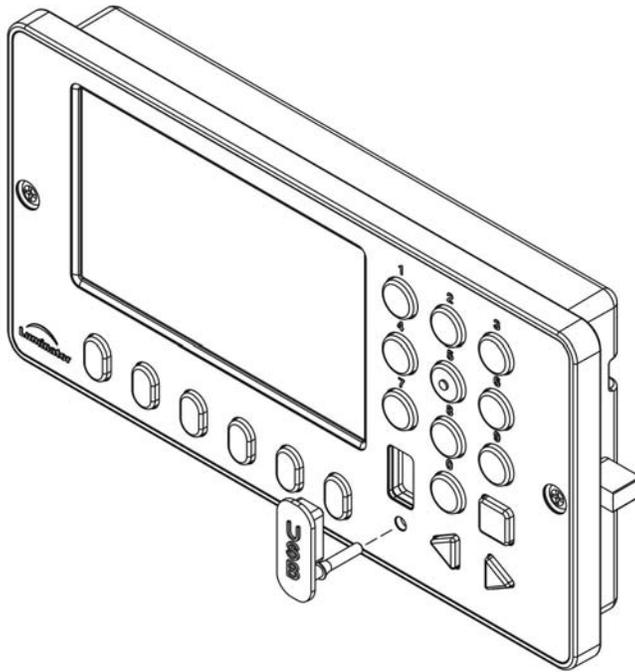Luminator Publication 904700 Rev. D

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Operator's Display Keypad (ODK4)

QUICK REFERENCE GUIDE

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TABLE OF CONTENTS

SAFETY SUMMARY

The following are general safety precautions. They do not appear anywhere else in this manual. They reflect practices that should always be applied.

KEEP AWAY FROM LIVE CIRCUITS

- ✓ **NOTE***: Do **not** perform maintenance or service to equipment with the power turned on. To avoid injury or possible damage to equipment always remove all power.*

- ✓ **NOTE***: Discharge and ground a circuit before touching it.*

- ✓ **NOTE:** *Observe all safety regulations.*

DO NOT SERVICE OR ADJUST ALONE

Never reach into equipment with power applied. Always have someone present who is capable of rendering aid.

CAUTION
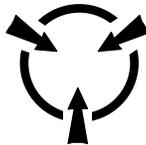
ELECTROSTATIC SENSITIVE DEVICES.

ELECTROSTATIC CHARGE PREVENTION IS RECOMMENDED. USE WRIST GROUNDING STRAP AND/OR ANTISTATIC GROUNDED FLOOR MAT WHILE HANDLING ANY PRINTED WIRING ASSEMBLY (PWA). PLACE PWA IN ANTISTATIC BAG FOR TRANSPORTING AND STORING. SHOULD ANY PWA BE DETERMINED DEFECTIVE, REFER IT TO ELECTRONICS BENCH SERVICE, OR RETURN IT TO LUMINATOR FOR REPAIR AND OR REPLACEMENT.

SECTION 1
ODK4 DESCRIPTION

1.1   ODK Connectivity

The ODK4 is equipped with two DB-9 and two DB-15 connectors located on the back of the ODK (see Figure 1-1):

- J1 is a 9 pin female Dsub connector and provides the sign data interface; 24V battery power; 24V switched power; and LED power

- J2 is a 9 pin male Dsub connector and provides one channel for RS485 signals; one channel for J1708; and a one channel RS232 interface (Tx and Rx only)

- J3 is a 15 pin female Dsub connector and provides one channel for J1939; one channel for Ethernet; one channel for a USB host; and one channel for a USB device

WARNING:

Connector J3 is for future use and is not used in this system

- J4 is a 15 pin male Dsub connector and provides for an emergency switch interface; one RS485 interface for Luminator's Quantum Lighting control, one RS232 channel for ODK4 debugging, and four input/two output interfaces
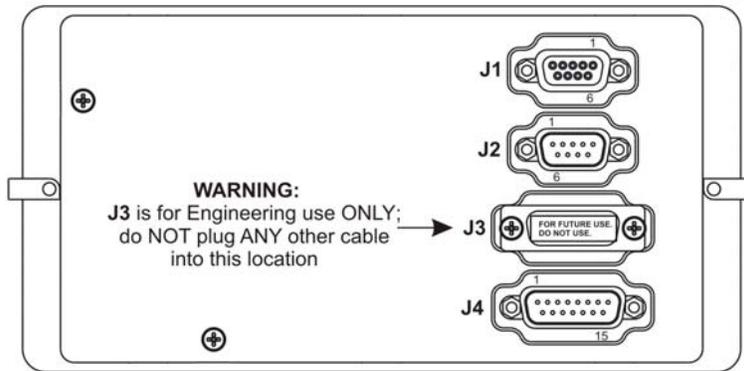
Figure 1-1. ODK4 Connectors

CONNECTOR J1	
PIN NO.	DESCRIPTION
1	24V BATTERY POWER
2	24V SWITCHED POWER
3	LED POWER
4	GROUND
5	GROUND
6	GROUND
7	SHIELD GROUND
8	GTI +
9	GTI -

CONNECTOR J2	
PIN NO.	DESCRIPTION
1	GROUND
2	A1GIPT
3	A1GIPR
4	A1J1708+
5	GROUND
6	A1EXPS-
7	A1EXPS+
8	A1J1708-
9	GROUND

510632-004

CONNECTOR J3	
PIN NO.	DESCRIPTION
1	USB_H_VBUS
2	USB_H_D+
3	USB_D_CNX
4	USB_D_D+
5	USB_D_D-
6	GROUND
7	ETHERNET-RX+
8	ETHERNET-TX+
9	GROUND
10	USB_H_D-
11	CAN_H (J1939+)
12	CAN_L (J1939-)
13	CAN_SH (J1939_SH)
14	ETHERNET-RX-
15	ETHERNET-TX-

CONNECTOR J4	
PIN NO.	DESCRIPTION
1	INPUT 1
2	INPUT 2
3	INPUT 3
4	GROUND
5	DRX
6	RX485-
7	OUTPUT 1
8	OUTPUT 2
9	EMER +
10	EMER -
11	INPUT 4
12	GROUND
13	DTX
14	RX485+
15	GROUND

