



NMEA Reader (v3.031) & EBL Reader (v1.090)

Full User Manual

Issue 1.00

- Receives and interprets NMEA 2000 messages via an NGT-1
- Receives and interprets NMEA 0183 sentences on any PC com port or a USB port (ideally via an isolated connection such as the USG-1)
- Configuration options for the NGT-1 and the NGW-1

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Foreword

At Active Research Limited, we recognise that instructions are often skipped, so we have aimed to write this document in an informative and direct manner that will aid the user. We have covered all the points a typical user needs to know.

Introduction

This manual covers the use of both NMEA Reader and EBL Reader and includes the configuration options available for the **NGT-1** and **NGW-1**.

This manual is structured based on where a feature is accessed. Any additional information about the use of each features is explained at the same time.

Compatible with all Actisense products that can be connected to a PC and provide NMEA 0183 sentences or NMEA 2000 messages.

Full information on the complete **Actisense** product range and a list of all Actisense 'NGT Certified Software' products can be found on the [Actisense website \(www.actisense.com\)](http://www.actisense.com).

Features

NMEA Reader

- Receives and displays NMEA 2000 messages via an **NGT-1** that is connected to an active NMEA 2000 bus.
- Receives and displays NMEA 0183 sentences from any serial or virtual serial port connection.
- Provides detailed information on the currently selected message (field breakdown and description).
- View multiple connections simultaneously.
- Record log files of received data as EBL files for viewing with EBL Reader at a later date.
- Access configuration options for both the **NGT-1** and **NGW-1** devices.

EBL Reader

- Displays log files saved by NMEA Reader of time-stamped NMEA 0183 sentences or NMEA 2000 messages.
- Provides detailed information on currently selected message displayed (field breakdown).
- Displays text files of NMEA 0183 sentences.

Software Updates

The configuration options are directly linked to the Firmware within the **NGT-1** and the **NGW-1**. Both these devices are capable of being updated to include new features that may effect the way NMEA Reader needs to operate. It is strongly recommended that the very latest version of both the Firmware and NMEA Reader is used.

It is our policy to provide these updates free on the [Actisense website \(www.actisense.com\)](http://www.actisense.com), so that the **Actisense** software and devices can become more sophisticated with time, and should there be any bugs reported, they can be promptly fixed.

Software Installation

Download and run the executable file from the [Actisense website \(www.actisense.com\)](http://www.actisense.com).

A wizard will open and guide you through the installation process.

Once installed you have the option to run the program direct from the install wizard.

Alternatively simply run from either the Windows 'All Programs' menu shortcut or the desktop icon.

MR NMEA Reader

File Edit View Window Help

COM5: Actisense NGT 57600

PC Receive Load (23%)

PC Bus Load (5%)

COM 5: Actisense NGT

Line	PGN	SRC	DST	Name	Time	Interval	Data
1	127250	84	255	Vessel Heading	14:11:30:518	0.10	42 49 70 00 00 6F FE FD
2	130306	84	255	Wind Data	14:11:30:464	0.25	32 CD 00 E0 7B FA FF FF
3	127251	84	255	Rate of Turn	14:11:30:614	0.10	7E 00 00 00 00 FF FF FF
4	130311	84	255	Environmental Parameters	14:11:30:216	0.50	19 C1 CB 75 FF 7F EF 03
5	129029	84	255	GNSS Position Data	14:11:30:436	1.00	B7 13 3A 20 66 4E 1C 00 ...
6	129033	84	255	Time & Date	14:11:30:536	1.00	13 3A 20 66 4E 1C FF 7F
7	126992	84	255	System Time	14:11:30:568	1.00	B7 F0 13 3A 20 66 4E 1C
8	130323	84	255	Meteorological Station Data	14:11:30:566	1.00	F0 13 3A 20 66 4E 1C BA ...
9	127258	84	255	Magnetic Variation	14:11:29:718	1.00	8A F5 13 3A 6F FE FF FF
10	127258	84	255	Attitude	14:11:29:719	1.00	8A F7 FE CB 05 16 16 FF
11	129025	84	255	Position, Rapid Update	14:11:29:720	1.00	BA 5C 3E 1E 15 81 D6 FE
12	129026	84	255	COG & SOG, Rapid Update	14:11:29:723	1.00	B7 FC 5E BF 00 00 FF FF
13	129539	84	255	GNSS DOPs	14:11:29:727	1.00	B7 CB 54 01 FF 7F FF 7F
14	129540	84	255	GNSS Sats in View	14:11:29:727	1.00	B7 FF 0B 02 74 05 7F 16 ...
15	129044	84	255	Datum	14:11:27:724	10.00	57 38 34 FF 00 00 00 00 ...
16	130945	84	255	Manu. Proprietary fast-packet non-addressed	14:11:27:803	10.00	87 98 01 01 00 01

