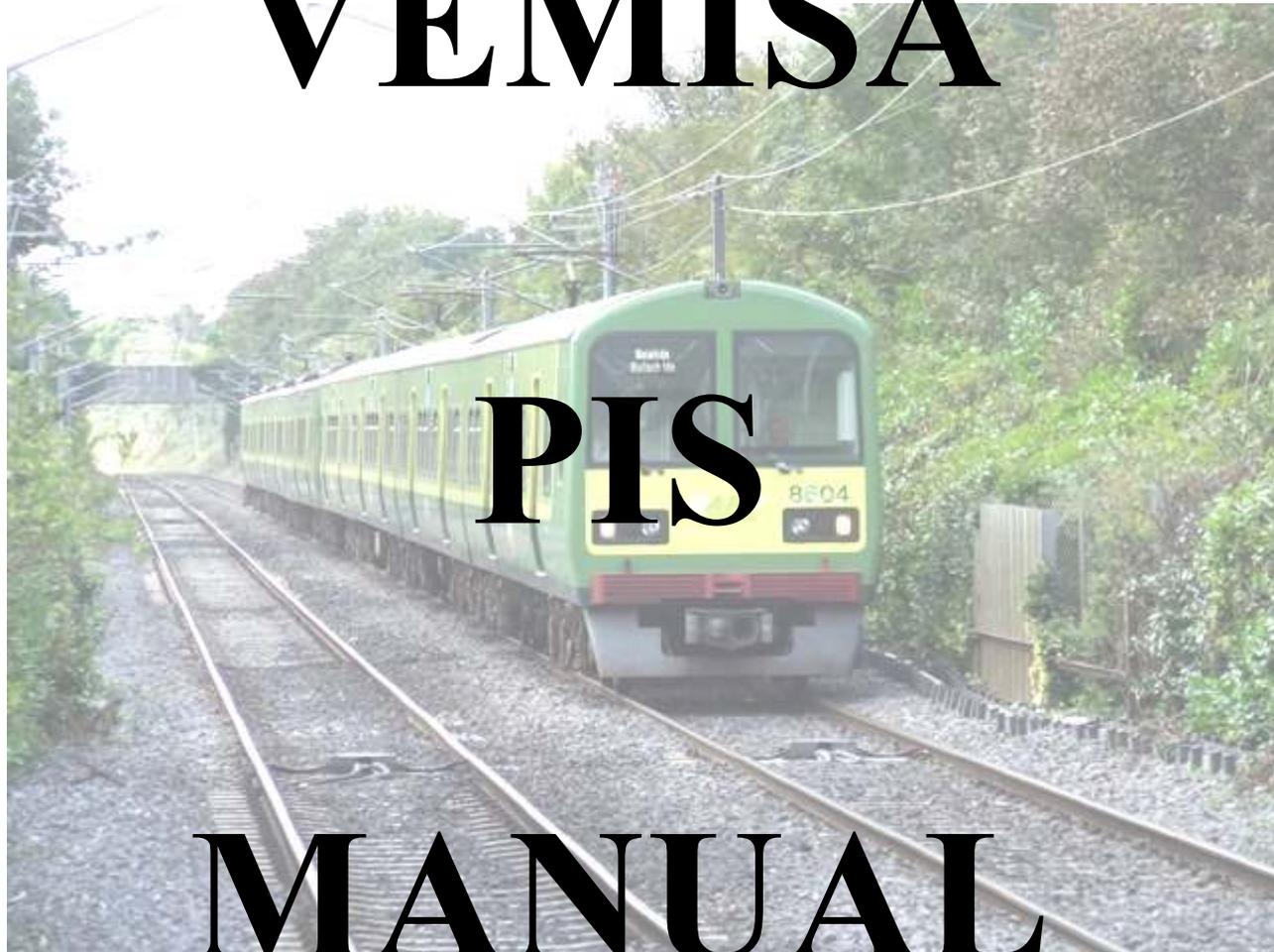


# VEMISA

# PIS

# MANUAL



V.E.M.I.S.A.  
C/Fernández Caro, 44, 28027, Madrid  
Tel.: 914077497 – Fax: 914074849  
<http://www.vemisa.net>





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## **1.- THE PASSENGER INFORMATION SYSTEM.**

VEMISA's Passenger Information System is designed to manage route information with train automations to inform passengers as easily as possible and with the least operation of the driver.