1.2 Cabling

Operation of the ODK4 requires a special power/data adaptor cable (see Fig 1-2) to connect with existing signs.
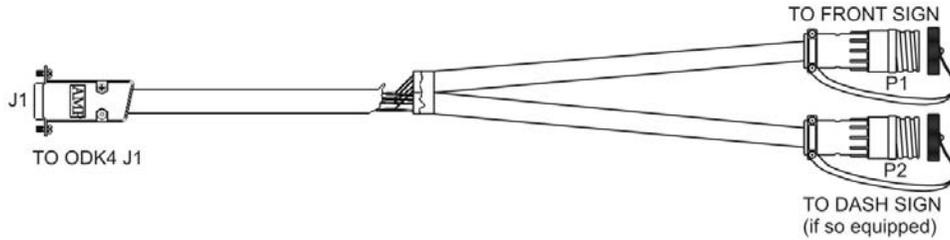
Figure 1-2. Power/Data Adaptor Cable Assembly (PN: 508378-001)

For vehicles equipped with a drive emergency/panic switch (or auxiliary inputs), an additional adaptor cable (see Fig 1-3) will be required.
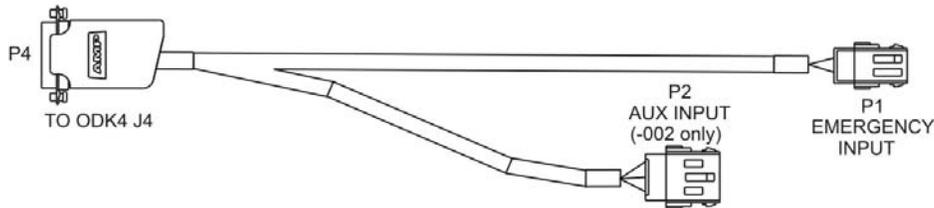
Figure 1-3. Emergency/Auxiliary Input Adaptor Cable Assembly (PN: 508379-001/-002)

1.3 ODK4 Display & Keypad

The sign system is controlled through programmed instructions stored in ODK memory and through its liquid crystal display (LCD) touchscreen and keypad (see Fig 1-4). Messages displayed on vehicle sign(s) can also be displayed on the ODK touchscreen.
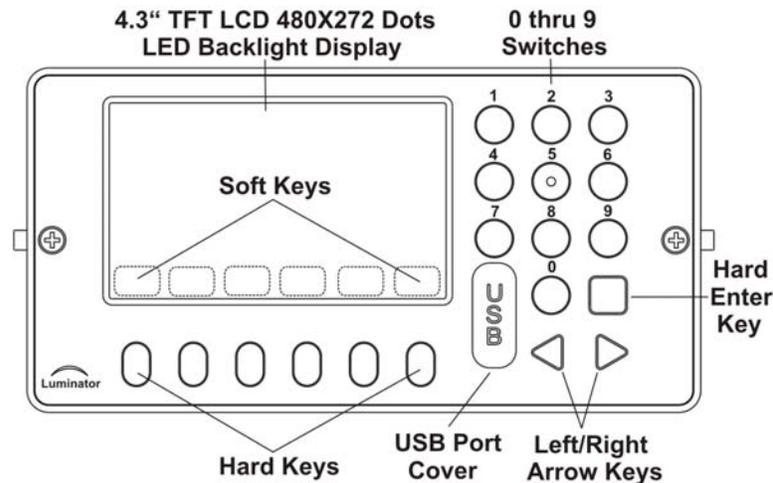
Figure 1-4. Operator's Display and Keyboard (ODK4)

Note: The touch sensitive soft keys labeled on the LCD touchscreen will vary per the menu being displayed and are functionally identical to the blue hard keys located directly beneath them and can be used interchangeably.

SECTION 2
ODK4 REMOVAL AND INSTALLATION

2.1   ODK4 Removal

a. Turn off power to the old ODK and sign system.

b. With a Phillips screwdriver, loosen two front bezel screws (one on each side of the ODK). As each screw turns, the threaded cam latch behind the panel will loosen and turn to allow removal.

c. When both screws are loosened, lift the ODK out of the panel and disconnect wiring at its rear. Be sure wires are retained and not free to fall out of reach behind the panel.

2.2   ODK4 Installation

The ODK4 comes complete and ready to use to include a factory installed destination message listing per the relative agency.

a. **With all power off**, connect sign wiring to the ODK4:

- Connect power/data adaptor cable J1 connector to the ODK4 J1 (DB-9) connector

- Connect power/data adaptor cable P1 connector to existing front sign cable

- Connect power/data adaptor cable P2 connector to the existing dash sign cable (if equipped)

- If equipped with a driver emergency/panic switch (or auxiliary equipment):

    o   Connect emergency adaptor cable P4 connector to the ODK4 J4 (DB-15) connector

    o   Connect emergency adaptor cable P1 connector to the emergency/panic switch cable provided by the OEM

    o   Connect emergency adaptor cable P2 connector to the auxiliary input cable provided by the OEM (if equipped)

b. Put the ODK in position in the vehicle and secure by tightening the Phillips-head screw on each side of the ODK. As the screw turns, a cam latch swings out behind the vehicle panel to hold the ODK in position when the screw is tight.

c. The ODK4 is now ready for use. Refer to Section 3 for start-up and basic operation instructions.

SECTION 3
ODK4 STARTUP AND BASIC OPERATION

3.1 Initial Start-up

When the sign system is first powered on, the initial greeting screen will cycle twice and then the ODK4 will display a configuration screen (see Fig 3-1). This screen will be displayed for approximately 60 seconds as the ODK4 completes its boot-up sequence (press any key repeatedly to hold screen).

The configuration screen gives a full summary of overall configuration of the ODK4, including software version; hardware version; model number; options currently enabled including auto-dim, touchscreen, communications protocols and alarm inputs.

