Technical Guide

Upgrading LD8 for Use with the Latest Firmware

Introduction

This technical document details the steps required for upgrading the LD8 for use with the latest firmware. This version of firmware can operate with Quantum as well as the WebUI. There is no longer a separate LUA script for each.

Requirements

This procedure requires the following equipment:

- Windows laptop/PC (with serial COM port)
- DSUB HD26 to DB9-Pin serial cable (supplied with the LD8)

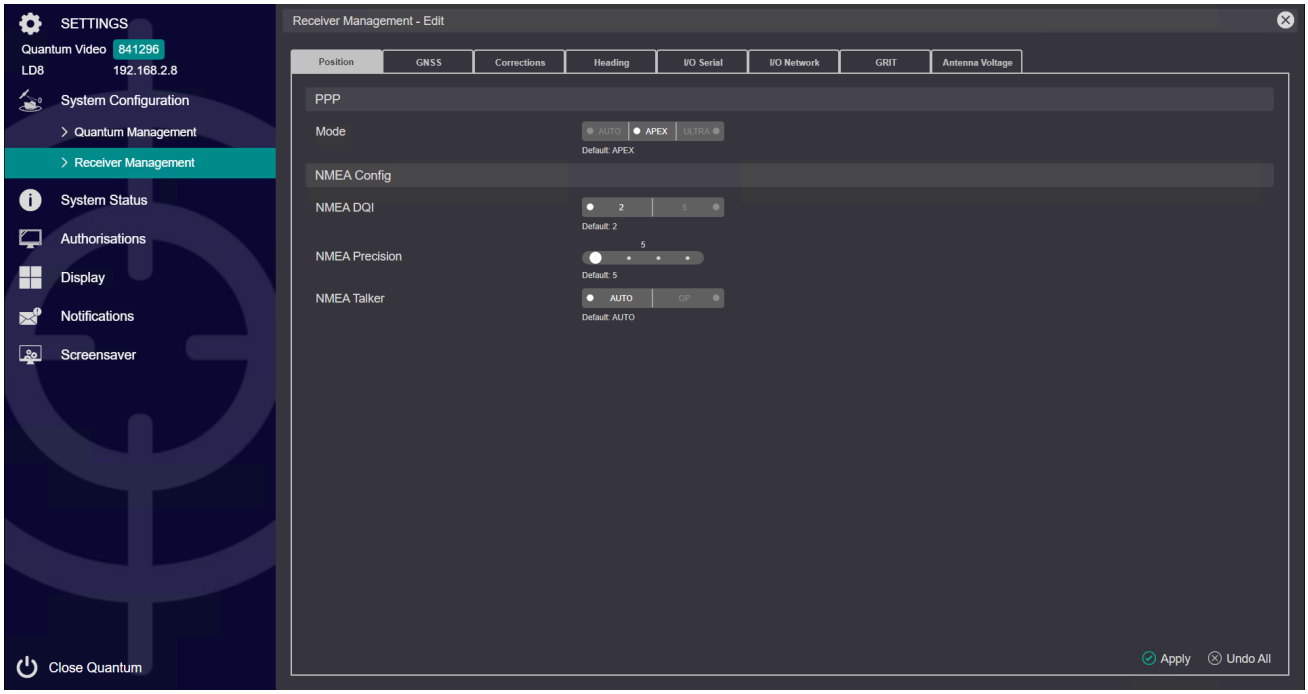
This procedure requires the following software, firmware, and scripts:

- Receiver upgrade files available from VERIPOS support (Veripos Firmware)
- WinLoad standalone utility (in the firmware package)
- Windows terminal application

Settings to Note Prior to the Upgrade

Quantum Visualisation

Please carefully record the following LD8 settings before upgrading. Start with the IP Address as displayed below (top left corner), then from the Quantum menu **System Configuration > Receiver Management** select **EDIT** then access the detailed settings within their respective TABS:-



IP Address

IP Address	

PPP Mode *Position Tab*

PPP Mode	

NMEA Config *Position Tab*

NMEA DQI	
NMEA Precision	
NMEA Talker	

GNSS Config *GNSS Tab*

Tracking Elevation Mask	

PPS Settings *GNSS Tab*

PPS Control	
PPS Polarity	
PPS Pulse Width	

RTK *Corrections Tab*

Source	

L Band *Corrections Tab*

HDR Mode	
Mode	

NTRIP *Corrections Tab*

Mode	

SBAS *Corrections Tab*

SBAS Control	

Heading *Heading Tab*

Offset	

Serial Ports *I/O Serial Tab*

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

	INPUT	OUTPUT	NONE	232 or 422	DATA TYPE (NMEA, RTCM, IOLAN, etc.)	Baud (BPS)	Data Bits	Parity	Stop Bits	NMEA Information (if NMEA is selected)	
	(Tick box ✓)									NMEA Logs	Rate (Hz)
COM1											
COM2											
COM3											