The system reads tachometer and gps (where available) to make the information automatic. Stations are programmed in the data base with the gps and tachometer positions, and pre-recorded audio and text messages, to be announced to passengers.

Once selected the route, the system will automatically manage next station message, special messages (if available) and last station messages.

VEMISA PIS is also integrated with the Public Address System and Alarm Intercom with Passengers, so this other two systems can be monitored (status) in the PIS driver's screen.

A touchscreen has been selected as human-machine interface to make the system fast and simple.

## **2.- STARTING THE SYSTEM.**

To make the system run, the data base must be downloaded. The route data base is built in the VEMISA Route Editor, designed with the VEMISA PIS. This data base contains stations, with the following information:

- Text to show in the screens, in English and Irish.
- Audio, in English and Irish.
- Special messages to be broadcasted in the station, if needed, like "mind the gap", or transfer information.
- Gps position.
- Tachometer position.

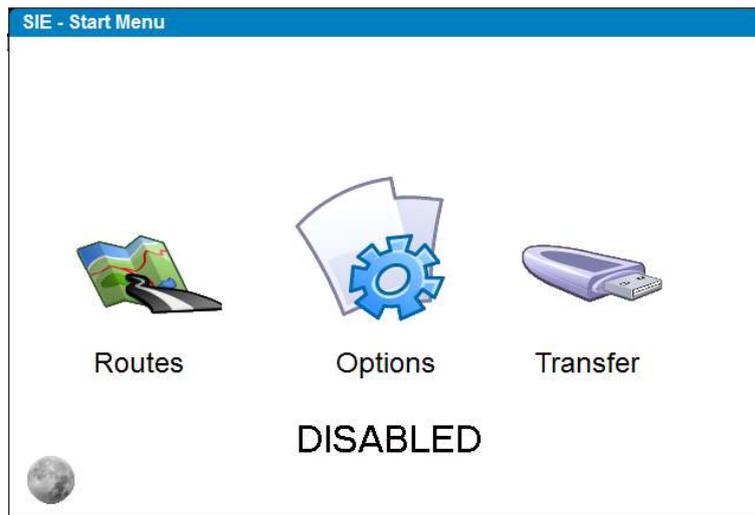
Once created the stations with the information above completed, route creation can be done. The Route Editor also contains the configuration of confirmations shown in the driver's screen (audio confirmations, PAS status, doors signalling and alarm intercom status).



### **3.- OPERATION.**

#### **3.1. Main screen.**

When the system is powered, the first screen we will see in the driver's screen is:



Routes

→ Here you can select the route to start navigation.



Options

→ For resetting the program, special messages and maintenance options.



→ To update the executable and import/export data base.



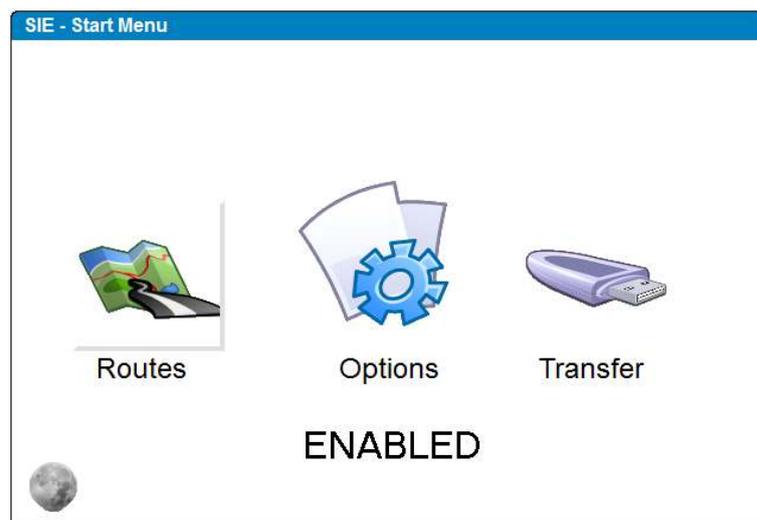
→ Night/Day mode.

DISABLED → Indicates cabin enabled/disabled.

If cabin is disabled (activated by “marker lights” button in the cabin), ROUTES menu will not be accessible. OPTIONS and TRANSFER operations will be available.