Note: If difficulties are encountered with the system, the information contained on this screen will be necessary in order for a Luminator representative to offer assistance.
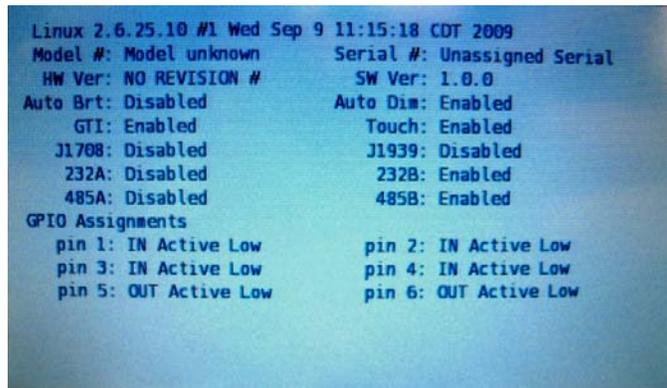

Figure 3-1. Boot-up Screen

After completion of boot-up, the default screen will be displayed. This display will include touch-sensitive soft-keys for the basic operator functions (MENU; RUN; ROUTE; P/R; DESTA; DESTB). The last message entered before power shutdown will be displayed on the ODK4 (see Fig. 3-2).
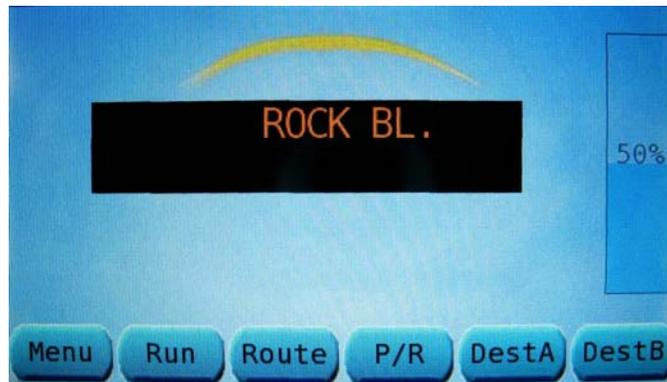

Figure 3-2. Default Screen

Function of the ODK4 soft keys on the default screen are as follows (see 3-2 through 3-7 for basic operating instructions):

MENU – Used to access advanced programming options (some require a password).

RUN – Used to enter run number. (This function is determined by transit authority programming.)

ROUTE – Used to enter route number. (This function is determined by transit authority programming.)

P/R – Used to enable public relations message code entry. (This switch may be disabled if public relation messages are not available.)

DESTA and **DESTB** – Used to enable respective destination message code entry for message display change. (These switches are permanently enabled.)

All destination and public relations (P/R) messages can be set and viewed from the ODK.

If enabled by transit authority programming, the emergency message is activated when the operator toggles or depresses the vehicle's emergency switch. When this switch is activated, power is applied to the ODK emergency circuit and the emergency message is displayed.

The sign system begins operation as soon as the vehicle is powered on. Examples of basic ODK operating procedures follow (see 3-2 through 3-7).

3.2   Set Run Number

To set a Run Number, press RUN Key on the default screen (see Fig.3-2). Enter the Run Number via the ODK number pad and then press ENTER (see Fig 3-3).

Figure 3-3. Enter Run Number Screen.

Note: To change a run number use the left/right arrow keys to hi-light a number and press CLEAR (or press DEL to delete an entire string).

If manual entry of the RUN Number has been disabled (agency dependent) you will get the message "*RUN button not used"* (see Fig 3-4).

Figure 3-4. Run Button Not Used Screen.

3.3 Set Route Number

To enter a Route Number, press the ROUTE key on the default screen (see Fig 3-2). Use the ODK keypad to enter a route number or left/right arrow keys to hi-light a letter then press SELCT to select it (see Fig 3-5).

Note: To change a Route Number, use the right arrow key to move the square cursor to the end of the string and then use the left arrow key to move cursor back to the left to erase existing numbers (you cannot simply overwrite them).

Figure 3-5. Route Number Screen

After entering the route number, press the hard ENTER key. The route number just entered will be displayed on the ODK as well as on the route signs (see Fig 3-6). This route number will persist when you go from DestA to DestB without having to re-enter it.

Figure 3-6. Route Entered Screen

3.4 Set Public Relations Message

Note: A valid destination must be entered before public relations message entry.

To set the Public Relations Message press the P/R Key on the default screen
(see Fig 3-2).

Enter the P/R message code number via the ODK number pad and press ENTER (see
Fig 3-7).

Figure 3-7. P/R Number Screen

Note: To change a P/R code number (or clear the message altogether) use the left/right
arrow keys to hi-light a number and press CLEAR to erase it or press DEL to delete an
entire string; then press ENTER.)

In approximately 5 seconds after the P/R code number is entered it will display on the
ODK display screen (see Fig 3-8) and the route signs.

Figure 3-8. P/R Message Display

3.5   Set Destination A or B Message

To set the Destination-A Message, press the DestA Key on the default screen (see Fig 3-2).
Enter the destination code number via the ODK number pad and press the hard ENTER key (see Fig 3-9).

Figure 3-9. Setting Destination A Window

Note: To change a destination code, use the right arrow key to move the square cursor to the end of the string and then use the left arrow key to move cursor back to the left to erase existing numbers (you cannot simply overwrite them).

In approximately 5 seconds after the destination code number is entered it will display on the ODK display screen (see Fig 3-10) and the route signs.

Figure 3-10. New Destination A Set

Note: Setting Destination-B is performed in the same manner as setting Destination-A.

SECTION 4
CONFIGURE DISPLAY

4.1   Access Display Options

These screens are used to configure ODK operations and limits. Since these screens change the operation of the sign and lighting systems and are intended for use by trained personnel only, they are password protected.

Press MENU at the default screen (see Fig. 4-1) to access the Main Menu Screen (see Fig. 4-2).

