

User Manual

LED destination sign
with embedded console

DIGWEST

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Introduction and important notes

The purpose of this manual is to let the users of the embedded console LED displays know how they work, as well as the procedures involved in using and configuring them.

Recycling and disposing of the device



The above symbol indicates that this product is compliant to the Directive 2012/19/UE of the European Parliament and Council, which regards Electrical and Electronic Waste (WEEE). Therefore, in the EU countries, these products must be disposed of in a selective manner. Digiwest advises and encourages this practice, according to the local waste management laws, and whenever possible, recurring to the selective disposal of electronic waste.

Safety information and warnings

-  This equipment was designed to be powered by a voltage rating between 10 and 30 VDC. Do not power it with voltages outside this range.
-  Do not open nor try to repair this equipment, and do not replace any parts inside it.
-  Do not insert or allow any objects (Metallic parts, bolts, washers, swarf, etc.), or any kind of liquids (water, beverages, oils or other cleaning flu-ids) to penetrate the unit.
-  Immediately turn off the unit in any of these situations:
 - If smoke or unusual odor occurs;
 - If objects have fallen into, or liquid has been spilled into the unit;
 - If the unit has been exposed to rain or has become wet.
-  Protect the unit from strong impact such as bumps or drops.

Technical regulations and conformity



These products are certified by the following European standards and directives:

Directives:

2014/30/EU – Electromagnetic compatibility;

2011/65/EU – ROHS

Standards:

EN 50498:2010 Electromagnetic compatibility – Product family standard for aftermarket electronic equipment in vehicles

Standards pending approval:

UN ECE R10 (Automotive)

Basic functions

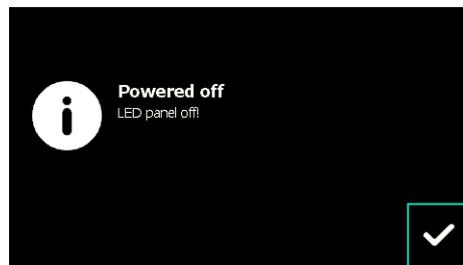
Unlocking the console menu

The console locks itself automatically after a preset time without activity. It can also be locked manually. When it is locked and the screen is pressed, an unlock screen is displayed. To unlock the screen, insert the password, "GJM".

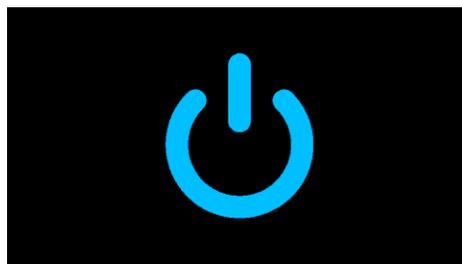


Turning off the display

By pressing the  icon on the top left corner of the screen, the user can turn off the LED matrix:



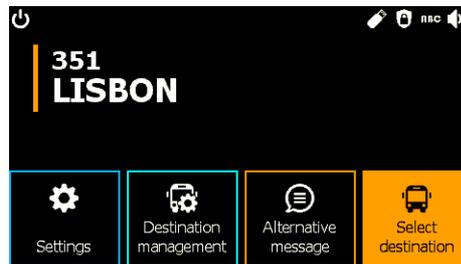
The LCD touchscreen will then display the following image:



To turn the LED matrix back on, just press the screen on any position.

Select destination

To select a destination to display, select the option *Select destination* in the main screen:



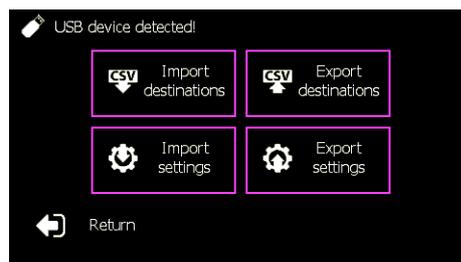
The available destinations stored in memory are displayed. It is possible to scroll between them by using the vertical scroll bar, in the left, or the letter selection bar, below.



In this case, the active selection mode is “alphabetical order”. The destinations can also be selected through a code individually defined for each destination, with the “destination code” selection mode. The selection mode can be set in the settings menu.