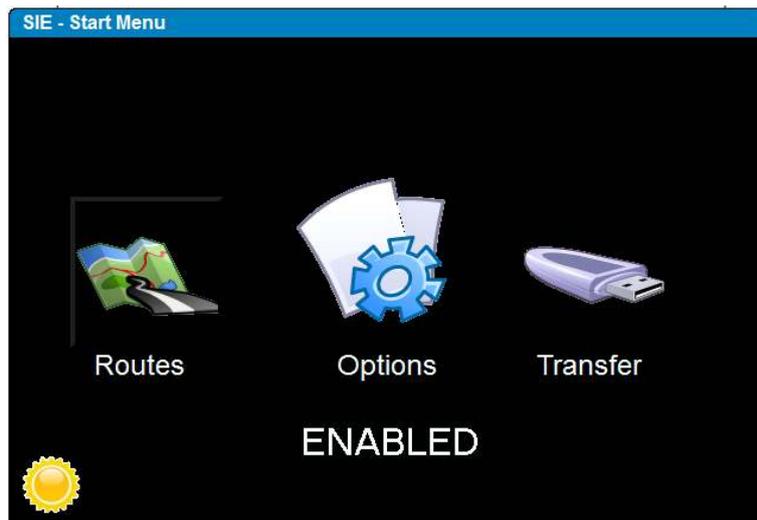
### 3.2.- Route selection and navigation.

When we are in the active cabin, and we want to start a route, the indicator changes to ENABLED, and ROUTES option is available:

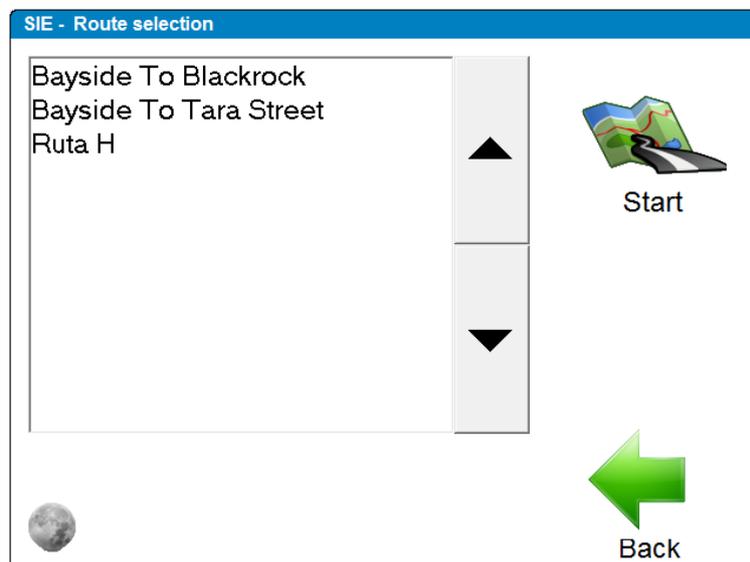




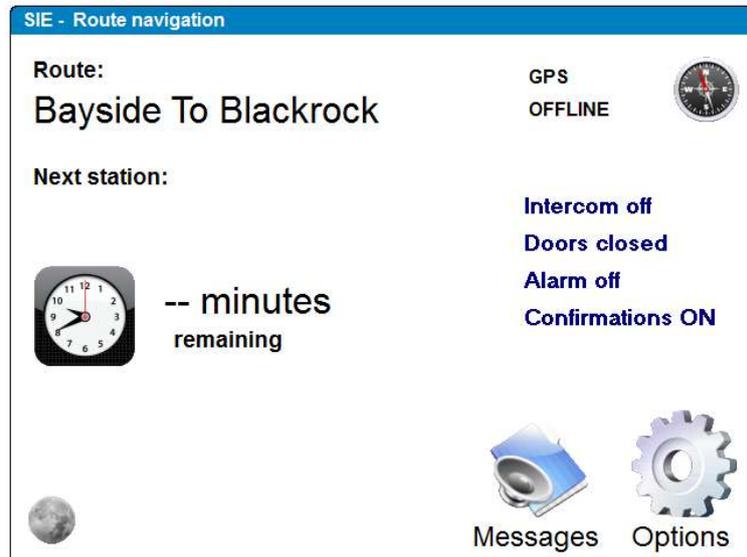
If we select to work in the NIGHT MODE, with colour is changed to black colour, so brightness is reduced to the minimum:



If we select "ROUTES":



We just have to select the desired route, and press start, so the navigation screen will appear, with all information configured to appear:



Route:  
Bayside To Blackrock → Indicates route we are using.