Network Ports *I/O Network Tab*

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

	INPUT	OUTPUT	NONE	DATA TYPE (NMEA, RTCM, IOLAN, etc.)	PORT (IP Port)	PROTOCOL (TCP or UDP)	ENDPOINT	NMEA Information (if NMEA is selected)	
	(Tick box ✓)							NMEA Logs	Rate (Hz)
ICOM1									
ICOM2									
ICOM3									
ICOM4									
ICOM5									

GRIT (Interference and Spoofing Detection) *GRIT Tab*

Spoofing Detection		
Interference Detection		

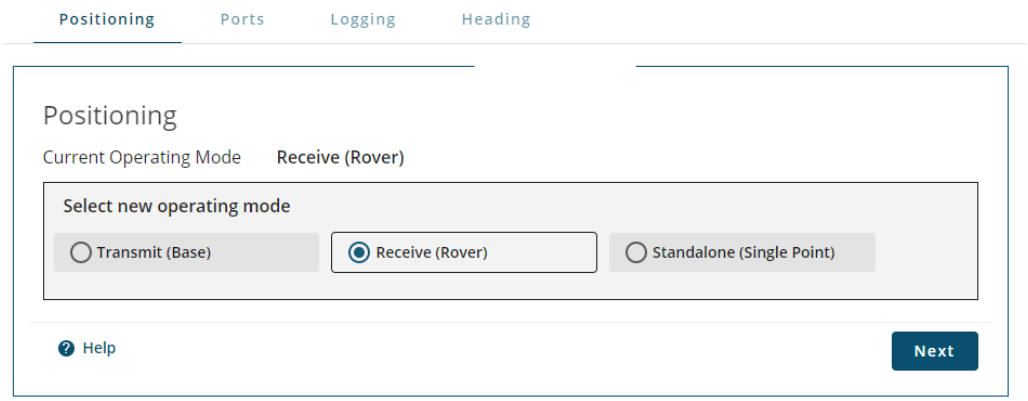
Antenna Voltage *Antenna Voltage Tab*

GNSS Primary	
GNSS secondary	

WebUI Visualisation

Please carefully record the following LD8 settings before upgrading.

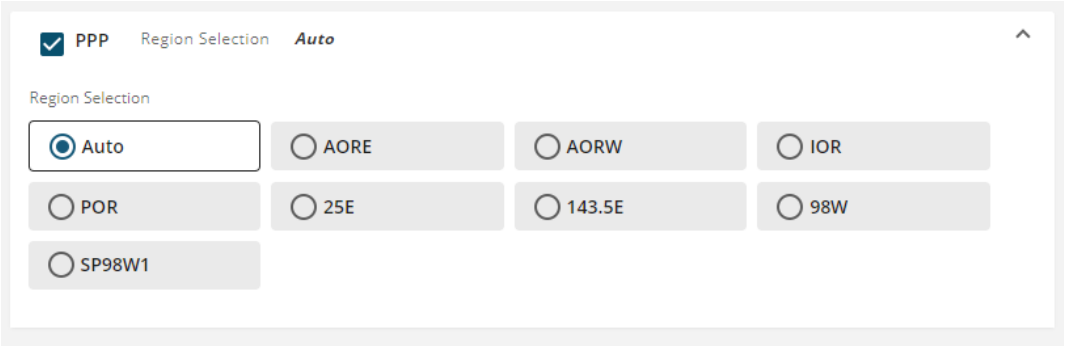
From the main menu, select **Home > Configuration** to access the detailed settings within their respective TABS:-



Heading *Heading Tab*

State	
Heading Offset	
Output Rate (Hz)	

