

underwater technology

MiniPod Receiver Operation Manual







Revision History

Issue	Change	Reason for change	Date
	No.		2010
1	n/a	First Issue	09/05/2019
2	2462	Addition of GPS Update Rate	22/12/2020
3	2571	New protocol release (V2.1.0.0)	08/03/2022
1	2738	RTK update full RTCM support (V2.2.1.0).	13/04/2023
4	2750	BCN-201G Support	13/04/2023



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applied acoustic engineering Ltd has made every effort to ensure that the information contained in this manual is correct at time of print. However our policy of continual product improvement means that we cannot assume liability for any errors which may occur.



These written instructions must be followed fully for reliable and safe operation of the equipment that this manual refers to. applied acoustic engineering Ltd cannot be held responsible for any issues arising from the improper use or maintenance of equipment referred to in this manual or failure of the operator to adhere to the instructions laid out in this manual. The user must be familiar with the contents of this manual before use or operation.



Introduction to the MiniPod Receiver

Overview

The MiniPod Receiver is a combined hardware and software solution to receive GNSS data from RF enabled MiniPod(s) and to send RTK corrections to the MiniPod for precise GNSS positioning.



MiniPod Receiver (RFR-101G)

MiniPod 101G

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GPS101G	MTDET	#GPGGA,104803.00.5235.60102937.N.00142.41690848.E.2.19.0.7.1.514.N.46.961.M.5.0.0136*41	1	10	N/A	+	0.00%		
GPS101G	MT043	\$GPGGA 104833.00.5235 6016400.N.00142.4158697 E.2.20.0.6.2.828.M.46.861.M.5.0.0136*6A	2	12	N/A	9,1	5.80%		
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Mini Pod Receiver Software



The MiniPod Receiver software, connected via a USB interface to a RFR-101G, receives the RF transmissions from connected MiniPod(s) and data sensors within or connected to the MiniPod. The windows based, MiniPod Receiver software, is used to display any received GNSS and AHRS data, this data can then be fed, either via Ethernet or serial interface, to the client navigation/ logging application.

If multiple MiniPod's are used, the output from each MiniPod can be prefixed with a unique numerical identifier to enable identification of the data or split across multiple serial outputs.

The system supports differential corrections, received via a PC serial port from an external source. These are then sent to each connected MiniPod to improve position accuracy via the RF network. The differential corrections may be input in either RTCM or CMR format.

Installation Instructions

Packing List

- 1. MiniPod RF Receiver [RFR-101G-7000]
- 2. USB 2.0 Cable Assembly [ELD050194]
- 3. MiniPod RF Receiver Cable, located inside lid. [RFR-101G-4000]
- 4. MiniPod RF Directional High Gain Antenna [EMD050040]
- 5. MiniPod RF Omni-directional Antenna [EMD050051]
- 6. MiniPod Flash Drive [SFT-MINIPOD-6006]
- 7. Antenna mounting hardware





RFR-101G Receiver Connections



The RFR receiver should be connected to the computer running the application by the USB interface, once properly connected the Power LED will illuminate. The RF receiver cable RFR-101G-4000 should have one end connected to the RFR Box and the other should be connected to the desired antenna.



Positioning of RF antenna

Connect the selected antenna, dependent on application to the RFR-101G via the RF Receiver Cable.

The RF antenna should be mounted at the highest point of the vessel, as practical to do so, and face towards the target with an unobstructed line of sight. Objects around the antenna may cause interference with the signals and result in errors.

It may be necessary to tilt the antenna towards the MiniPod's for optimum performance. Other commercial Wi-Fi antennas are available and can be used with our system however the antenna's supplied should be adequate for the majority of setups.

Please refer to the appendix for the antenna beam plots as supplied standard.



Ensure the MiniPod BCN-101G internal antenna is in alignment with directional RFR receiver antenna

MiniPod Alignment

The MiniPod(s) must be installed with the antenna label (shown below) pointing towards the RF Antenna to ensure reliable transmission of RF data.