COM 5: Actisense NGT

Name: GNSS Position Data
 Source = 84, Destination = 255
 Priority = 3, Length = 43
 Number Of Fields = 18
 Field 1: SID = 179
 Field 2: Position date = 15/09/2010
 Field 3: Position time = 13:11:26
 Field 4: Latitude = 50° 44.420898' N (50.74034830000000000000°)
 Field 5: Longitude = 01° 56.979900' W (-1.94966500000000000000°)
 Field 6: Altitude = Not Available
 Field 7: Type of System = 3
 Field 8: Method, GNSS = 1 (GNSS Fix)
 Field 9: Integrity = 0
 Field 10: Reserved field
 Field 11: Number of SVs = 11
 Field 12: HDOP = 3.40 Ratio
 Field 13: PDOP = Not Available
 Field 14: Geoidal Separation = Not Available
 Field 15: Number of Reference Stations = 0

MR COM 6: Actisense USG

Line	Talker	Formatter	Time	Interval	Data
1	GP	GGA	14:11:29:218	1.01	\$GPGGA,131129.5044,4207,N,00156.9800,W,1.11,3.40,...,75
2	GP	GSA	14:11:29:218	4.00	\$GPGSA,A,2,16,23,31,.....,3,4,*30
3	GP	GSV	14:11:29:140	1.60	\$GPGSV,3,1,1,29,71,068,00,30,40,104,00,31,63,243,32*4B
4	II	MWV	14:11:29:156	2.00	\$IIMWV,181.69,R,4.08,N,A,*36
5	GP	RMC	14:11:29:187	2.00	\$GPRMC,131129,A,5044.4207,N,00156.9800,W,0.09,280.89,150910,2.29,W,A*22
6	II	VTG	14:11:29:250	2.00	\$IIVTG,280.6,T,.,0,N,0.0,K*36
7	II	RMA	14:11:29:187	2.00	\$IIRMA,,5044.4207,N,00156.9800,W,.,0.09,280.89,2.29,W*1E
8	GP	GLL	14:11:29:234	2.00	\$GPGLL,5044.4207,N,00156.9800,W,131129,A,A*5B
9	HC	HDG	14:11:29:156	2.00	\$HCHDG,164.6,0.0,E,2.2,W*55
10	II	VWR	14:11:29:250	2.00	\$IIVWR,178.3,L,4.0,N,2.1,M,7.5,K*5F
11	II	ZDA	14:11:29:281	2.00	\$IZDA,131129,15,09,2010,.,58
12	II	VHW	14:11:29:265	2.00	\$IIVHW,.,164.6,M,.,.,03
13	II	HDM	14:11:29:281	2.00	\$IHDM,164.6,M*27
14	II	ROT	14:11:29:265	2.00	\$IIRROT,5.81,A*1A
15	II	MWD	14:11:29:250	2.00	\$IIMWD,344.19,T,.,.,3.98,N,2.05,M*19

COM 6: Actisense USG

NMEA 0183 Sentence: GP GGA (Global Positioning System Fix Data)
 Number of Fields = 11
 Original Length = 54
 Description = Time, position and fix related data for a GPS receiver.
 Field 0: UTC Of Position = 131125
 Field 1: Latitude = 5044.4210
 Field 3: Longitude = 00156.9797
 Field 5: GPS Quality Indicator = 1
 Field 6: Number of satellites in use, 00-12 = 11
 Field 7: Horizontal dilution of precision (HDOP) = 3.40
 Field 8: Altitude re: mean-sea-level (geoid), meters = EMPTY - NO DATA
 Field 10: Geoidal separation, meters = EMPTY - NO DATA

Figure 1 - NMEA Reader - Main Window

NMEA Reader Main Window

The main window has a standard Windows pull-down menu at the top. Below this is a Toolbar that has action icons, port connection controls and load indicators. There is a main display area below the Toolbar and at the bottom of the window there is a Status Bar.

The main area of the window is where data from connected NMEA sources can be displayed. Multiple connections can be viewed simultaneously and appear as windows in this area.

Menus

File → New Connection

Opens a new connection window to display messages from a selected NMEA source. Multiple windows can be opened to allow messages from more than one port to be viewed at a time.