GPS  
OFFLINE  → Indicates if GPS is off-line, or if it is on line, it will indicate coordinates.

Next station:  
→ Next station indicator, to check the route is ok.

 -- minutes  
remaining → remaining time to next station. It is calculated from tachometer and GPS.



**Intercom off**

**Doors closed**

**Alarm off**

**Confirmations ON**

→ System status.



Messages

→ Special messages broadcast.



Options

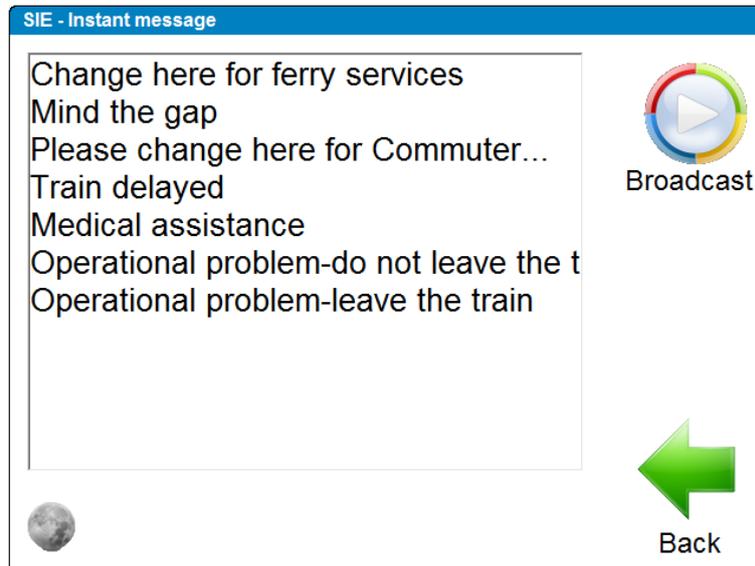
→ Here you can cancel the route, or start the route in one station different from the beginning of the line.

The system is programmed to work the following way:

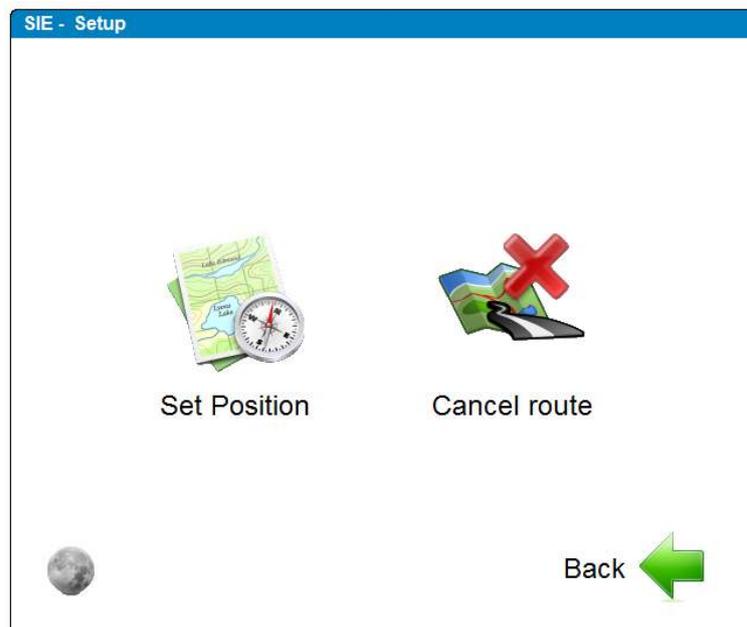
- Once the route is started, screens are updated with destination (external displays) and next station information (internal displays).
- A configurable distance before arriving the station, the system will broadcast next station message to the driver. If it is correct and the driver does not cancel the message, it will be broadcasted to the passenger saloon (a configurable time after informing the driver).
- When doors close again, internal displays are updated with next station information.
- If any other event is programmed in tachometer or gps position, it will happen once gained the position.