Figure 4-1. Default Screen

Figure 4-2. Main Menu Screen

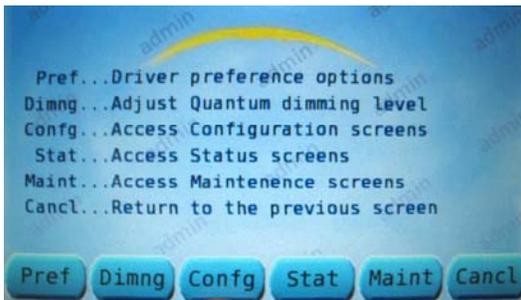**Figure 4-3. Access Configuration Screens**

From the Main Menu Screen (see Fig. 4-2) press CONFG Key to open the Access Configuration Screens window – this will generate a request for a password.

From Access Configuration Screens (see Fig. 4-3) enter password (factory default is 6511) then press ENTER to access the Configuration Menu Screen (see Fig. 4-4).

Figure 4-4. Configuration Menu Screen

4.1.1 Set Display Options

Press DISP key on the Configuration Menu Screen (see Fig. 4-4) to access Display Options menu.
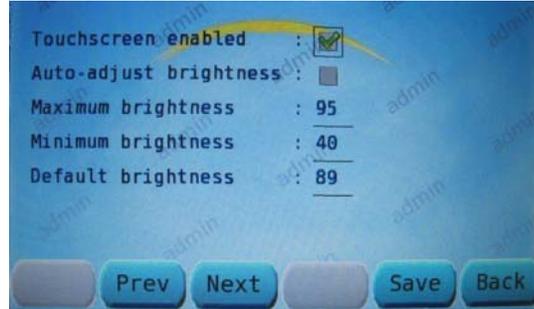

Figure 4-5. Display Options Menu   **Figure 4-6. Display Screen Settings**

From the Display Options menu (see Fig. 4-5), press the SCRN key to access Display Screen Settings menu.

4.1.1 Enable Touchscreen

From the Display Screen Settings menu (see Fig. 4-6), press PREV or NEXT buttons to move square cursor box over Touchscreen Enabled box and then use Left/Right arrow keys to check or un-check box (to enable/disable feature).

4.1.2 Set Auto Adjust Brightness Mode

Use PREV/NEXT buttons to hi-light box next to Auto-Adjust Brightness and then use Left/Right arrow keys to check or un-check box (to enable/disable feature).

4.1.3 Set Display Brightness Min/ Max/ Default Values

Use PREV/NEXT buttons to hi-light Maximum, Minimum, or Default boxes and then type a value in via the keypad (display brightness will change as value is entered).

The Default Brightness box sets the "DFLTS" key setting referred to in Section 4.1.2, Fig. 3-12.

Press SAVE to retain setting(s).

4.1.2 Set Display Brightness Level

From the Main Menu Screen (Fig. 4-2), press the PREF key; you will be prompted to enter a password (see Fig.4-3). This will take you to the Drivers Preference Options screen (see Fig. 4-7)

Figure 4-7. Drivers Pref Options   Figure 4-8. Brightness Level Screen
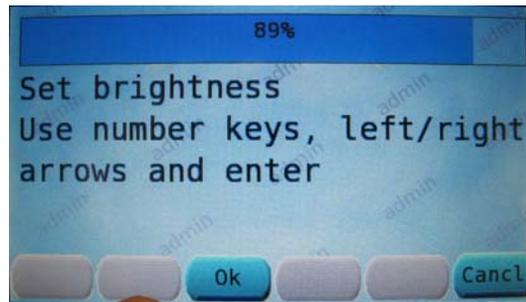
From the PREF Screen, press the BRGHT key (see Fig 4-7).

From the Brightness Level screen (see Fig. 4-8), touch the brightness level bar at the top of the screen or use the keypad left/right arrow keys to set the brightness level then press OK.

Note: To return the display to the original factory-default brightness level, press the DFLTS key from the PREF screen (see Fig 4-7); then press YES.

SECTION 5
CONFIGURE EMERGENCY MESSAGE

5.1 Access Emergency Message Options

5.1.1 Configure Emergency Message Options (Auto-Off/Enable-Input)

Emergency Mode – Configures the method for cancelling the Emergency Mode.

To access the Configuration Menu see Figures 4-1 through 4-4.

From the Configuration Menu (see Fig. 4-4) press MISC to access the Miscellaneous Settings Menu.

Figure 5-1. Miscellaneous Settings   **Figure 5-2. Emergency Options Menu**
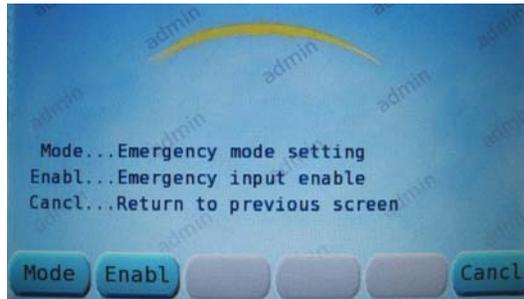
From the Miscellaneous Settings Menu (see Fig. 5-1) press EMERG Key to access the Emergency Options Menu (see Fig. 5-2).

5.1.2 Configure Emergency Message Options - Auto-Off

From the Emergency Options Menu (see Fig. 5-2) press the MODE Key to access the Emergency Mode Setting screen (see Fig. 5-3).

Figure 5-3. Emerg. Mode Setting

From the Emergency Mode Setting screen (see Fig. 5-3) press ENBL (factory default) or DSABL to enable/disable (respectively) the emergency message Auto-Off Mode.

The functions are as follows:

1. Auto-Off Enabled:

   - The emergency mode will cancel and return to the previous destination display when the emergency input signal is removed. Auto-off enabled should only be used when the emergency input signal is maintained for the duration of the event

2. Auto-Off Disabled:

- The emergency mode will not cancel until the emergency input signal is removed and a destination code is entered from the main default screen. Auto-off disabled may be used with either 'maintained' or 'momentary' type inputs

5.1.3   Configure Emergency Message Options - Enable-Input

From the Emergency Options Menu (see Fig. 5-2) press the ENABL Key to access the Emergency Input Enable screen (see Fig. 5-4).
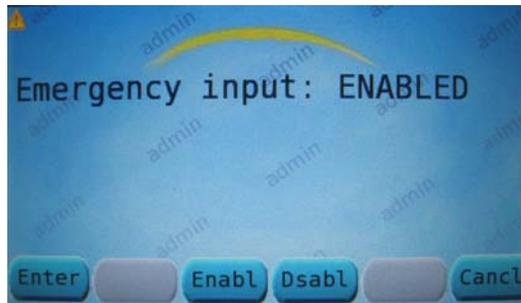

Figure 5-4. Emergency Input Enable

From the Emergency Input Enable screen (see Fig. 5-4) pressing the ENBL Key enables the entire emergency function with a single key press (or DSABL to disable the entire function).