File → Exit

Closes NMEA Reader.

Edit → Preferences

Transfer: Receive All

Only available when connected using an NGT-1. Allows all messages to be transferred from the NMEA 2000 bus to the PC for displaying in the connection window.

Note: The NGT-1 will remain in 'Transfer Receive All' mode until the user selects 'Transfer Normal' or the unit has a power reset. This allows the NGT-1 to be used in 'Transfer Receive All' mode after NMEA Reader is closed.

Transfer: Normal

Only available when connected using an NGT-1. Only messages in the NGT-1's Rx PGN list will be transferred from the NMEA 2000 bus to the PC for displaying in the connection window.

Choose Log Directory

Change the location that all log files are saved to from the default location of 'My Documents'. A standard Windows directory browser will open to allow the selection of the new save location.

Auto Save Changes

When ticked: User settings will be remembered for the next time NMEA Reader is opened.

When not ticked: Default settings will be used each time NMEA Reader is run.

Settings Remembered are:

- View settings (column widths etc.)
- Open connection settings (port number and Baud rate)
- Log file save directory
- Transfer mode (for NGT-1 connections only)

Hardware Config

Opens the configuration options dialogue window. See "[Hardware Config Window](#)" on page 10.

View → Toolbar

Show or hide the toolbar of icons.

View → Status Bar

Show or hide the status bar at the bottom of the main window.

Window → Cascade

All open connection windows will be arranged in a cascade. The currently selected (in focus) window will be displayed at the front.

Window → Tile Horizontally

All open connection windows will be tiled in full width windows. The currently selected (in focus) window will be displayed at the top.

Window → Tile Vertically

All open connection windows will be tiled in full height windows. The currently selected (in focus) window will be displayed on the left.

Window → ('Active Connections')

Listed beneath the separation bar are all the open connection windows. Selecting a connection will make it active and come to the front if hidden.

Help → About NMEA Reader

Shows the 'about' dialogue box, which includes the software version number.

Toolbar Icons



About

Click this icon to display the 'About' dialogue box, which includes the software version number.



Refresh

Clicking this icon clears any messages/sentences present in the active connection window.



Save Log File

Clicking this icon will toggle the logging, on and off, for the active connection. Log files are saved to 'My Documents' unless the log directory has been changed via the edit preferences menu. Log files can be viewed using EBL Reader and contain additional information not shown in NMEA Reader, including unknown and system messages. Logs allow the viewing of messages/sentences in chronological order.

Connection Window Controls

Port Selection Menu

Select the COM port to open for the active connection from the drop down menu. All available com ports will be displayed.

Baud Rate Selection Menu

Select the required Baud rate for the active connection from the drop down menu.

NGT-1 Connection Indicator LED

This LED shows whether an NGT-1 is operating on the active connection. This is useful when there is no data to displayed.

Connection Window Indicators

PC Receive Load Indicator

The right hand indicator shows the PC receive loading of the active connection. Shown as a percentage of used bandwidth for the Baud rate selected in the 'Baud Rate Selection Menu'.

NMEA 2000 Bus Load Indicator

The left hand indicator shows the loading on the NMEA 2000 bus. This indicator is only visible when the active connection is an NGT-1 in 'Transfer All' mode.

Status Bar Information

Com Port Number

Shows the COM port number of the active connection.

Baud Rate Value

Shows the Baud rate of the active connection.

Com Port Status

Shows the status of the active connections COM port. Open or Closed.

Transfer Mode State

Shows which mode the device is in.

- NGT-1: 'Transfer Normal' or 'Transfer Receive All'.
- NGW-1: 'Translate Normal'.
- Other Devices: This section will be blank.

Autosave Mode Indicator

When in 'Autosave' mode this is shown in the status bar.

Connection Windows

Each connection window consists of two parts. The left hand window shows the messages as they arrive on the port and the right hand window shows a break down of the highlighted message.

Received Data Window

Line

The row number of the displayed message/sentence.

PGN

Seen with NMEA 2000 messages only. The PGN number of the received message.

SRC

Seen with NMEA 2000 messages only. The source address the message was sent from.

DST

Seen with NMEA 2000 messages only. The destination address the message was sent to. When a message is sent to all devices the message will contain the global address value of 255. The NGT-1 will receive all messages on the NMEA 2000 bus, regardless of the destination address, for displaying with NMEA Reader.

Name

Seen with NMEA 2000 messages only. The descriptive name of the message received.