USB drive operation

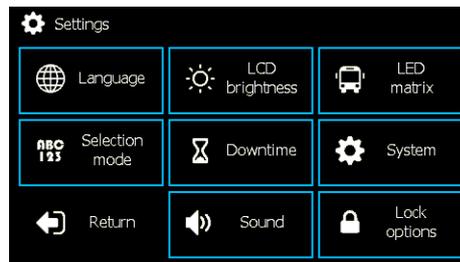
In order to import or export destination list files or settings files, an USB drive must be used. The drive is detected automatically, and the following screen will appear when a drive is inserted in the USB port:



Each operation can be achieved by simple selection. This menu can be exited with the pen drive still in place, and import/export of files can still be accomplished, by accessing the proper option in the settings’ menu. Firmware updates can also be executed with an USB drive, although these are not available from the USB device detection menu. Each of these operations is described in its own section.

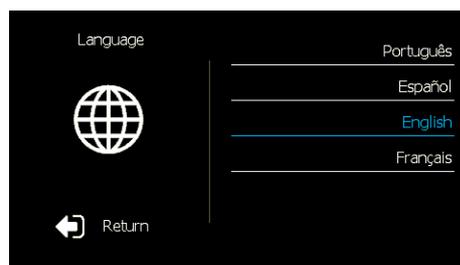
Settings

The Settings' menu can be accessed from the main screen by pressing the "Settings" button on the lower left corner. The following menu will appear:



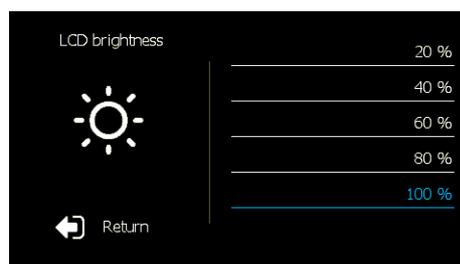
Language

There are 4 available languages, Portuguese, Spanish, English and French. To select one, just press it.



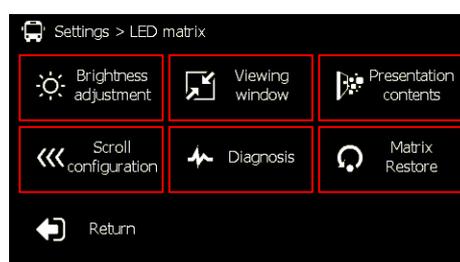
LCD brightness

To change the brightness of the console screen, select the option *LCD Brightness*, in the *Settings* menu. It is possible to choose between 5 preset values of brightness.



LED matrix

The LED matrix option has its own menu:



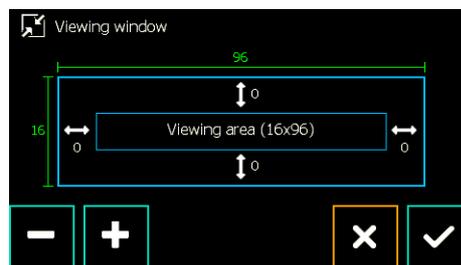
LED matrix - Brightness adjustment

This option sets the maximum and minimum brightness levels of the LED matrix. The destination brightness settings levels (both fixed and automatic) are contained within the values set here:



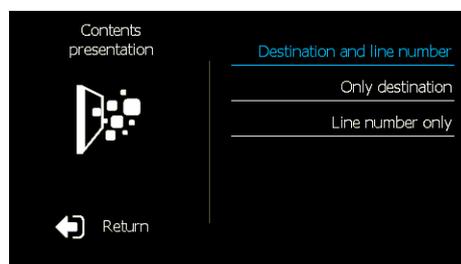
LED matrix - Viewing window

The area of the LED matrix which is used to display information can be altered here. By default, the LED display pixel area is fully used, but sometimes there are areas of the matrix that are visually blocked and should not present information. To remove an area of LED pixels, select one of the arrows from where you want to remove pixels, and, with the + and – buttons, increment or decrement the removed area.