This is the special MESSAGES screen:

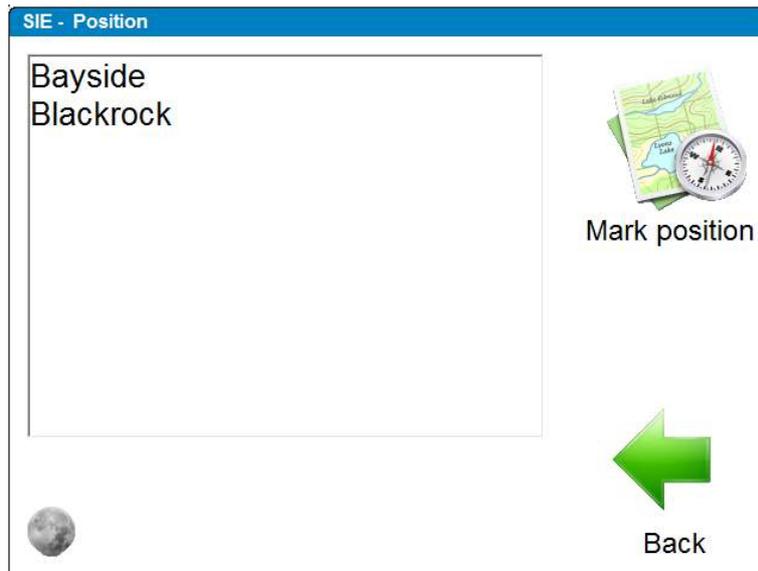


And the OPTIONS screen:





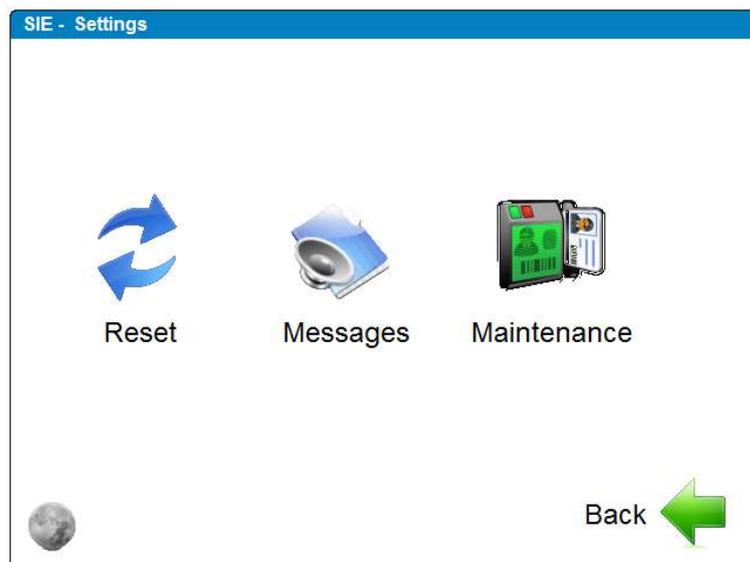
To set the route in a different station from the beginning one, we press on SET POSITION:



And then select the station required.

### 3.3.- Options screen.

When we press the OPTIONS button, the following screen appears:





→ Resets the program. It closes the PIS and re-starts it automatically.



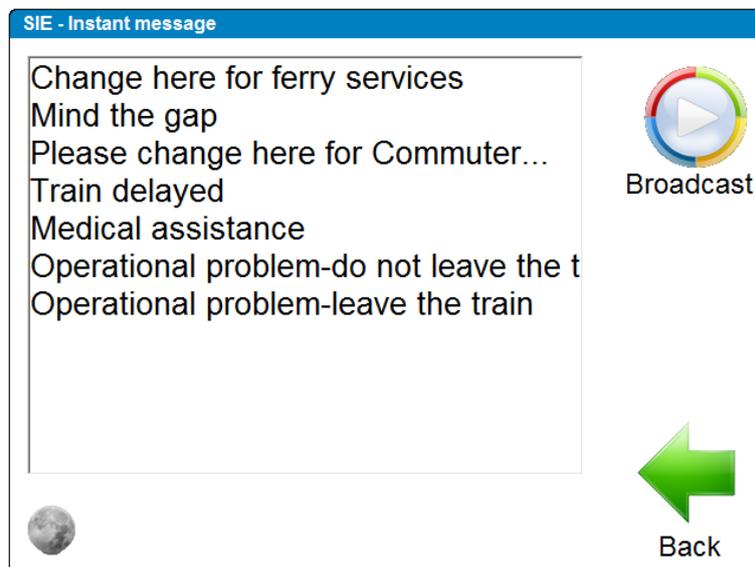
→ Access to the special messages menu (the same as the navigation screen access).