L Band *Positioning Tab > Next > PPP*



Enabled Status	
Region Selection	

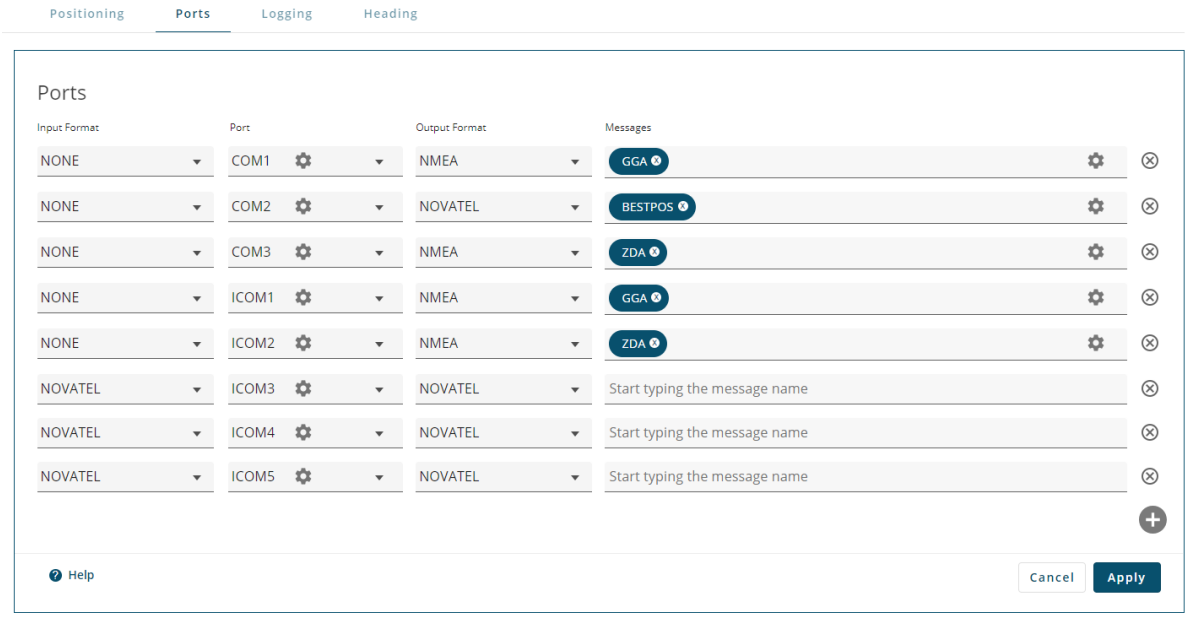
Corrections RTK *Positioning (TAB) > Next > RTK*

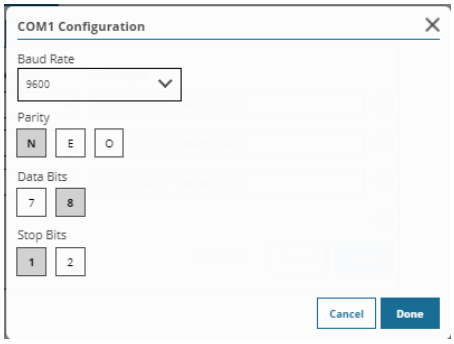
Enabled Status	
Format	
Input Port(s)	

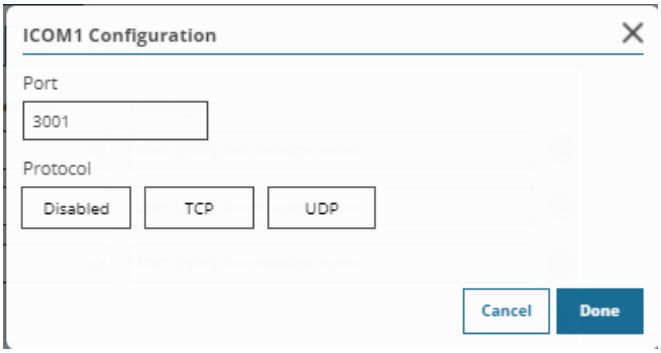
Corrections SBAS *Positioning Tab > Next > SBAS*

Mode	
Region	

Ports *Ports Tab*







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

	232 422	INPUT	OUTPUT	Baud	Data Bits	Parity	Stop Bits	NMEA Information (if NMEA is selected)	
								NMEA Logs	Rate (Hz)
COM 1									
COM 2									
COM 3									

	INPUT	OUTPUT	NMEA Information (if NMEA is selected)	
			NMEA Logs	Rate (Hz)
ICOM 1				
ICOM 2				
ICOM 3				
ICOM 4				
ICOM 5				

Network Settings

From the main menu, select **Home > Settings > Networking** and record the settings in the tables below:-

	Ethernet
Mode	
IP Address	
Subnet Mask	
Gateway	

PPP Mode

Issue the following command using the Terminal feature **Tools > Terminal**: `LOG PPPSOURCE` and record the echoed result below:-