LED matrix - Presentation contents

The user can select between three types of displayed information: Bus line number, bus line destination or both:

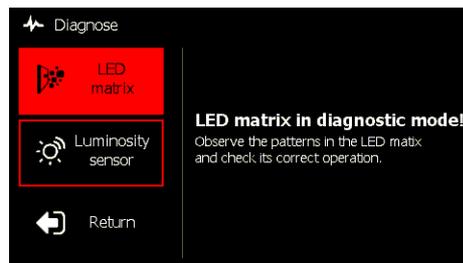


LED matrix - Scroll configuration

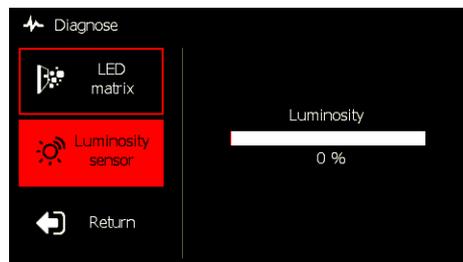
This function is reserved for future updates.

LED matrix - Diagnosis

In the diagnosis option there are two tests, the LED matrix test and the luminosity sensor test. In the LED matrix test, a series of test patterns is displayed in the LED screen, which allows the user to identify malfunctions in the LED display screen.

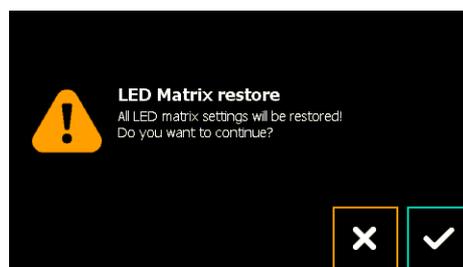


The luminosity sensor test displays the sensor's readings in real-time.



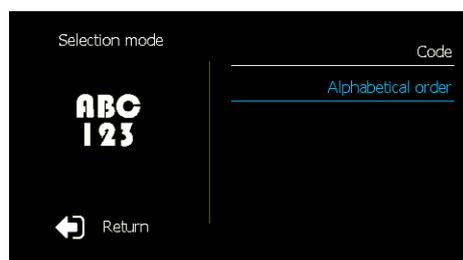
LED matrix - Matrix Restore

This option restores all the matrix's settings to the default values:



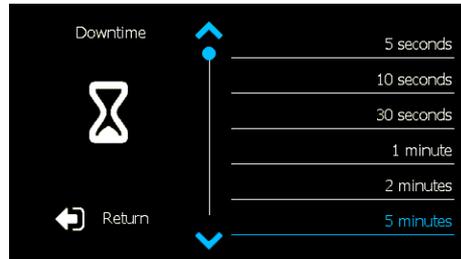
Selection mode

The displayed messages can be selected either by alphabetical order or by code which is a numeric identifier that is defined when the message is created. In this option the user can select which of the selection modes is active:



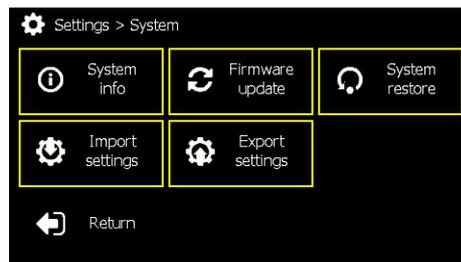
Downtime

The down time option controls the time after which the LCD screen is dimmed, for power and screen saving purposes. There are 6 presets to choose from: 5, 10 or 30 seconds and 1, 2 or 5 minutes.



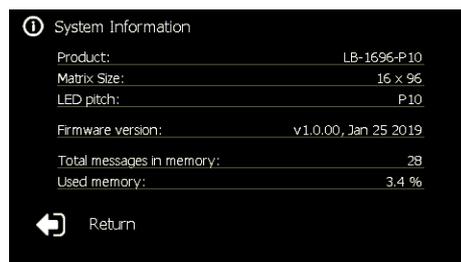
System

The system-wide settings can be configured from this menu.



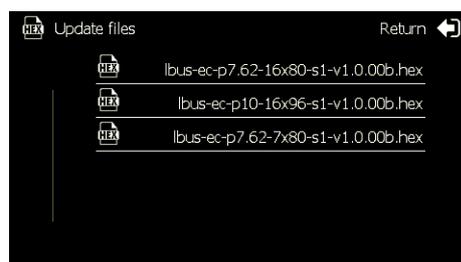
System - System info

This option displays the system information such as product type, firmware version and used memory.