Talker

Seen with NMEA 0183 sentences only. The identifier of the source device.

Formatter

Seen with NMEA 0183 sentences only. The identifier of the sentence received.

Time

The time the last message/sentence was received.

Interval / Freq (Hz)

When set to 'Interval' the average length of time, in seconds, between messages is displayed. When set to 'Freq. (Hz)' the frequency of the messages is displayed in Hertz. To switch between the two display options, right click anywhere in the interval/frequency column and select the option required from the pop-up list.

Data

Shows the actual data contained within the message/sentence.

Data Breakdown Window

When a message is selected/highlighted in the received data window the data breakdown window will provide in-depth information about the message.

NMEA 2000

Heading Line

The first line confirms the message is NMEA 2000 and shows the value of the PGN in decimal and hexadecimal. The '+' symbol allows the information to be expanded or collapsed.

Name

The name of the message received.

Source & Destination

The source address the message was sent from followed by the destination address the message was sent to. When a message is sent to all devices the message will contain the global address value of 255. The NGT-1 will receive all messages on the NMEA 2000 bus, regardless of the destination address, for displaying with NMEA Reader.

Priority and Length

The priority the message was assigned, from 1 to 9, 1 being the highest priority. This is followed by the length of the data contained in the message.

Number Of Fields

The number of separate fields contained in the data section of the message.

Fields

Each field is displayed separately with its field number, the type of data and the value of the data in that field.

NMEA 0183

Heading Line

The first line confirms the data is NMEA 0183 and shows the Talker ID and Formatter ID along with the name of the sentence. The '+' symbol allows the information to be expanded or collapsed.

Number of Fields

The number of separate fields contained in the data section of the sentence.

Original Length

The number of characters contained in the sentence, includes the start character and the checksum value.

Description

A description of what information the sentence contains.

Fields

Each field is typically displayed separately with its field number, the type of data and the value of the data in that field. Some fields are merged for example, with MWD, field 0 shows the direction value and includes the 'units' from field 1 which is 'True'. Combining the value and unit fields makes it easier to understand.

Hardware Config Window

The 'Hardware Config' window comprises of several tabs each with a configuration option (if available) for the connected device. All tabs will use the same standard action buttons seen at the bottom of the window.

OK

When clicked all modified settings, including those from inactive tabs, will be downloaded to the device. On completion the window will close.

Cancel

When clicked the window will close, discarding any modified settings.

Apply

When clicked all modified settings, including those from inactive tabs, will be downloaded to the device. The window will remain open for further editing.

Note: Clicking 'OK' or 'Apply' downloads the new settings to the device. These settings will be used for all future communications or until new settings are downloaded.

Rx and Tx PGN List Tabs

The NGT-1 and NGW-1 store lists of PGN's that are allowed to be received from or transmitted to the NMEA 2000 bus.

Rx PGN List Window

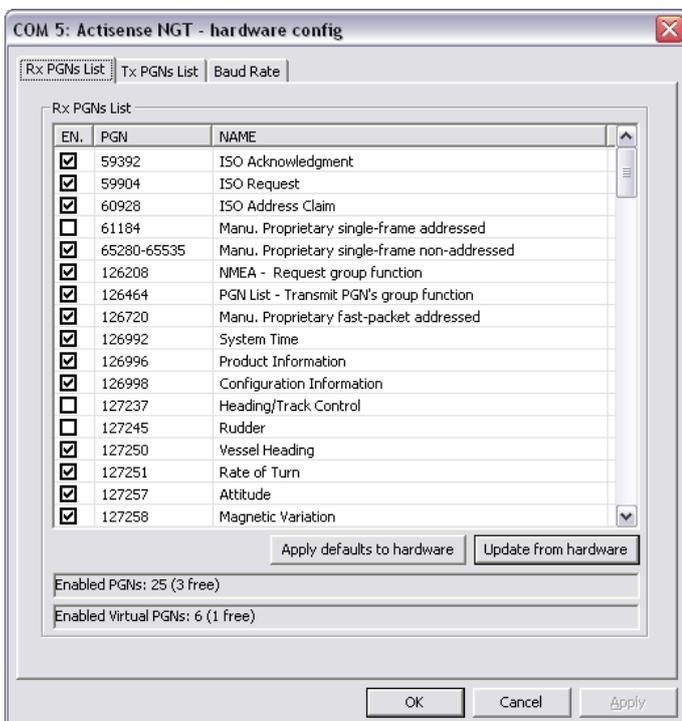


Figure 2 - Rx PGN List Tab

The Rx list refers to the PGN's that are received from the NMEA 2000 bus.

