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Technical Guide

Installation of software onto an LD900

Introduction

Please read this document in its entirety prior to starting the upgrade process. Also note that this process should be undertaken at a time that will not impact operations.

This Technical Guide outlines how to install software onto the LD900. The upgrade should be conducted using a USB drive or web browser (via LAN2). The USB method requires a USB drive (FAT32 format only) with at least 512 MB free. The USB drive should be checked to ensure it is virus free.

It is important to record a hard copy of the configuration prior to upgrading.

Settings to Note Prior to Upgrade

Please record the following LD900 settings before upgrading (menu guidance in italics):

PPP Mode Configuration > Positioning

GNSS1 Mode (PPP Mode)					
		17:41:33 UTC			11:14:37 UTC
wend	Positioning	Corrections	Positioning		
Status	GNSS	Ports	Mode	APEX	Edit
Configuration	11 P		TRINAV Config		Edit
Receiver	Heading	INS			
Help & Support					Apply
Select Configuration	Select P	ositioning	Record n	node set	ting

NMEA Config Configuration > Positioning > NMEA Config > Edit

GGA Precision	
PPP DQI	

TRINAV Config Configuration > Positioning > Trinav Config > Edit

Version	
Nav Point	





RAIM Configuration > Positioning



Select Positioning

Record RAIM setting

GNSS Configuration > Positioning > GNSS

Elevation Mask	
PPS	
Pulse Duration (ms)	
Interference Detection	

Signal Tracking Configuration > GNSS > Signal Tracking

	Disabled Signals
GPS	
GLONASS	
GALILEO	
BEIDOU	

VERIPOS LBAND Configuration > Corrections > VERIPOS LBAND > Edit

Beam	
Source Antenna	
HDR Mode	

VERIPOS GNSS1 Configuration > Corrections > VERIPOS GNSS1 > Edit

Beam	
Source Antenna	
HDR Mode	





Corrections MF (model dependant) Configuration > Corrections > MF

Mode

Corrections UHF (model dependant) Configuration > Positioning > Corrections > UHF > Edit

Mode	
Frequency	

Corrections SBAS Configuration > Positioning > Corrections > SBAS

Corrections RTK Configuration > Positioning > Corrections > RTK

Mode	

Corrections NTRIP Configuration > Positioning > Corrections > NTRIP

NOCE	Mode	
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Ports Configuration > Ports

Only ports highlighted in Blue are active and therefore only these port settings need to be recorded. In the example below COM1 to 4 and ICOM1 are actively used:-

on	13:15:36 UTC	Configuration	ion	13:16:05 UTC
		Ports - Netwo	rk	
COM2	сомз	ICOM1	ICOM2	ICOM3
COM5	COM6	ICOM4	ICOM5	ICOM6
		ICOM7		
	COM2 COM5	on 13:15:36 UTC COM2 COM3 COM5 COM6	on 13:15:36 UTC	On 13:15:36 UTC ■ Configuration Ports - Network Ports - Network COM2 COM3 ICOM1 ICOM2 COM5 COM6 ICOM4 ICOM5 ICOM7 ICOM7



Work through the details for each active port and record the settings in the table below: -

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	Interface Type	Туре	Baud	Data Bits	Parity	Stop Bits	Data Information (e.g. NMEA logs selected)	
							Data Logs	Rate (Hz)
COM 1								
COM 2								
СОМ 3								
COM 4								
COM 5								
COM 6	INPUT							
ICOM 1 or P1*								
ICOM 2 or P2								
ICOM 3 or P3								
ICOM 4 or P4								
ICOM 5 or P5								
ICOM 6 or P6								
ICOM 7 or P7								

*Note: P1 to P7 settings are applicable when the optional MOXA NPort port extension system is utilised.

Network Settings *Receiver > Network > LAN1* or *LAN2 > Edit*

	LAN1	LAN2
Mode		
IP Address		
Subnet Mask		
Gateway		
DNS		N/A

Antenna Voltage Receiver > Antenna Voltage

GNSS Primary	
GNSS Secondary	
L-Band	
MF	





Settings to Note Prior to Upgrade (model dependant)

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Heading, SPAN and Secondary positioning are model dependant (authorisation code required). If any of the options below are enabled, then record the relevant settings.

