via website provided download feature.

### 9.1 Wireless Telematics ELD Data File Transfer – Email and Web Service

Both website and Mobile App inspection features provided a direct way to send electronic version of ELOG document via wireless methods.

GTS ELD System may send documents via emails to the given addresses. To email ELOG reports (in PDF format only), click the checkbox next to each report on the right side, and enter the email address in the email textbox below the ELOG report list, and click the Send Email button, the ELOG reports shall be emailed to the designated address.

GTS ELD System also support web services to electronically delivery documents via utilizing Web Service Definition Language 1.1 (**WSDL 1.1**) over Simple Object Access Protocol (**SOAP**). The services support both **XML data format (1.0 5<sup>th</sup> edition)** and **CSV data format** (refer to section 9.3 for detailed description of XML/CSV data format fields).

GTS ELD System has its uniquely certified public/private key pair, compliant with the NIST SP 800–32, to ensure secured data transfer via web service. The certified key has been registered with FMCSA as required.

### 9.2 Email of ELOG Document via Web Services

All ELOG documents in PDF format can be emailed via web services to driver, carrier, and government agencies.

### 9.3 Local Transfer Type ELD Data Transfer via Bluetooth/USB 2.0

In case ELOG documents need to be delivered locally, Utilize Bluetooth to transfer data as described next:

- 1 Download ELOG documents to your mobile device
- 2 Enable Bluetooth on your mobile device

- 3 Pair your mobile device with the other party (i.e. Authority, Road Inspection Officer)
- 4 Once pairing is established successfully, tab Send File to transfer ELOG documents locally via Bluetooth.

Local data transfer can also be accomplished via USB drive as follows:

- 1 Download ELOG documents to your mobile device or desktop computer
- 2 Open Document or File Explore
- 3 Copy the already downloaded ELOG documents and Paste to USB drive.

### 9.4 ELOG Report File Name Format

ELD file name consists of 25 characters in the following format.

Length	Meaning	Notes
5	First 5 characters of driver's last name	If driver's last name has less than 5 characters, then use _ (underscore) to fill in the missing part
2	Last 2 digits of driver's license number	
2	Sum of all individual numeric digits in the driver's license number	If the sum exceeds 99, then the last two digits of the sum shall be used. If the sum is less than 10, then use 0 for the first (8 <sup>th</sup> ) digit.
6	The date the ELD file is created in the format of MMDDYY	MM represents the month, DD represents the day, and YY represents the last two digits of the year
1	This 16 <sup>th</sup> position is always a hyphen "-"	
9	Distinct file identification part	The 9 character-long section consists of characters from 0 to 9 and from A to Z. It is able to uniquely identify the distinct files. By default, GTS shall auto generate this part of the file name uniquely and automatically. Customers may contact vendor for their specifically preferred conventions.

### 9.5 Supported ELD Data Format

ELD data file can be delivered in PDF file format, CSV text file (with comma as separator), JSON files (with JSON file formatters to replace the CSV file separator and field identifiers), and XML format (with XML file formatters to replace the CSV file separator and field identifiers). The detailed data format is defined as follows.



ELD File Header Segment: <CR>

<{Driveri`s} Last Name>,

<{Driveri`s} First Name>,

<ELD username{for the driver}>,>

<{Driveri`s} Driveri`s License Issuing State>,>

<{Driveri`s} Driveri`s License Number>,>

<Line Data Check Value> <CR>

<{Co-Driveri`s} Last Name>,>

<{Co-Driveri`s}First Name>,>

<ELD username {for the co-driver} >,>

<Line Data Check Value> <CR>

<CMV Power Unit Number>,>

<CMV VIN>,>

<Trailer Number(s)>,>

<Line Data Check Value> <CR>

<Carrieri`s USDOT Number>,>

<Carrier Name>,>

<Multiday-basis Used>,>

<24-Hour Period Starting Time>,>

<Time Zone Offset from UTC>,>

<Line Data Check Value> <CR>

<Shipping Document Number>,>

<Exempt Driver Configuration>,>

<Line Data Check Value> <CR>

<{Current} Date>,>

<{Current} Time>,>

<{Current} Latitude>,  
<{Current} Longitude>,  
< {Current} {Total} Vehicle Miles>,  
< {Current} {Total} Engine Hours>,  
<Line Data Check Value> <CR>

<ELD Registration ID>,  
<ELD Identifier>,  
<ELD Authentication Value>,  
<Output File Comment>,  
<Line Data Check Value> <CR>