→ 4 digit pin code protected menu. It contains the CONFIRMATIONS configuration, system TIME & DATE and TEST mode.

Maintenance

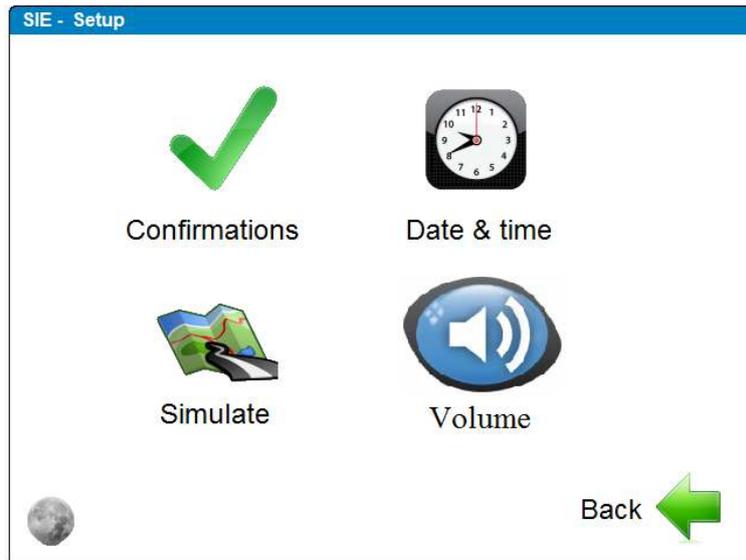
If we press on MESSAGES:





### 3.4.- Maintenance screen.

If we press on MAINTENANCE:



Confirmations

→ Here we can configure the audio confirmations shown in the driver's screen. The aim is to check the message the system is going to broadcast is correct or not. You can select screen confirmations, audio confirmations, or both.



Date & time

→ Adjusts system date and time. As date and time can be displayed in the internal displays, the system must be on time.



Simulate

→ Sets the system in test mode, to check if displays and PAS are ok.



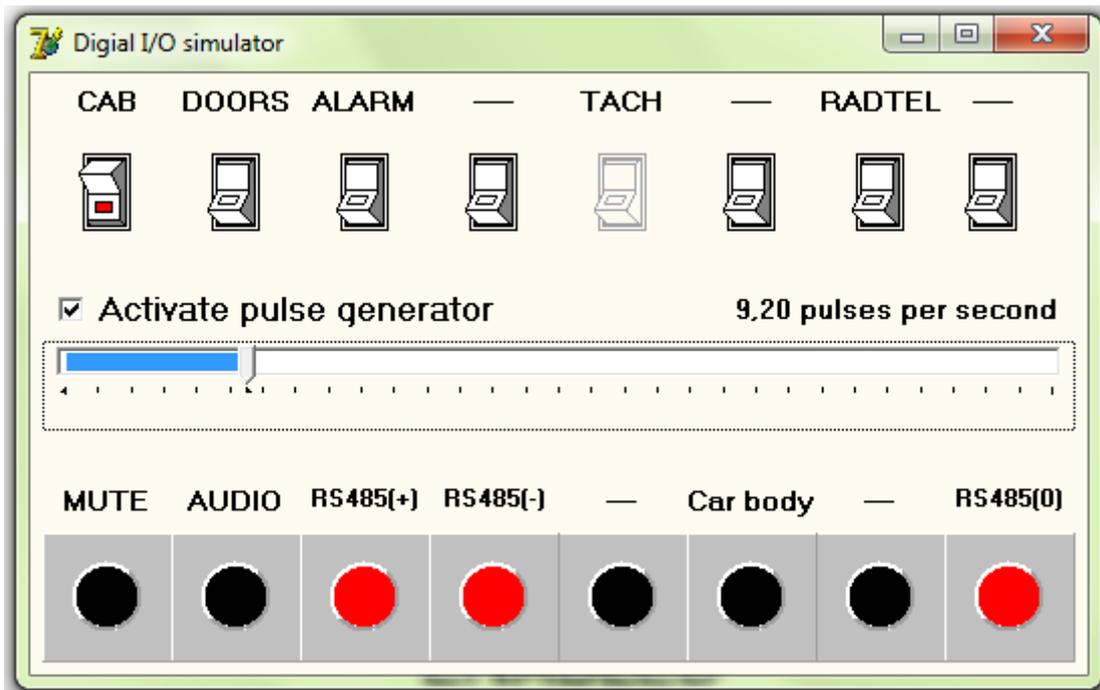
Volume

→ Adjusts the normal and emergency volumes.