PPP Mode	

Uploading the Receiver Upgrade Files

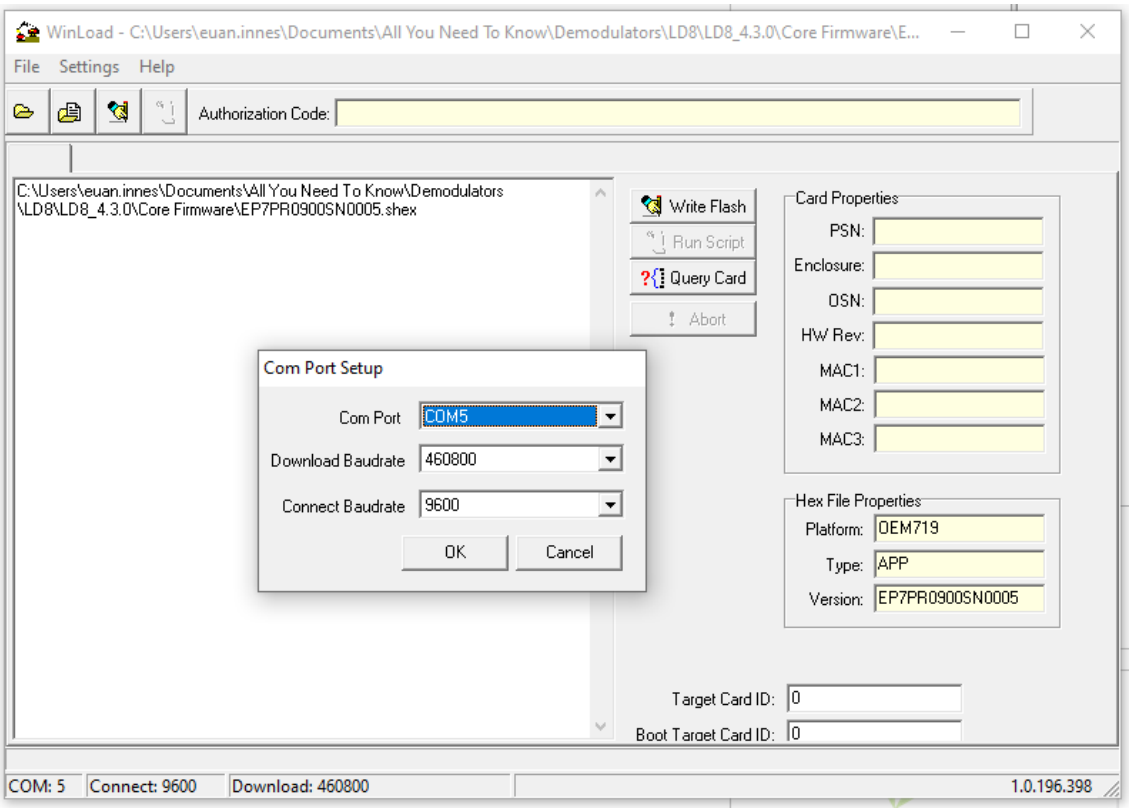
The receiver files are required to be applied in a specific order as noted below:

1. GNSS Core Firmware
2. LUA Script
3. WebUI

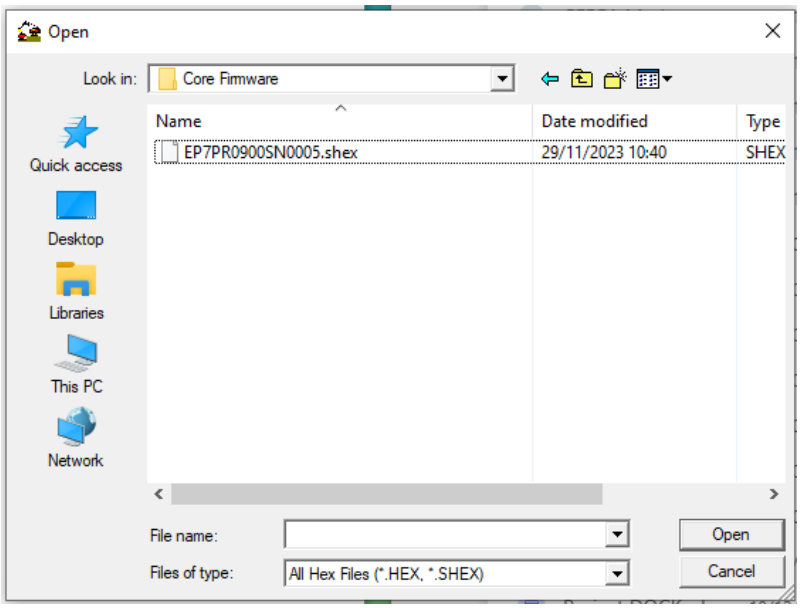
Follow the steps for the upgrade:

1. Connect the DSUB HD26 to DB9-Pin cable to the LD8 and connect one of the serial ports to the PC.
2. On the PC open the WinLoad application.