Note: When in 'Transfer: Receive All' mode you will still see all the messages in the main connection window. Switch to 'Transfer: Normal' mode to see the list working.

Tx PGN List Window

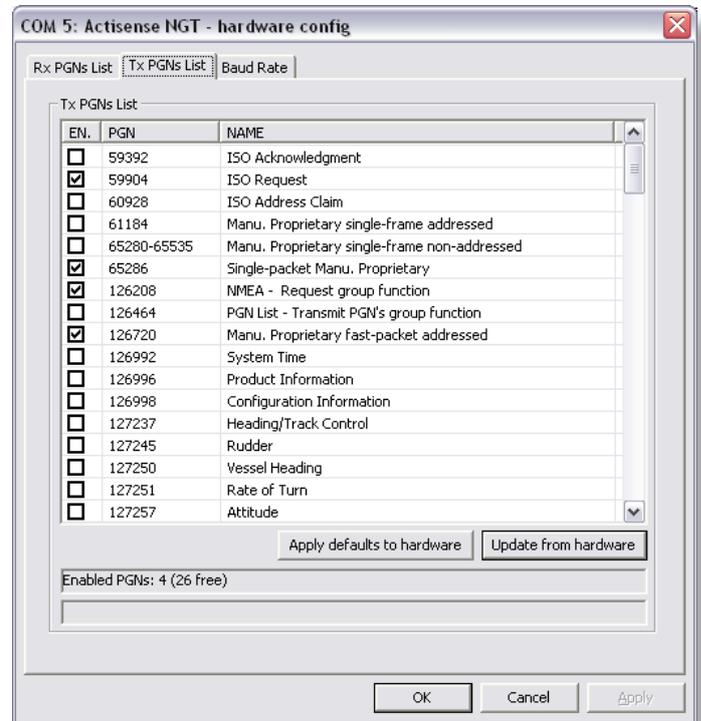


Figure 3 - Tx PGN List Tab

The Tx list refers to the PGN's that are to be transmitted onto the NMEA 2000 bus.

PGN List Layout

Each list comprises of three sortable columns, click the heading to sort.

En.

Tick boxes that show if the PGN is enabled or disabled.

PGN

The PGN that can be enabled or disabled.

Name

The name of the PGN message that can be enabled or disabled.

Apply Defaults to Hardware

Clicking this button will update the settings inside the device to the factory defaults. The displayed list is then updated to match upon completion.

Update from Hardware

Retrieves and displays the list stored in the connected device.

Enabled PGN Status

Shows the number of PGN's that are enabled in the list, including the number that are allowed to be added. Any PGN that is not enabled will be prevented from being received from or transmitted to the NMEA 2000 bus.

Enabled Virtual PGN Status

This will only be seen on the Rx list and is only applicable to the NGT-1 (although the status will still be displayed for NGW-1's).

There are seven PGN's that are required by the NGT-1/NGW-1 in order to operate correctly on the bus. These PGN's cannot be disabled from being received. The enable/disable option determines if the PGN is copied back to the PC or not. Enabling/disabling these PGN's will effect whether they are transferred to the PC or not.

Baud Rate Tab

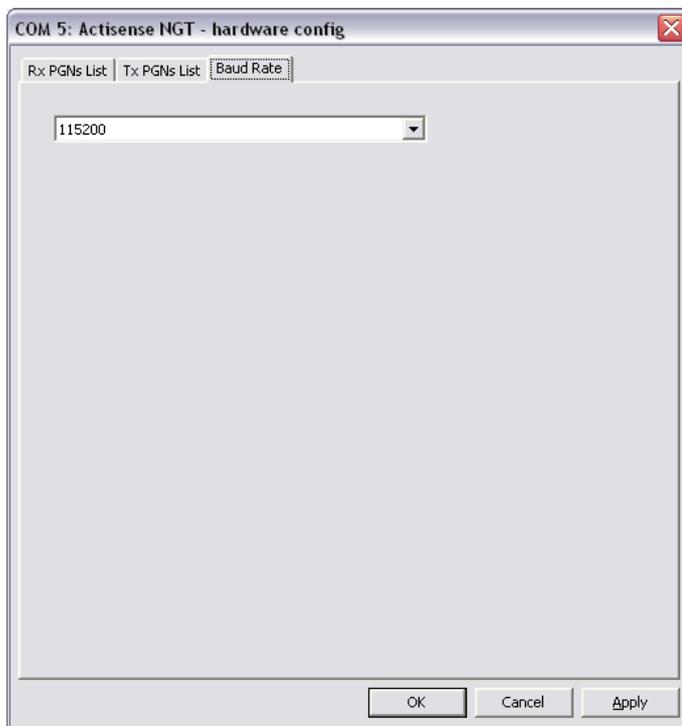


Figure 4 - Baud Rate Tab

Select the required Baud rate from the drop down menu and click OK or Apply. The baud rate of the device will be changed and the connection with the PC will be re-opened at the new rate.