Press ENTER to execute choice.

SECTION 6
SYSTEM NOTIFICATIONS

6.1 Access System Notifications

These screens are used to verify/calibrate/upgrade ODK functions and operations.

Press MENU at the default screen (see Fig. 6-1) to go to the Main Menu Screen.

Figure 6-1. Default Screen
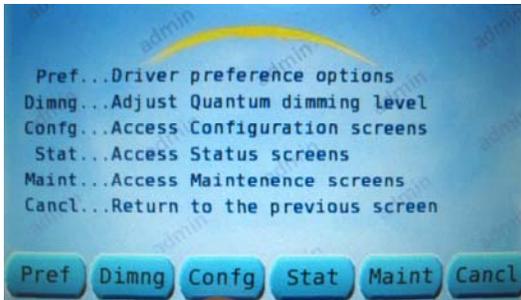
Figure 6-2. Main Menu Screen

Figure 6-3. Access Maintenance. Screen

From the Main Menu Screen (see Fig. 6-2) press the MAINT Key to open the Access Maintenance Screens window – this will generate a request for a password (Fig. 6-3).

From the Access Maintenance Screens window (see Fig. 6-3) enter password (default is 6511) via the keypad; then press ENTER to access the Maintenance Menu Screen (see Fig. 6-4).

Figure 6-4. Maintenance Menu Screen

6.2 System Notifications

To access the Maintenance Menu see Figures 6-1 through 6-4.

From the Maintenance Menu (see Fig. 6-4) press the DIAGS Key to access the Display Diagnostic Data menu (see Fig. 6-5).
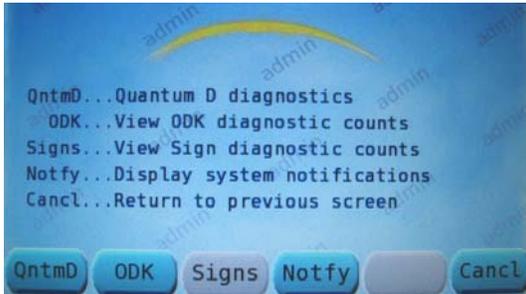
Figure 6-5. Display Diagnostic Data

Figure 6-6. Display Sys. Notifications (No system faults shown)

From the Display Diagnostic Data menu (see Fig. 6-5) press the NOTIFY Key to access the Display System Notifications screen.

The normal Display System Notifications screen for a system with no faults should state, "No items in scrolled list," (see Fig. 6-6).

Figure 6-7. Display Sys. Notifications
(NOTE: This particular message applies to vehicles equipped with Quantum D Lighting)

The "**!**" symbol in a yellow triangle in the upper left corner (see circle, Fig. 6-7) of the ODK4 display screen advises the driver or mechanic that there is a notification alert waiting (this will appear on all screens including the default screen).

To clear (cancel) System Notification symbol press CANCL.

SECTION 7
SOFTWARE MANAGMENT / USB OPERATIONS

7.1   Message File Transfer

If the ODK4 did not come pre-loaded with an agency's message listing or an agency wants to change a message listing, the message listing can be uploaded to the ODK via a standard USB 2.0 flashdrive.

Agencies can create their own message listing using Integrated Programming Software provided by Luminator or at the agencies request (or Luminator will create and provide the message listing).

7.1.1   Message Listing Creation

Modify the Message Listing using the IPS Software

Compile the Message Listing for Flashcard/MTU using the normal process. The Transfer of the file to the USB stick is done outside of the IPS software.

7.1.2   USB Stick Preparation

Insert your USB memory stick in you computer

From Windows Explorer, click on the drive letter for your USB memory stick

Using Windows Explorer, select File>New>Folder

Rename this folder   "odkMsgdb"

Copy your MTU file from your IPS folder (commonly C:\luminator\ips or C;\program files\ips), or email (File\Save attachments) to the "odkMsgdb" folder on your USB Memory Stick.

Remove the USB Memory Stick from the computer.

7.1.3   ODK4 Reprogramming

Turn bus power on, wait for ODK4 to boot-up.

Insert the USB memory stick into the USB slot on the face of the ODK4.

Figure 7-1. Flashdrive Inserted into ODK4

Figure 7-2. Multiple Message Listing Selection Screen

If only one Message Listing file is present on the USB memory stick, it will automatically transfer it to the ODK memory.

 a. If the drive contains more than one message listing, the operator will be prompted to select a file for upload (see Fig 7-2).

 b. If Configuration files are present on the USB memory stick you can select those files to upload also.

Use the UP or Down key to select the desired program. After hi-lighting the desired program, press the OK key to start the message listing upload.
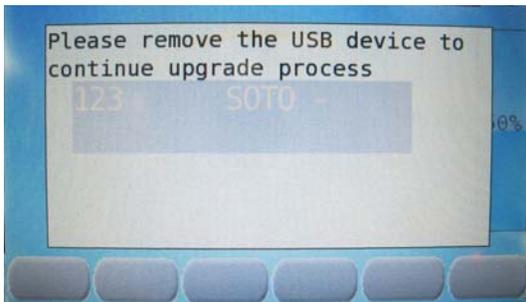
Figure 7-3. Remove USB Screen   **Figure 7-4. Message Database Update Status Screen**
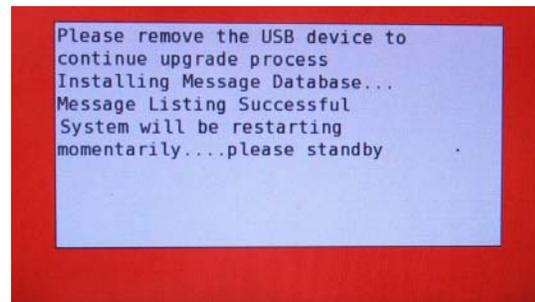
Once the files are transferred from the USB to the ODK4, you will be prompted to remove the USB flashdrive (see Fig 7-3).