User List: <CR>

<{Assigned User} Order Number>,  
<{Userj`s} ELD Account Type>,  
<{Userj`s} Last Name>,  
<{Userj`s} First Name>,  
<Line Data Check Value> <CR>

CMV List: <CR>

<{Assigned CMV} Order Number>,  
<CMV Power Unit Number>,  
<CMV VIN>,  
<Line Data Check Value> <CR>

ELD Event List: <CR>

<Event Sequence ID Number>,  
<Event Record Status>,  
<Event Record Origin>,  
<Event Type>,  
<Event Code>,  
<{Event} Date>,

<{Event}Time>,  
<{Accumulated} Vehicle Miles>,  
<{Elapsed} Engine Hours>,  
<{Event} Latitude>,  
<{Event} Longitude>,  
<Distance Since Last Valid Coordinates>,  
<{Corresponding CMV} Order Number>,  
<{User} Order Number {for Record Originator}>,  
<Malfunction Indicator Status {for ELD}>,  
<Data Diagnostic Event Indicator Status {for Driver}>,  
<Event Data Check Value>,  
<Line Data Check Value> <CR>  
ELD Event Annotations or Comments: <CR>  
<Event Sequence ID Number>,  
<ELD username {of the Record Originator}>,  
<{Event} Comment Text or Annotation>,  
<{Event} Date>,  
<{Event}Time>,  
<Driverj's Location Description>,  
<Line Data Check Value> <CR>  
Driverj's Certification/Recertification Actions:<CR>  
<Event Sequence ID Number>,  
<Event Code>,  
<{Event} Date>,  
<{Event} Time>,  
<Date {of the certified record}>,  
<{Corresponding CMV} Order Number>,  
<Line Data Check Value> <CR>  
Malfunctions and Data Diagnostic Events: <CR>

<Event Sequence ID Number>,  
<Event Code>,  
<Malfunction/Diagnostic Code>,  
<{Event} Date>,  
<{Event} Time>,  
<{Total} Vehicle Miles>,  
<{Total} Engine Hours>,  
<{Corresponding CMV} Order Number>,  
<Line Data Check Value> <CR>  
ELD Login/Logout Report: <CR>  
<Event Sequence ID Number>,  
<Event Code>,  
<ELD username>,  
<{Event} Date>,  
<{Event} Time>,  
<{Total} Vehicle Miles>,  
<{Total} Engine Hours>,  
<Line Data Check Value> <CR>  
CMV Engine Power-Up and Shut Down Activity: <CR>  
<Event Sequence ID Number>,  
<Event Code>,  
<{Event} Date>,  
<{Event}Time>,  
<{Total} Vehicle Miles>,  
<{Total} Engine Hours>,  
<{Event} Latitude>,  
<{Event} Longitude>,  
<CMV Power Unit Number>,  
<CMV VIN>,

<Trailer Number(s)>,  
<Shipping Document Number>,  
<Line Data Check Value> <CR>  
Unidentified Driver Profile Records: <CR>  
<Event Sequence ID Number>,  
<Event Record Status>,  
<Event Record Origin>,  
<Event Type>,  
<Event Code>,  
<{Event} Date>,  
<{Event} Time>,  
< {Accumulated} Vehicle Miles>,  
< {Elapsed} Engine Hours>,  
<{Event} Latitude>,  
<{Event} Longitude>,  
<Distance Since Last Valid Coordinates>,  
<{Corresponding CMV} Order Number>,  
<Malfunction Indicator Status {for ELD}>,  
<Event Data Check Value>,  
<Line Data Check Value> <CR>  
End of File: <CR>  
<File Data Check Value> <CR>

## 10 Roadside Inspection and Data Transfer

Roadside inspections are supported via two methods.

### 10.1 Website Road Inspection access

Driver logs into the website and look for ELOG tab and click the command Road Inspection. A list of ELOG reports in the last seven days and today's driving event shall be listed on the screen.

Click the link to view each ELOG report.