COM 4 Actisense NGT_20100223_154857.rx - EBL Reader

File Edit View Help

Line	Time	Type	Data
118	15:49:12.249	NZK	PGN: 128267 (0x1F508), SRC = 35, DST = 255, Priority = 3, Len = 8, Data = 2A 1D 01 00 00 00 07 FF
119	15:49:12.249	NZK	PGN: 128259 (0x1F503), SRC = 35, DST = 255, Priority = 2, Len = 8, Data = 30 72 00 FF FF FF FF FF
120	15:49:12.249	NZK	PGN: 130311 (0x1F007), SRC = 35, DST = 255, Priority = 5, Len = 8, Data = 78 C0 30 77 FF 7F FF FF
121	15:49:12.249	NZK	PGN: 128275 (0x1F513), SRC = 35, DST = 255, Priority = 6, Len = 14, Data = FF FF FF FF FF FF FF 32 00 00 32 00 00 00
122	15:49:12.249	NZK	PGN: 126720 (0x1EF00), SRC = 3, DST = 255, Priority = 7, Len = 38, Data = 11 99 A0 22 F2 01 0E 00 03 01 00 00 00 02 01 02 00 00 01 00 00 00 02 06 02 01 00 00 00 01 00 00 00
123	15:49:12.249	NZK	PGN: 130311 (0x1F007), SRC = 35, DST = 255, Priority = 5, Len = 8, Data = 7C C0 30 77 FF 7F FF FF
124	15:49:12.952	NZK	PGN: 126720 (0x1EF00), SRC = 0, DST = 255, Priority = 7, Len = 38, Data = 11 99 A0 22 F2 01 10 00 08 85 01 00 00 00 02 01 02 00 00 01 00 00 00 02 07 02 01 00 00 00 01 00 00 00
125	15:49:13.233	BEH	BST-BEH: 0xA0F2, Seq = 1, Model = 14, Serial = 258, Error = 0, Len = 22, Data = 02 01 02 00 00 00 00 00 00 00 00 00 02 17 02 01 00 00 00 01 00 00 00
126	15:49:13.249	NZK	PGN: 128267 (0x1F508), SRC = 35, DST = 255, Priority = 3, Len = 8, Data = 2B 1D 01 00 00 00 07 FF
127	15:49:13.249	NZK	PGN: 128259 (0x1F503), SRC = 35, DST = 255, Priority = 2, Len = 8, Data = 3E 80 00 FF FF FF FF FF
128	15:49:13.249	NZK	PGN: 130311 (0x1F007), SRC = 35, DST = 255, Priority = 5, Len = 8, Data = 7D C0 47 7F FF 7F FF FF
129	15:49:13.249	NZK	PGN: 128275 (0x1F513), SRC = 35, DST = 255, Priority = 6, Len = 14, Data = FF FF FF FF FF FF FF 34 00 00 34 00 00 00
130	15:49:13.374	NZK	PGN: 126720 (0x1EF00), SRC = 3, DST = 255, Priority = 7, Len = 38, Data = 11 99 A0 22 F2 01 0E 00 03 01 00 00 00 02 01 02 00 00 01 00 00 00 02 06 02 01 00 00 00 01 00 00 00
131	15:49:13.749	NZK	PGN: 130311 (0x1F007), SRC = 35, DST = 255, Priority = 5, Len = 8, Data = 7E C0 47 7F FF 7F FF FF
132	15:49:13.952	NZK	PGN: 126720 (0x1EF00), SRC = 0, DST = 255, Priority = 7, Len = 38, Data = 11 99 A0 22 F2 01 10 00 08 85 01 00 00 00 02 01 02 00 00 01 00 00 00 02 07 02 01 00 00 00 01 00 00 00
133	15:49:14.249	BEH	BST-BEH: 0xA0F2, Seq = 1, Model = 14, Serial = 258, Error = 0, Len = 22, Data = 02 01 02 00 00 00 00 00 00 00 00 00 02 17 02 01 00 00 00 01 00 00 00
134	15:49:14.264	NZK	PGN: 128267 (0x1F508), SRC = 35, DST = 255, Priority = 3, Len = 8, Data = 2C 1D 01 00 00 00 07 FF
135	15:49:14.264	NZK	PGN: 128259 (0x1F503), SRC = 35, DST = 255, Priority = 2, Len = 8, Data = 3F 03 00 FF FF FF FF FF
136	15:49:14.264	NZK	PGN: 130311 (0x1F007), SRC = 35, DST = 255, Priority = 5, Len = 8, Data = 7F C0 30 77 FF 7F FF FF