The ODK4 will show file progress, and then reboot (see Fig 7-4).

After a short period of time, the operator will be given a "Message Listing Successful" indicating the message listing database has been updated successfully.

The ODK4 will then automatically reboot (see Section 3.1) to complete the message listing upload process.

Upon completion of the reboot sequence, the sign system is ready to use the new message listing.

7.2 Access USB Operations Menu

These screens are used to verify/calibrate/upgrade ODK functions and operations.

Press MENU at the default screen (see Fig. 7-5) to go to the Main Menu Screen.

Figure 7-5. Default Screen
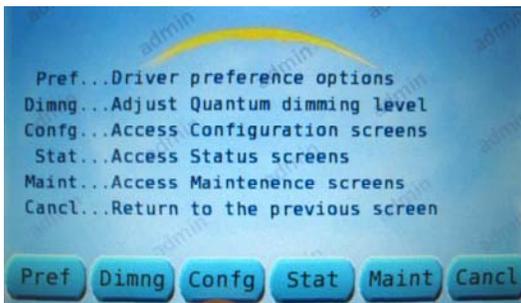
Figure 7-6. Main Menu Screen

Figure 7-7. Access Maintenance. Screen

From the Main Menu Screen (see Fig. 7-6) press the MAINT Key to open the Access Maintenance Screens window – this will generate a request for a password.

From the Access Maintenance Screens window (see Fig. 7-7) enter password (default is 6511) via the keypad; then press ENTER to access the Maintenance Menu Screen (see Fig. 7-8).

Figure 7-8. Maintenance Menu Screen

7.3 USB Operations (Save to Device)

7.3.1 Save Syslog to Device

The system log is only used by Luminator Engineering for troubleshooting and debugging purposes. To access the Maintenance Menu see Figures 7-5 through 7-8.

From the Maintenance Menu (see Fig. 7-8) press the USB Key to access the USB Operations menu. Remove USB port cover and insert flashdrive into USB Port (note the USB [inserted] Icon circled in the upper right corner – see Fig. 7-9).

Figure 7-9. USB Operations Menu

From the USB Operations menu (see Fig. 7-9) press the SAVE Key to access the Save to Device menu (see Fig. 7-10).

Figure 7-10. Save to Device Menu

From the Save to Device menu (see Fig. 7-10) press the LOG Key to initiate the Save Syslog to Device command (see Fig. 7-11).
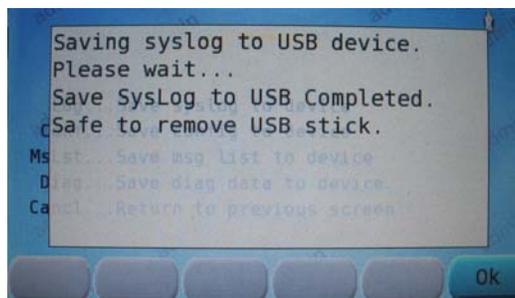

Figure 7-11. Save Syslog Message

Immediately after pressing the LOG Key the ODK will begin saving the System Log to the flashdrive. After 60 seconds the System Log will be saved and the ODK will indicate it is now safe to remove the flashdrive (see Fig. 7-11).

7.3.2 Save Configuration to Device

The configuration file can be saved from the ODK to the USB device to allow copying to other ODK4 units. To access the Maintenance Menu see Figures 7-5 through 7-8.

From the Maintenance Menu (see Fig. 7-8) press the USB Key to access the USB Operations menu. Remove USB port cover and insert flashdrive into USB Port.

Figure 7-12. USB Operations Menu

From the USB Operations Menu (see Fig. 7-12) press the SAVE Key to access the Save to Device menu (see Fig. 7-13).

Figure 7-13. Save to Device Menu

From the Save to Device menu (see Fig. 7-13) press the CONF Key to initiate the Save Configuration to Device command (see Fig. 7-14).
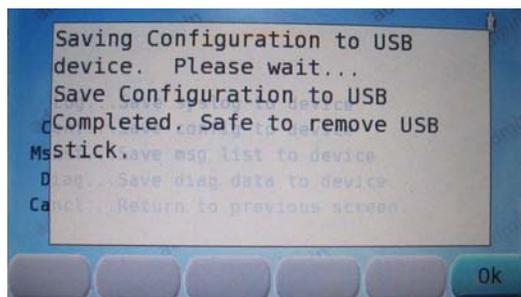

Figure 7-14. Save Config. Complete

Immediately after pressing the CONF Key the ODK will begin saving the System Configuration to the flashdrive. After 60 seconds the System Configuration will be saved and the ODK will indicate it is now safe to remove flashdrive (see Fig. 7-14).

7.3.3 Save Message Listing to Device

The Message Listing file can be saved from the ODK4 to the USB device to allow copying to other ODK4 units. To access the Maintenance Menu see Figures 7-5 through 7-8.

From the Maintenance Menu (see Fig. 7-8) press the USB Key to access the USB Operations menu. Remove USB port cover and insert flashdrive into USB Port.

Figure 7-15. USB Operations Menu

From the USB Operations menu (see Fig. 7-15) press the SAVE Key to access the Save to Device menu (see Fig. 7-16).

Figure 7-16. Save to Device Menu

From the Save to Device menu (see Fig. 7-16) press the MSLST Key to initiate the Save Message List to Device command (see Fig. 7-17).

Figure 7-17. Save Message Listing Complete

Immediately after pressing the MSLST Key the ODK will begin saving the Message Listing to the flashdrive. After 60 seconds the Message Listing will be saved and the ODK will indicate it is now safe to remove flashdrive (see Fig. 7-17).