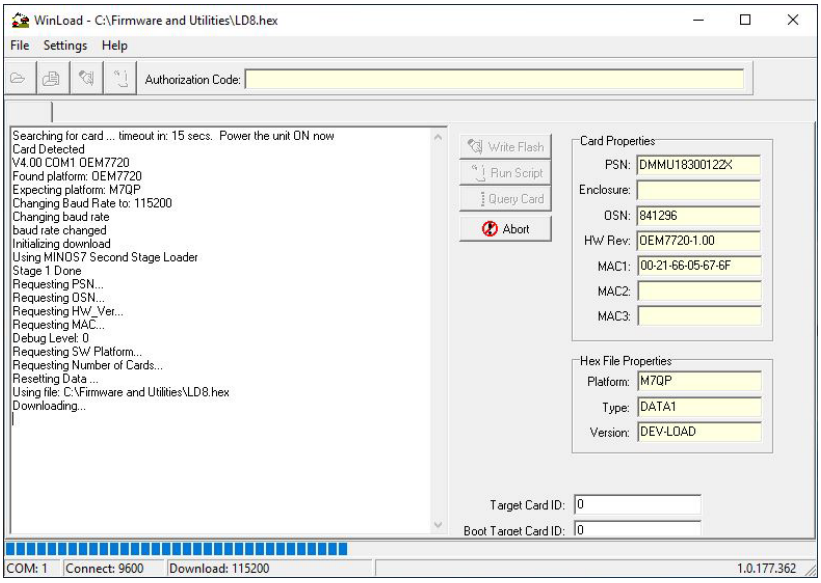
3. Within WinLoad select **Settings > Com Settings** and select the correct com port configuration. Connection baud rate should be set at the speed the receiver is configured at. The download baud rate can be set to a higher rate.



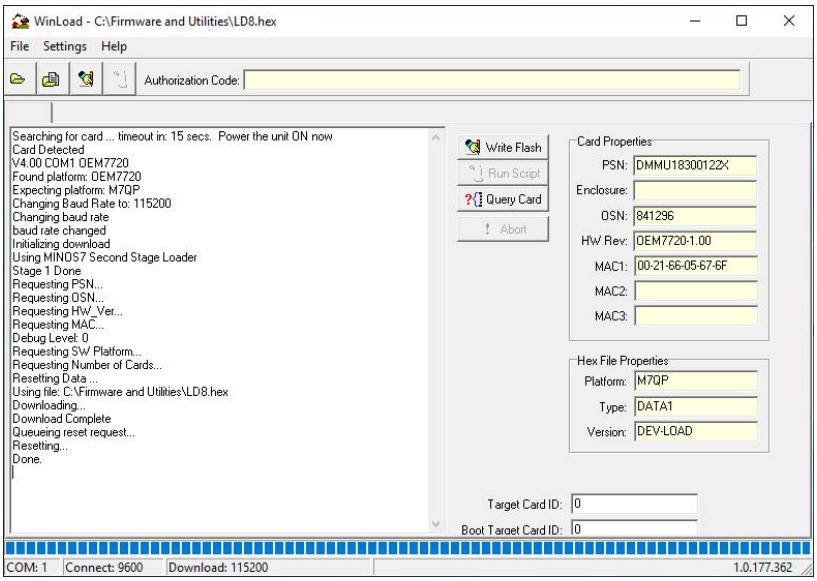
4. Within WinLoad select **File > File Open**, select the appropriate GNSS firmware file and then select **Open**:



5. Select **File > Write Flash**. A message starting with 'Searching for card…' will be displayed, starting a 30 second countdown. **Step 6 should be actioned within the 30 seconds**.
6. Power cycle the LD8. This will cause Winload to detect the receiver at boot. Once the LD8 has been detected the firmware file upload will begin:



7. Once the process is complete, the progress bar across the bottom will be full and a message stating 'Done' will be displayed:



8. Repeat steps 4 to 7 with the use of the LUA and WebUI files.

Receiver Configuration

At this point three commands must be sent to the unit via Serial Port (using a terminal program). The first command will action the receiver factory reset, applying a marine configuration to the receiver. The second command will apply the default IP address to the unit and the third command will save the IP address.

The first (case-sensitive) command required to be sent via a COM port (baud rate 9600) is:

```
LUA START factoryreset.lua
```

After the first command the receiver should remain untouched for 120 seconds whilst the reset is applied. After this hold off period the below command should be sent to apply the default IP address (192.168.2.8):

```
IPCONFIG ETHA STATIC 192.168.2.8 255.255.255.0 192.168.2.1
```

The third and final command to be sent will save the default IP address:

```
SAVEETHERNETDATA ETHA
```