(((0)))	AC	
Λ	Ŵ	

Please see the MiniPod manual for further information BCN-101G-8002

Software Installation

Prior to installing the software on the Windows PC, please connect the RFR-101G into a USB port of the PC and then wait for windows to install the required driver. Once installed the device will be shown in the windows device manager as a 'USB Serial Port' (FTDI driver)



Install the 'MiniPod Receiver' software by running the 'Setup.exe' package supplied



Software Operation

Main Display

The main display consists of the menu, a toolbar, a pod list area and a system message area.

	Receiver			-	ſ	3 3
File Rece	iver Tools Help					
Configuration	Toolbar					
Pod List						
Model	Data	D	ID On	Port		Evers
~ Seriat	1022056			11		
GP5201G	\$GPGGA, 110408.00, 5235.5998486, N,00142.4160487, E, 4, 29, 0.6, 1.4281, M, 46.9870, M, 0.2,0000*47	0	- [J] :	N/A	4	0.00%
GP5201G	\$GPHDT,266.353,T*32	0	2	N/A	4	0.00%
✓ Serial:	1022057					
GPS201G*	\$GPGGA, 110409.00, 5235. 5997975, N, 00142. 4168996, E, 4, 18, 0. 7, 1. 4952, M, 46. 9870, M, 4. 0, 0000*40	0	[]]	N/A	1.	0.00%
GP5701G*	\$PRDID, -0.002, -0.003,*66	0		N/A		0.00%
~ Serial	1022058					
GPS201G	5GPGGA, 110408.00, 5235.5997050, N, 00142.4124082, E, 4, 19, 0.7, 1.4869, M, 46.9870, M, 3.0, 0000 49	0	- [2]	N/A	1	0.00%
Time 2 12:03:34	Description Differential Data Setal Port Opened - COM15	Po	d Lis	t		
Time 2 12:03:34	Description Differential Data Setal Pot Opened - COM15 System Messages	Po	d Lis	t		

The menu will allow you to navigate round the application for added options and functionality.

The toolbar has links to open a configuration, save the configuration and to change the individual MiniPod settings.

The Pod List will display all connected MiniPod's on a network we recommend a limit of 8 MiniPod's should be connected on any 1 network however this is dependent on data update rates, number of data strings and corrections being sent as there is a limited bandwidth for the wireless.



All system messages will be displayed in a window timestamped this should be monitored for any errors that may occur.

Initial Configuration

When the software is run for the first time the following screen will be displayed

S MiniPod Receiver	-	×
File Receiver Tools Help		
Configuration		
Pod List		
Model Serial Data ID On Port Errors		
Time Description		
Image: Weight of the second		
CUNI8,230400		:

The software will continually search for MiniPod's that are connected to the same network as the RFR-101G. When found each MiniPod will be displayed.



The default network channel is 12. This can be changed in the options window

Once all required MiniPod's have been connected, the Pod List will show the data received from each pod, however the Model Number and Serial Number data for each MiniPod will be blank (as shown below).



Pod List							
Model	Serial	Data	ID	ID On	Port		Errors
		\$GPGGA, 104527.98,5235.5996055, N,00142,4294336, E,1,05,2,8,114,829, M,46,861, M,,*65	0	V	N/A	Ļ	0.00%
		\$GPGGA, 104528.00, 5235.60180034, N, 00142.41646934, E, 2, 07, 1.6, 6.276, M, 46.861, M, 4.0, 0136*42	1		N/A	Ļ	0.00%
		\$GPGGA,104528.00,5235.6012340,N,00142.4163317,E,2,09,1.4,-11.335,M,46.861,M,4.0,0136*53	2	7	N/A	Ļ	0.00%

To get the Model Number and Serial Number of each connected MiniPod, select 'Get ID's' from the Tools menu. Please note you may have to repeat the Get ID's process more than once to get data from all connected pods, depending on data rates