7.4 USB Operations (Load from Device)

Typically, if the version on the USB device is newer than the one currently installed files will automatically transfer from the USB device when it is inserted in the ODK. These menus can be used to manually force a transfer of a specific file to the ODK memory.

7.4.1 Load Configuration from Device

Configuration files are used to set specific values and parameters for interior lighting, GPIO configuration and enabling system applications. To access the Maintenance Menu see Figures 7-5 through 7-8.

From the Maintenance Menu (see Fig. 7-8) press the USB Key to access the USB Operations menu. Remove USB port cover and insert the Config & MTU Flashdrive into the USB Port (note the USB inserted Icon in the upper right corner).

Figure 7-18. USB Operations Menu

From the USB Operations menu (see Fig. 7-18) press the LOAD Key to access the Load From Device menu (see Fig. 7-19).

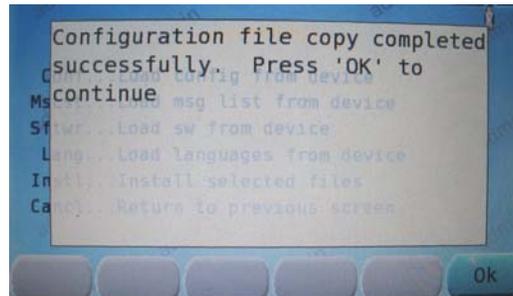**Figure 7-19. Load. From Device**   **Figure 7-20. Load Config. Complete**

From the Load From Device menu (see Fig. 7-19) press the CONF Key to initiate the Load Config From Device command.

After approximately 60 seconds the Configuration file download will be complete and the ODK will prompt you to press OK; this will return you to the Install Selected Files menu (see Section 7.5) to complete the install.

7.4.2 Load Message Listing from Device

A Message listing contains the actual route data displayed on the head signs. Only one message listing may reside in ODK4 memory at a time. To transfer a new message listing into the ODK, access the Maintenance Menu see Figures 7-5 through 7-8.

From the Maintenance Menu (see Fig. 7-8) press the USB Key to access the USB Operations menu. Remove USB port cover and insert the Config & MTU Flashdrive into the USB Port.

Figure 7-21. USB Operations Menu

From the USB Operations menu (see Fig. 7-21) press the LOAD Key to access the Load From Device menu (see Fig. 7-22).

Figure 7-22. Load From Device Menu

From the Load From Device menu (see Fig. 7-22) press the MSLST Key to initiate the Load Message List From Device command (see Fig. 7-24).
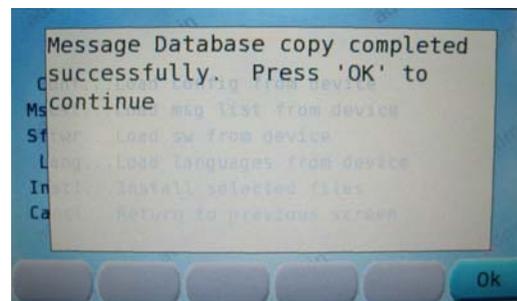

Figure 7-23. Load Msg. List From Dev.   Figure 7-24. Load Msg. List Complete

Immediately after pressing the MSLST Key (see Fig. 7-22) the ODK will begin loading the new Message Listing. (If there are multiple listings to choose from, use the UP/DOWN Keys to choose the file you want to download [see Fig.7-23] and press OK.)

After approximately 60 seconds the Configuration file will complete the download from the flashdrive and the ODK will prompt you to, "Press OK to continue;" this will return you to the Install Selected Files menu (see Section 7-5) to complete the install.

7.4.3 Load Software from Device

Operational software (Kernel and RamDisk) may occasionally be updated to allow new features. To access the Maintenance Menu see Figures 7-5 through 7-8.

From the Maintenance Menu (see Fig. 7-8) press the USB Key to access the USB Operations menu. Remove USB port cover and insert the OS flashdrive into USB Port.

Figure 7-25. USB Operations Menu

From the USB Operations menu (see Fig. 7-25) press the LOAD Key to access the Load From Device menu (see Fig. 7-26).

Figure 7-26. Load From Device Menu   **Figure 7-27. Load Operating Software File**
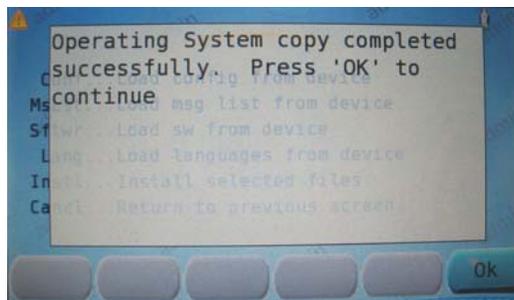
From the Load From Device menu (see Fig. 7-26) press the SFTWR Key to initiate the Load SW From Device command (see Fig. 7-27).

After approximately two minutes the Operating System file download will be complete and the ODK will prompt you to press OK; this will return you to the Install Selected Files menu (see Section 7-5) to complete the install.

7.5 Install Selected Files

After downloading any upgrade (Configuration File; Message Listing; or Operating System Software) you'll be returned to the Install Selected Files menu (see Fig. 7-28) to initiate the final install of the upgrade.

From the Install Selected Files menu (see Fig. 7-28) press the INSTL Key to open the Perform Upgrade window command (see Fig. 7-29).
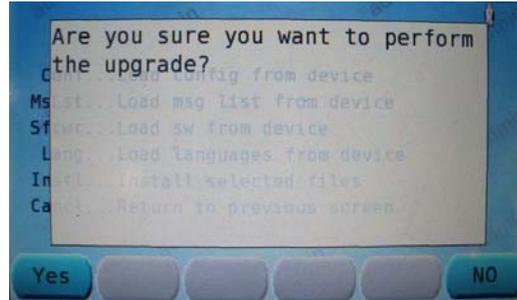

Figure 7-28. Install Select Files Menu   **Figure 7-29. Perform Upgrade Window**

From the Perform Upgrade window (see Fig. 7-29), press YES to begin the upgrade installation.
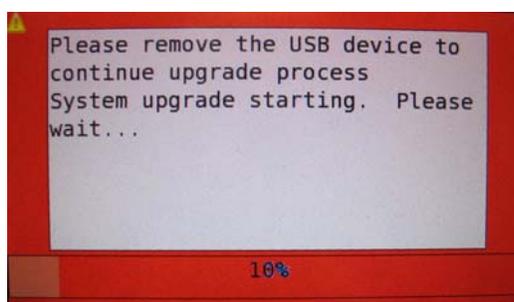
Figure 7-30. Remove USB Device   **Figure 7-31. System upgrade starting**

Remove the USB stick at the prompt (see Fig. 7-30), and the upgrade process will initiate automatically. A progress bar will appear at the bottom of the screen (see Fig. 7-31) for each file being installed. This process may take up to five minutes depending on the number of files being installed.