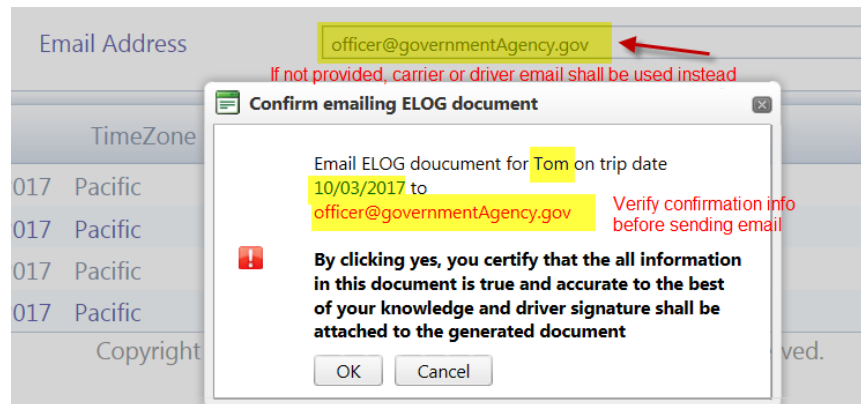
## 10.2 Mobile App Road Inspection Access

If driver subscribed Mobile App, then just click the Roadside Inspection button in the dashboard section and a list of ELOG reports in the last seven days shall be displayed. Click the link to view the PDF format of each report.

## 10.3 Telematics ELD Data File Transfer during Road Inspection

Both website and Mobile App inspection features provided a direct way to send emails to the given address.

To email ELOG reports (in PDF format only), click the checkbox next to each report on the right side, and enter the email address in the email textbox below the ELOG report list, and click the Send Email button, the ELOG reports shall be emailed to the designated address.



A road inspection log shall be recorded as well as the email recipient address and reports.

Should you have difficulties sending ELOG documents, please contact customer support and provide email address for sending ELOG data file in PDF or csv format.

## 10.4 Local ELD Data Transfer via Bluetooth/USB

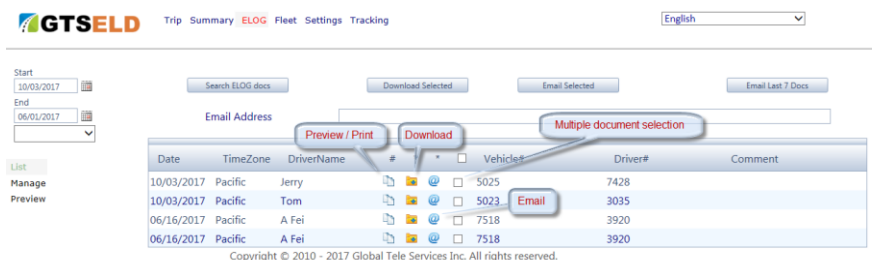
Refer to Section 9.3 for the procedure of local ELD data transfer

## 10.5 Prepare Printed Documents for Road Inspection

It is always recommended that drivers printout previous seven days of ELOG and HOS documents for possible road inspection in case the mobile device is not able to display the electronic version

# 11 ELOG Reports Delivery and Download

Additional methods to transfer ELOG reports are available as described next.



## 11.1 Email

GTS ELD system provides email file transfer to support merchant operation needs as well as government and authority's document request. For regular email option, merchant may go to ELOG -> Data -> Setup email options whenever PDF report is ready for service. This regular operation is served once a day by midnight.

Merchant may at any time requests to obtain PDF report from ELOG -> Data -> Email Now. The default data range is all available PDF reports of the in the last seven days and the default email address is merchant provided company email address. Merchant must select each driver for data service in this feature. Bulk data service is not available in this feature.

Merchant may also use this feature and provide authority's email address to send PDF reports upon the request, i.e. road inspection, government auditing request, and etc.

## 11.2 SSL Secured Web Service for ELOG Report Delivery

Merchant may implement its own website feature to send data request to GTS Web Services for automatic ELOG report request with data request parameters. GTS Web Services may also push ELOG reports to FMCSA specified URL.

All GTS web services and website data IO are under SSL for secured purpose.

Available data format are XML/CSV and PDF (in binary stream).

Please contact GTS to setup Web Services login name and password.

## 11.3 Website ELOG Document Download/Display/Local Print

Merchant and driver may login website, select ELOG->List function and provide intended date to obtain the link review, print out locally, and download the ELD document (in PDF format only)

## 12 Additional Required Documentation

Each driver should keep a copy of the latest version of the User Manual at all time. The latest version of the User Manual is available at website for free downloading or via Mobile App access (if Mobile App service is subscribed by Carrier).

Driver should maintain a supply of blank driver records of duty status with graphical grids which are sufficient to record the driver's duty status and other related information for a minimum of 8 days.

Driver should maintain an instruction sheet for ELD malfunction reporting requirements and record keeping procedures required during ELD malfunctions.

*For more information:*

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