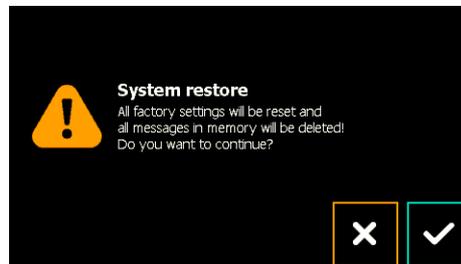
System - Firmware update

In order to update the system's firmware, an USB drive whit the firmware file is needed. When this option is accessed, if the drive is already in the USB port, the available firmware files will be displayed.



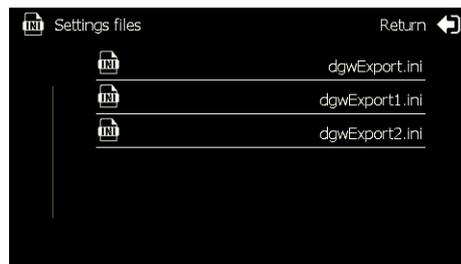
System - System restore

This option restores all settings to factory defaults and also deletes all stored messages.



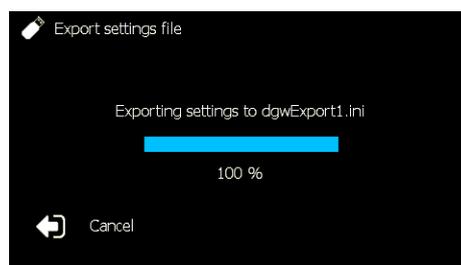
System - Import settings

Settings .ini files can be used to import previously defined settings. When this option is selected, the user will be prompted to select a file from the USB drive, if it is inserted in the port.



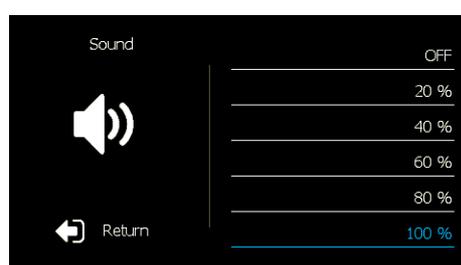
System - Export settings

In order to save the display's current settings for future use, this option must be selected. The system will create a .ini file called dgwExportX.ini, in which X is a sequential number depending of previously saved files in the drive.



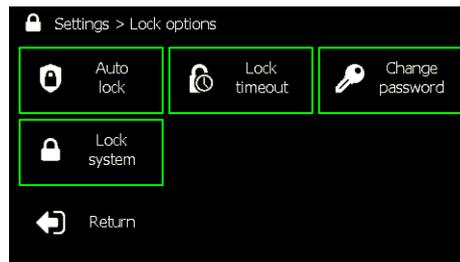
Sound

The buzzer's volume can be set to one of 5 levels, or turned off.



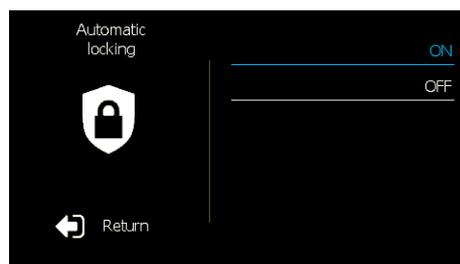
Lock options

In this menu, the user can change the lock password, the timeout and turn the system auto lock on or off. He can also manually lock the menu. The menu locking keeps unwanted users from accessing the device's menu by means of a password. When the menu is locked, only the Select destination and Alternative message menu options are available.



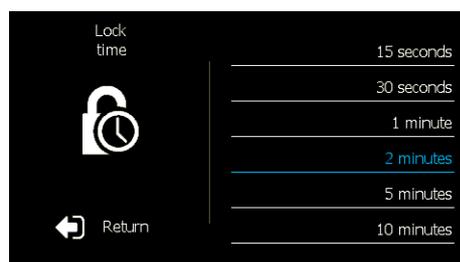
Lock options - Auto lock

The user can set whether the systems locks the menu automatically or not in this option.



Lock options - Lock timeout

In this option, the lock timeout can be set.



Lock options - Change password

In this option, the user can change the lock password. When the device's password is changed, it must be safekept. If the password has been changed and lost, the only way to access the device is resetting the password to default, GJM. This procedure is reserved to technical staff only, and the device vendor must be contacted.