#### 4.- SIGNAL SIMULATOR FOR TRAINING.

There is a signal simulator for training. The idea is to simulate train behaviour to see the real operation of the system out of the cabin. The simulator is very simple:



It is totally interactive, and buttons can be pressed to change status. It will have different effects of PIS software.

- CAB: Activates and deactivates de cabin.
- DOORS: simulates doors closed, and doors open, top change station.
- ALARM: simulates an activation of the IAP intercom.
- RADTEL: activates manual announcement for driver.
- PULSE GENERATOR: simulates the tachometer.

When different signals are activated, the different outputs are modified:

- AUDIO: when PIS software is broadcasting an announcement.
- RS485: screen line is active (always, if the cabin is activated).
- CAR BODY: if cabin is deactivated, RS485 line in the computer is referenced to car body.



## **5.- SOME QUESTIONS AND ANSWERS.**

- *I cannot enter the route: what happens?*

Check the cabin you are in is the active cabin.

- *When the systems changes to the next stop?*

The system changes to next stop when the driver closes doors. It will be displayed on internal screens.

- *When the system shows me the next stop to check it is correct?*

The system will show on the driver's screen the next stop when doors are closed. And it will play the message before playing to passenger's saloon, so if it is wrong, you can cancel it.

- *What happens if I am starting the train in a station different from the beginning?*

You can select your route and set the position in the line, from the navigation screen.

- *What happens if my GPS is broken?*

Distances and times will be calculated from the tachometer. But if there is no tachometer, the system will not run. Units with only tachometer must have it in service.

- *What happens if I do not stop in one of the stations in the route?*

The only thing is the next station will be announced with delay. If you do not stop in one of the stations, you do not open and close doors, so the system will not change station until next station event (GPS or tachometer) is gained. When this event is gained, the system will announce correctly the next station.

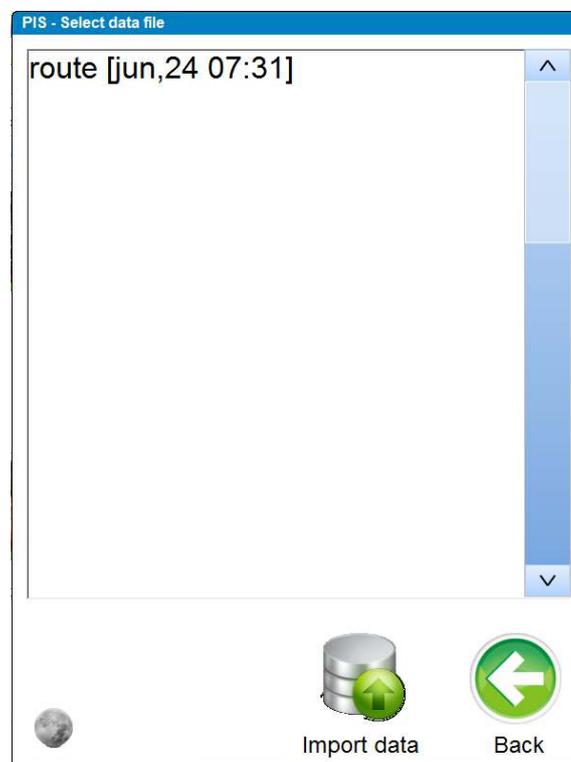


## **6.- UPDATING THE ROUTE DATA BASE.**

To update the route data base is needed:

- a USB unit with the .cfs file with the routes in its root.
- The PIS program in the main screen.

When the USB is connected, the software automatically will detect the USB unit, and if the file is inside, it will display the following screen:



Select the desired data base (it can be several different files), and press “Import data” button:



Once data is imported, the system will automatically detach the USB unit, and it will go again to the main screen.