When this process is complete the Pod List should look similar to that shown below

in our	eceiver							
File Rece	iver To	ols Help						
20	23							
	NUT .							
onfiguration								
Pod List								
Model	Serial	Data	ID	ID On	Port		Errors	
GPS101G	MT031	\$GPGGA,104833.00,5235.6015182,N,00142.4161839,E,2,16,0.7,0.449,M,46.861,M,4.0,0123*43	0	V	N/A	1	1.87%	
GPS101G	MT041	\$GPGGA,104833.00,5235.60102937,N.00142.41660848,E,2,19,0.7,1.514,M.46.861,M.5.0,0136*41	1		N/A	←	0.00%	
GPS101G	MT043	\$GPGGA,104833.00,5235.6016400,N,00142.4158697,E,2,20,0.6,-2.828,M,46.861,M,5.0,0136*6A	2		N/A	r.	6.80%	
ni ondersen	120000000		10.3		112,2659	12002		
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ne 10:48:28 10:48:22 10:48:22 10:48:22	Descripti Please w MiniPod Remote MiniPod	on rait while we configure the network GFS101G - MAC Address 0x13A200418F84E8, Serial No: MT043 AT Command Response Received GFS101G - MAC Address 0x13A200418F7612, Serial No: MT041						
ne) 10:48:28) 10:48:22) 10:48:22) 10:48:22) 10:48:22	Descripti Please w MiniPod Remote MiniPod Remote	on rait while we configure the network GPS101G - MAC Address 0x13A200418F84E8, Serial No: MT043 AT Command Response Received GPS101G - MAC Address 0x13A200418F7612, Serial No: MT041 AT Command Response Received						
ne 10:48:28 10:48:22 10:48:22 10:48:22 10:48:22 10:48:22	Descripti Please w MiniPod Remote MiniPod Remote MiniPod	on rait while we configure the network GPS101G - MAC Address 0x13A200418F84E8, Serial No: MT043 AT Command Response Received GPS101G - MAC Address 0x13A200418F7612, Serial No: MT041 AT Command Response Received GPS101G - MAC Address 0x13A2004185F10A, Serial No: MT031						
ne 10:48:28 10:48:22 10:48:22 10:48:22 10:48:22 10:48:22 10:48:22 10:48:22	Descripti Please w MiniPod Remote MiniPod Remote MiniPod Remote	on alt while we configure the network GPS101G - MAC Address 0x13A200418F84E8, Serial No: MT043 AT Command Response Received GPS101G - MAC Address 0x13A200418F7612, Serial No: MT041 AT Command Response Received GPS101G - MAC Address 0x13A2004185F10A, Serial No: MT031 AT Command Response Received						
me 10.48:28 10.48:22 10.48:22 10.48:22 10.48:22 10.48:22 10.48:22 10.48:22 10.48:22	Descripti Please w MiniPod Remote MiniPod Remote Please w	on at while we configure the network GPS101G - MAC Address 0x13A200418F84E8, Serial No: MT043 AT Command Response Received GPS101G - MAC Address 0x13A200418F7612, Serial No: MT041 AT Command Response Received GPS101G - MAC Address 0x13A2004185F10A, Serial No: MT031 AT Command Response Received at while we configure the network						
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The software must be restarted after initial configuration to ensure correct operation

Once the above process has completed, the software must be shut down and then restarted to ensure all connected pods are set up correctly for reliable operation.

The MiniPod receiver software will go through a network configuration process you should not make changes until this is complete.

The following message will be displayed in the system messages.

14:18:04 MiniPod network configuration completed



Normal Operation

Each time the software is launched, the system will allow any connected pods to stabilise RF data transmissions, which may initially result in checksum errors. Once all the connected pods have stabilised, the network will be configured. Information will be displayed in the message window to confirm this.

Pod List

This pod list area will display data and statistics from any pod currently connected to the network. The following information is displayed for each connected MiniPod.

<u>Model</u>

The model number of the connected MiniPod.

<u>Serial</u>

The serial number of the connected MiniPod.

<u>Data</u>

The data message(s) received from the connected MiniPod.