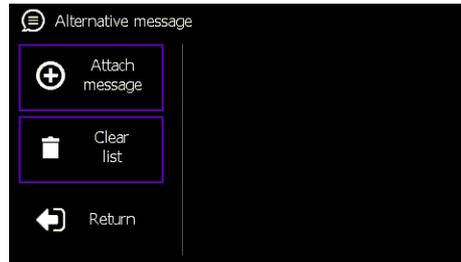
Lock options - Lock system

When this option is selected, the menu system is immediately locked, and, in the main screen, only the “Select destination” and “Alternative message” options are available without requiring the password (default “GJM”) to be entered.



Alternative message

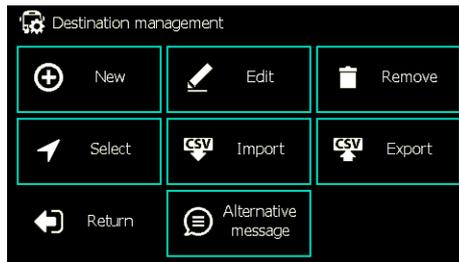
This option, secondary messages can be added to the main selected message. If more than one is defined, they will be displayed in sequence.



Destination management

Creating new messages

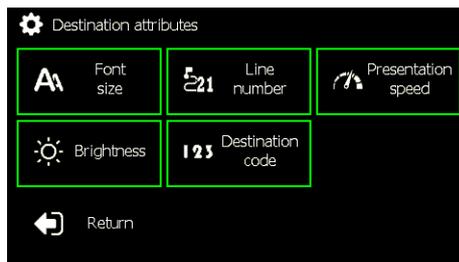
The manual creation of messages is accomplished by selecting the option *New* in the *Destination management* menu, which can be accessed in the main screen:



One must first introduce the message text:

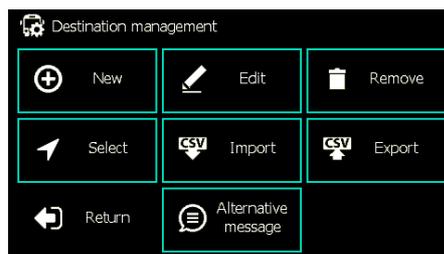


If the message attributes, such as the font size, the line number, the scroll speed, brightness or message code are to be configured, press the button :



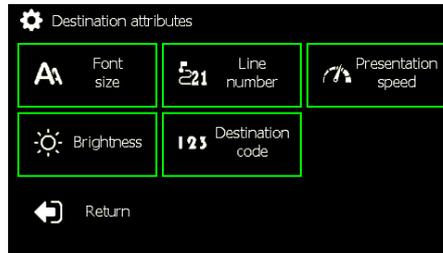
Editing messages

To enter the message edit mode, select the option *Edit* in the *Destination management* menu:



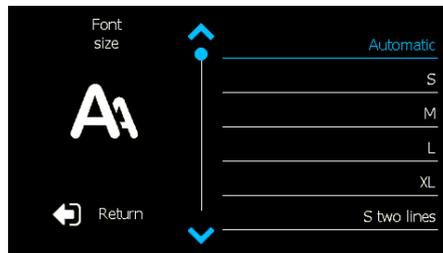
Afterwards, it is necessary to select the message to edit. To edit its attributes, select the button .

Destination management



Editing messages - Font size

To select the message's font size, enter the option with the same name. There are 4 sizes for single line text display and 2 sizes in which the text is displayed in two lines. In the automatic mode, the font size is adjusted according to the size of the text.



Editing messages - Line number

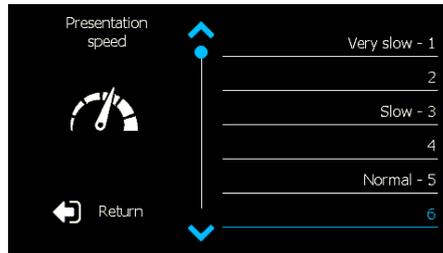
In the *Line number* option, a bus route number can be added to the message. In the *Line#* field, insert the line number. The *Pos.* field allows the selection of the line number's position in the display. The available choices are None, left, right and middle, as well as the same positions with the text color inverted.