Figure 7-32. System upgrade Successful

You should see an acknowledgement that each file downloaded has been installed successfully (see Fig. 7-32), the system will then automatically reboot and be ready for normal operation upon completion.

SECTION 8
MAINTENANCE AND TROUBLESHOOTING

8.1 Introduction

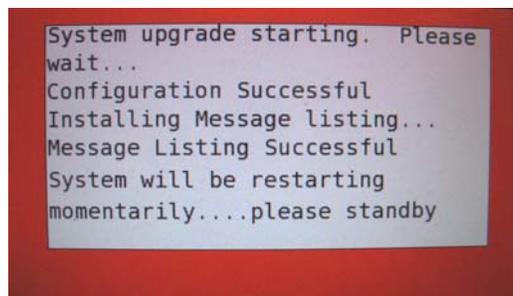This section provides ODK/sign system maintenance, cleaning, and troubleshooting instructions. It also contains instructions for light stick removal and replacement. For ODK removal and replacement see Section 2.

8.2 Maintenance

The ODK4 does not require any special cleaning or maintenance. The only cleaning requirement is to avoid cleansers, solvents, rags, or brushes that might scratch or damage plastic surfaces and seals. Clean with a clean rag; air gun set at low pressure; or a vacuum. No other maintenance is required.

8.3 Troubleshooting

The following tables provide troubleshooting guides for the ODK4 and the intelligent lighting (if necessary, please consult the Horizon or Spectrum Manuals for more in-depth sign troubleshooting). If the problem is not solved, contact your Luminator representative.

CAUTION

BEFORE REMOVING OR REPLACING PARTS, ENSURE POWER IS OFF TO SIGN SYSTEM.

Many ODK screens are password protected to avoid unauthorized changes to the ODK configuration. Once the correct password has been entered, the term "Admin" will be painted diagonally across the background. To exit "Admin" functionality, enter a new destination code or cycle power to the ODK.

8.3.1 Operator's Display and Keyboard (ODK4) Troubleshooting

Table 8-1. ODK4 Troubleshooting

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No ODK4 display indications.	No voltage to ODK.	Check for proper cable connections from sign system to J1 pins 1 and 2 on the ODK. (J1 pins: 1 [batt]; 2 [switch]; 4 [ground]) Repair or replace connectors or cable.
	Defective ODK.	Replace ODK.
No ODK4 message or code entry indications of any kind.	Defective ODK.	Momentarily turn off power to sign system/ODK. If operation is not restored upon power activation, replace ODK.

Table 8-1. ODK4 Troubleshooting

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
"Exceeded Range" or "Invalid Message Code" indication appears on display.	Invalid message code entry with respect to programming.	Enter a valid DEST code. Remove invalid P/R message (P/R, 0, ENTER). Update programming. Restore sign system to operating condition. Replace ODK.
ODK4 display is too dim.	Auto-Adjust Brightness is enabled in a dark environment.	Config\Disp\Scrn - use NEXT to select Auto-Adjust Brightness, then use the Left/Right arrows to remove the checkmark. Press SAVE to retain the settings.
	ODK Minimum Brightness is set too low for conditions.	Config\Disp\Scrn - use NEXT to select Minimum Brightness, then enter a new value. Press SAVE to retain the new settings.
Emergency mode not being displayed on exterior signs.	Emergency mode not enabled in ODK configuration.	Config\Misc\Emerg\Enable - select ENABLE and press ENTER.
	Emergency Mode not defined in the Message Listing.	Update message listing contents to include the Emergency Mode displays.
Emergency mode shows momentarily on the exterior signs, but goes away immediately.	ODK configured for the wrong emergency cancellation mode.	Config\Misc\Emerg\Mode – select DSABLE to turn off the 'Automatic Off' mode.
ODK4 not communicating with any signs.	ODK Communication failure.	Reset power to ODK and confirm sign communication is restored.
	Incorrect Message Listing, or signs are not included in the Message Listing.	Confirm signs are included in the message listing database. Confg\Disp\Sign - use the Up/Down or PageUp/PageDn to scroll through the list of sign configurations (shown as Pixel Width and Pixel Height). Confirm the signs for this bus are included in the program. Note the ADDR for the particular sign that is not responding. Go to Stat\Sign - check the ADDR for the particular sign. The ODK display shows the number of Received and Transmitted messages between the ODK and the sign. If the ODK shows TX MSGS, but no RX MSGS, please consult the appropriate sign maintenance manual for troubleshooting the sign. The ODK operation can be confirmed by removing the ODK and checking it on a known working sign system.

Table 8-1. ODK4 Troubleshooting

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
ODK4 not communicating with a particular sign.	Sign communication problem.	The ODK will send data to each sign after a valid message is selected. The Communication LED on each sign will indicate the data communication as a series of quick pulses while communicating with the ODK. If some signs are communicating, please refer to the Sign troubleshooting guide of the appropriate sign manual.
USB Device Not Recognized.	Failure Reading USB Device.	If the USB Icon is not displayed after 20 seconds, remove the USB drive, wait 10 seconds and re-insert the device.
ODK4 will not load new software from the USB memory device.	The file on the USB device is already loaded on the ODK.	To manually load the software from the USB, press Maint\USB\Load\ - select the file type you are trying to update.

Luminator

An LTG Company

900 Klein Road, Plano, Texas 75074 (USA)
Phone: (972) 424-6511 / FAX: (972) 423-8515