137	15:49:14.264	NZK	PGN: 128275 (0x1F513), SRC = 35, DST = 255, Priority = 6, Len = 14, Data = FF FF FF FF FF FF FF 36 00 00 36 00 00 00
138	15:49:14.358	NZK	PGN: 126720 (0x1EF00), SRC = 3, DST = 255, Priority = 7, Len = 38, Data = 11 99 A0 22 F2 01 0E 00 03 01 00 00 00 02 01 02 00 00 01 00 00 00 02 06 02 01 00 00 00 01 00 00 00
139	15:49:14.733	NZK	PGN: 130311 (0x1F007), SRC = 35, DST = 255, Priority = 5, Len = 8, Data = 80 C0 30 77 FF 7F FF FF
140	15:49:14.968	NZK	PGN: 126720 (0x1EF00), SRC = 0, DST = 255, Priority = 7, Len = 38, Data = 11 99 A0 22 F2 01 10 00 08 85 01 00 00 00 02 01 02 00 00 01 00 00 00 02 07 02 01 00 00 00 01 00 00 00
141	15:49:15.233	BEH	BST-BEH: 0xA0F2, Seq = 1, Model = 14, Serial = 258, Error = 0, Len = 22, Data = 02 01 02 00 00 00 00 00 00 00 00 00 02 17 02 01 00 00 00 01 00 00 00
142	15:49:15.249	NZK	PGN: 128267 (0x1F508), SRC = 35, DST = 255, Priority = 3, Len = 8, Data = 2D 1D 01 00 00 00 07 FF
143	15:49:15.249	NZK	PGN: 128259 (0x1F503), SRC = 35, DST = 255, Priority = 2, Len = 8, Data = 40 08 00 FF FF FF FF FF
144	15:49:15.249	NZK	PGN: 130311 (0x1F007), SRC = 35, DST = 255, Priority = 5, Len = 8, Data = 81 C0 30 77 FF 7F FF FF
145	15:49:15.249	NZK	PGN: 128275 (0x1F513), SRC = 35, DST = 255, Priority = 6, Len = 14, Data = FF FF FF FF FF FF FF 38 00 00 38 00 00 00
146	15:49:15.374	NZK	PGN: 126720 (0x1EF00), SRC = 3, DST = 255, Priority = 7, Len = 38, Data = 11 99 A0 22 F2 01 0E 00 03 01 00 00 00 02 01 02 00 00 01 00 00 00 02 07 02 01 00 00 00 01 00 00 00
147	15:49:15.749	NZK	PGN: 130311 (0x1F007), SRC = 35, DST = 255, Priority = 5, Len = 8, Data = 82 C0 30 77 FF 7F FF FF
148	15:49:15.952	NZK	PGN: 126720 (0x1EF00), SRC = 0, DST = 255, Priority = 7, Len = 38, Data = 11 99 A0 22 F2 01 10 00 08 85 01 00 00 00 02 01 02 00 00 01 00 00 00 02 07 02 01 00 00 00 01 00 00 00
149	15:49:16.233	BEH	BST-BEH: 0xA0F2, Seq = 1, Model = 14, Serial = 258, Error = 0, Len = 22, Data = 02 01 02 00 00 00 00 00 00 00 00 00 02 17 02 01 00 00 00 01 00 00 00
150	15:49:16.265	NZK	PGN: 128267 (0x1F508), SRC = 35, DST = 255, Priority = 3, Len = 8, Data = 2E 1D 01 00 00 00 07 FF
151	15:49:16.265	NZK	PGN: 128259 (0x1F503), SRC = 35, DST = 255, Priority = 2, Len = 8, Data = 41 AA 00 FF FF FF FF FF
152	15:49:16.265	NZK	PGN: 130311 (0x1F007), SRC = 35, DST = 255, Priority = 5, Len = 8, Data = 83 C0 30 77 FF 7F FF FF
153	15:49:16.265	NZK	PGN: 128275 (0x1F513), SRC = 35, DST = 255, Priority = 6, Len = 14, Data = FF FF FF FF FF FF FF 3A 00 00 3A 00 00 00
154	15:49:16.358	NZK	PGN: 126720 (0x1EF00), SRC = 3, DST = 255, Priority = 7, Len = 38, Data = 11 99 A0 22 F2 01 0E 00 03 01 00 00 00 02 01 02 00 00 01 00 00 00 02 07 02 01 00 00 00 01 00 00 00