Heading Systems

Heading Configuration > Heading

State	
Heading Offset (c-o)	

SPAN Systems

INS Configuration > INS

IMU Port	
IMU Type	
Heave Filter (secs)	

IMU Offsets Configuration > INS (Antenna1 Offset & Installation Rotations)

	Antenna1 Offsets (metres)	Installation Rotations (degrees)
X Axes		
Y Axes		
Z Axes		

INS User Offset Configuration > INS > INS User Offset

	INS User Offset (metres)
X Axes	
Y Axes	
Z Axes	

Secondary Positioning (Optional) Configuration > Positioning

GNSS2 Mode (PPP Mode)	
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Procedure for Upgrade

The are two methods for upgrading an LD900, one method is via the USB port on the LD900 front panel, and the alternative method uses an attached web browser connected to the LD900 ethernet LAN2 port. The latest LD900 build can be obtained from the VERIPOS website.

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Take care not to upgrade LD900 systems that are deployed with special firmware builds. To upgrade special builds there must be implicit guidance confirming the replacement of the special firmware. If clarification is required, please contact Veripos Support.

LD900 Upgrade - USB Method

Once the settings have been recorded the LD900 must be factory reset before commencing the upgrade.

;;	= Receiver	18:24:48 UTC	= Receiver	15:46:17 UTC
Menu	Details	Authorisations	Restart	
Status	Network	Antenna Voltage		
Configuration	Update	Export		
Receiver	Pestart	Logging	Restart	Factory Reset
Help & Support		Logging		
	Regulatory			
Select Receiver	Select	Restart	Select Fac	ctory Reset
Factory Reset Confirmation A factory reset will erase any manual configuration and receiver settings. Are you sure you wish to reset the receiver back to factory default settings? No Yes, Reset	Restoring facto	Dry default settings		
Select Yes, Reset	Factory Res	et in progress		

The factory reset will take approximately three minutes to complete. When the factory reset is complete Place the zipped file into the root folder of the USB drive. Insert the USB drive into the front panel USB port.



Navigate to **Receiver > Update**. Within the **Update** menu page, a **Find Update File** option is available. This allows for a receiver update .zip file to be located and uploaded to the system:

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= Receiver	13:22:08 UTC	= Receiver	13:23:22	2 UTC
Details	Authorisations	Update		
Network	Antenna Voltage	Update software a using a USB storag	nd firmware version le device.	ns
Update	Export	Insert USB device a file using the optio	and locate the upda n below.	ate
Restart	Logging	Find U	lpdate File	
Regulatory				
Select	Receiver	Select Find	Update File	

Once the update file has been located an option to **Update Now** will be presented. Once initiated, the receiver will reboot before starting the update process:



Select Update Now

The upgrade may take up to 30 minutes to complete. Navigate to the **Receiver > Details** menu and confirm the installed version.

LD900 Upgrade - Web Browser Method

Copy the LD900 firmware build (zip file) onto the desktop of the PC. Access the LD900 WebUI (the IP address on LAN2) using a web browser such a Chrome or Edge. The default IP address of LAN2 is 192.168.2.92. Once successfully connected a password prompt will appear: -

lagin		
Password		
		Log In





The WebUI password is the Veripos Unit ID (refer to the front panel label). Once the password is entered the following will be displayed:-

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	🕞 Log
GNSS1 - PSN BMHR19210244P - FFNRY	VTVEA Upgrade LD900 Version
Apply New Auth Code New Auth Code	Step1 – Select the LD900 zip file Select a zip file
E.g. 1A1A1A,2A2A2A,3A3A3A,4A4A4A	Step 2 – Press Upgrade Upgrade
	Apply VERIPOS Support
GNSS2 - PSN BMRU18500048W - FDNR	Email <u>support.veripos@hexagon.com</u>
Apply New Auth Code	Phone <u>+44 (0) 1224 965900</u>
New Auth Code	Online
E.g. 1A1A1A,2A2A2A,3A3A3A,4A4A4A	Available 24 hours a day, 365 days a year. To assist with your query, please quote User ID 3025304 when contacting VERIPOS.

As highlighted above, select the LD900 zipped file (step 1) from the desktop and initiate the upgrade by selecting the Upgrade Button (step 2). The upgrade may take up to 30 minutes to complete.

Once the upgrade is complete a confirmation message will appear briefly within the browser. It is also possible to check the LD900 front panel display, navigate to **Receiver > Details** menu and confirm the installed version.