Editing messages - Presentation speed

The *Presentation speed* option controls multiple speed settings, such as the speed at which the message scrolls, when it exceeds the display size, or the speed at which the display alternates between different sentences in one message. There are 10 possible preset speed settings.

Destination management



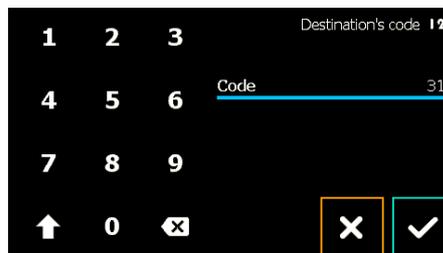
Editing messages - Brightness

The display's LED brightness can be set per message, in this option. In the automatic mode, the brightness is adjusted automatically according to the ambient light.



Editing messages - Destination code

In this option a code can be defined for each message, which allows for the code message selecting mode to be used.



Annexes

Annex A – Message list CSV file

This device can load a list in the form of a CSV file, which can be created manually or with the DigILEd Studio software.

The file has the following characteristics:

Each line corresponds to a destination and its attributes;

Each line has 8 fields of information;

The fields are separated by semicolons (;);

The field layout is <Text>;<Mode>;<Brightness>;<Speed>;<Effect>;<Code>;<Color>;<Circuit>

Character coding

Western Europe (ISO-8859-1);

Field description

“Text” field

This field is the message text. There are two special characters for text formatting:

'|' for line change ;

'+' for separating sentences lines within a destination. For breaking a destination in multiple alternating sentences

“Mode” field [0-6]

Defines the font and word layout.

0 - Automatic text size, in order to maximize screen occupancy;

1 - Single line text, small size font;

2 - Single line text, medium size font;

3 - Single line text, large size font;

4 - Single line text, extra large size font;

5 - Double line text, small size font;

6 - Double line text, medium size font.

“Brightness” field [0-10]

Defines the message brightness. 0 is automatic mode, where it is regulated according to the ambient light. The values 1 to 10 set a fixed value of brightness from the minimum (1) to the maximum (10).

Annex A – Message list CSV file

“Speed” field [1-10]

This field sets the text scroll speed, the duration of multiple phrases within one message or the duration of multiple destinations. It ranges from 1 (slowest) to 10 (fastest).

“Effect” field

(reserved for future use)

“Code” field [0 - 9999]

Numeric message ID code. This code is used to select a message when the message selection mode is set to “by code”.

“Color” field

Color code, only used in color displays.

“Circuit” field

Defines the line number, or logo, and their position in the display.

For example:

L123 - “123” circuit, placed to the left, non-inverted;

Rabcd - “abcd” circuit, placed to the right, non-inverted;

l123 - “123” circuit, placed to the left, inverted ;

r789 - “789” circuit, to the right, inverted ;

c123 – “123” circuit in the middle, alternating with the message, inverted;

C123 - “123” circuit in the middle, alternating with the message, non-inverted;

L~01 - Logo01.bmp logo, to the left ;

R~02 - Logo02.bmp logo, to the right ;

C~03 - Logo03.bmp logo, centered, alternating ;

(Space) – No line number.

CSV file example

```
Digiwest+Wireless and Embedded Solutions;0;0;5;0;100;0;
Lisbon;0;0;5;0;101;0;L123;
Oporto;0;0;5;0;102;0;L456;
```

Annex B – Configuration file

It is possible to create a .ini file and load it to the device with an USB drive. This file can be created in any text editor, but it's extension must always be .ini.

Annex C – Inserting logos

As referred in Annex A, it is possible to load logo images in the device, created from image files.

The file must be a bmp type, monochrome, in which each black pixel is an off LED and a non-black pixel is a lit LED. The file must be stored with a name like “Logoxx.bmp”, where xx is a value from 01 to 08 (ex: Logo01.bmp, ..., Logo08.bmp).

All of the area of the image that exceeds the size of the display will be cut, as the system does not resize the images. The image files must be stored in the USB disk root along with the .CSV file containing the message list. The messages created directly in the device cannot have logos.

Contact Information

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Version	Description
V0.1	Creation of the user manual

DIGWEST