NMEA 2000 PGN: 128267 (0x1F508)

- Name: Water Depth
- Source = 35, Destination = 255
- Priority = 3, Len = 8
- Number Of Fields = 4
- Field 1: STD = 44
- Field 2: Water Depth, Transducer = 2.85 Metres
- Field 3: Offset = 2,000 Metres
- Field 4: Reserved Field

Figure 5 - EBL Reader - Main Window

EBL Reader Main Window

Menus

File → New

This option is currently disabled.

File → Open...

Open a log file to view, A standard windows directory browser will open to allow the selection of the file to open.

File → Save

This option is currently disabled.

File → Save As...

This option is currently disabled.

File → Recent Files List

A list of recently opened files will be displayed. Click one to open it.

File → Exit

Closes EBL Reader.

Edit

All edit options are currently disabled.

View → Toolbar

Show or hide the tool bar of icons.

View → Status Bar

Show or hide the status bar at the bottom of the main window.

Help → About EBL Reader

Shows the 'about' dialogue box, which includes the software version number.

Toolbar Icons

New, Save, Cut, Copy, Paste and Print

These options are currently disabled.

Open

Open a log file to view. A standard windows directory browser will open to allow the selection of the file to open.

About

Click this icon to display the 'about' dialogue box.

Received Data Window

Line

The row number of the displayed message. This is the order in which the messages arrived.

Time

The time the message was received. This is the time local to the PC that created the log file.

Type

Shows if the data is NMEA 0183, NMEA 2000, BEM or Unknown. BEM messages are command messages used by Actisense for controlling the NGT-1 and NGW-1 and are separate from any NMEA data.

Data

Shows the actual data received in its message format.

Colour Coding

Purple is for NMEA 0183 sentences.

Blue is for NMEA 2000 messages.

Green is for Actisense BEM system messages.

Red is for unknown data.

Data Breakdown Window

The '+' symbol allows the information to be expanded or collapsed within this window.

NMEA 2000

Heading Line

The first line confirms the message is NMEA 2000 and shows the value of the PGN in decimal and hexadecimal.

Name

The name of the message received.

Source & Destination

The source address the message was sent from followed by the destination address the message was sent to. When a message is sent to all devices the message will contain the global address value of 255. The NGT-1 will receive all messages on the NMEA 2000 bus, regardless of the destination address, for displaying with NMEA Reader.

Priority and Length

The priority the message was assigned, from 1 to 9, 1 being the highest priority. This is followed by the length of the data contained in the message.

Number Of Fields

The number of separate fields contained in the data section of the message.

Fields

Each field is displayed separately with its field number, the type of data and the value of the data in that field.

NMEA 0183

Heading Line

The first line confirms the data is NMEA 0183 and shows the Talker ID and Formatter ID along with the name of the sentence.

Number of Fields

The number of separate fields contained in the data section of the sentence.

Original Length

The number of characters contained in the sentence, includes the start character and the checksum value.

Description

A description of what information the sentence contains.

Fields

Each field is typically displayed separately with its field number, the type of data and the value of the data in that field. Some fields are merged for example, with MWD, field 0 shows the direction value and includes the 'units' from field 1 which is 'True'. Combining the value and unit fields makes it easier to understand.

Actisense BEM

These messages are used by Actisense products for configuration and communication between devices hardware. This information is only really useful to Active Research Ltd and is included for use when contacting customer support as a debugging aid.

Product Order Codes

All products listed are configurable with NMEA Reader.

Other Actisense products and NMEA 0183 devices with PC connectivity are all compatible for displaying data.

NGT-1-ISO	NMEA 2000 ↔ Serial PC Interface with ISO-Drive
NGT-1-USB	NMEA 2000 ↔ USB PC Interface
NGW-1-ISO	NMEA 2000 ↔ Serial NMEA 0183 Interface with ISO-Drive
NGW-1-USB	NMEA 2000 ↔ USB NMEA 0183 Interface

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