ID

The ID number that will be prefixed to the selected MiniPod's data, sent out of the serial port and/or over ethernet

<u>ID On</u>

If selected, the ID will be prefixed to the output.

<u>Diff. On</u>

If selected, and differential corrections are being received, the corrections will be transmitted to the seleced MiniPod's GPS receiver to improve positional accuracy.

<u>Port</u>

The name of the output serial port that the selected pods data will be sent to. The data output baud rate is fixed the same across all ports and can be configured from the options menu



<u>Errors</u>

The percentage of data messages received from the connected MiniPod that were invalid.

Extended Info

The Pod List information can display extra information, by selecting 'Extended Info' from the 'Tools' menu. If selected, three extra columns will be displayed for each connected pod.

101G

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201G with Inclinometer I/P add on.

C MiniPod	Receiver										10		3
File Rec	eiver Tools Help												
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~ Serial	1022056												
GP5301G	\$6PGGA, 110634-00, 5235-5998532, N, 00142, 4160603, E, 4, 31, 0, 5, 1, 5271, M, 46-5870, M, 0, 2, 0000 **E	0	121	N/A	+	0.00%		0 0.2.25	ASTERX-HD	4.17.1 229		11:40:	59
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× Serial	1022057												
GP5303G	\$3PGGA, 110634.00, 5235.5998090, AL00142.4168019, E, 4, 21, 0.7, 1.4728, M, 46:5870, M, 3.0, 3000*40	0	0	N/A	4	8.00%		0 0.2.25	ASTERIX-MIS	4.12.1 220	INC-3016	11-40	59
12953016	#9000.0.001-0.000.*#	1.0	101-10	10/4	100	10.00%		0.0.7.75	ACTERX ACT	4.12.1.220	PIC-2010	11-40	100

Note: Add on only interrogated at RFR-101G initialisation, therefore re-start software to initialise Inclinometer add on powered on with RFR-101G software running.

Bad

A count of invalid messages received from each connected MiniPod.

F/W Rev

The firmware revision running on the connected MiniPod.

GPS Module

The fitted module model number will be displayed



<u>GPS REV</u>

The current installed firmware on the GPS module will be displayed.

<u>Last Error</u>

The time of the last invalid message received from the connected MiniPod.

Modifying MiniPod Configuration

To configure output options, 'double click' on the required MiniPod in the Pod List. Alternatively, highlight the MiniPod in the pod list and press the 'Edit Selected Pod' on the toolbar.



🏀 Configure Pod		_		×
Port N/A V ID	DDOn		Oł	K
			Can	cel
2				

The GPS data received from each MiniPod may be sent out of either the same, or differentserial ports, as specified by the user. If the same serial port is specified for more than one pod, an ID (selected by the user) may be prefixed to the GPS data transmitted. This enables identification of the MiniPod that the GPS data originated from. The ID is also prefixed to the UDP data transmitted.

System Message Area

The system will display various informational warning and errors messages in this area.



BCN-201G INC Tare Function

The BNC-201G allows the user to connect a perpiheral, the INC-201G inclinometer supports a remote tare function to allow the user to soft reset the values.

Right click on the INC-201G to enable the context menu -

Vertical Sector Sector Pod Liet 100 Drb Pert: 1 Y Sector 100 Drb 100 Drb Y Sector 100 Drb	
Serial 1022056 ID DO Pert I CPS2016 SCPRGA, 110501.00, 5225.9998512, N, 00142.4160689, E, 4, 29, 0.6, 1.4969, M, 46, 9870, M, 0.2,0000*42 0 IV N/A ~ CPS2016 SCPRGA, 110501.00, 5225.9998512, N, 00142.4160689, E, 4, 29, 0.6, 1.4969, M, 46, 9870, M, 0.2,0000*42 0 IV N/A ~ 0 CPS2016 SCPRGA, 110501.00, 5225.9998054, N, 00142.4168976, E, 4, 21, 0.7, 1.4991, M, 46, 9870, M, 2.0,0000*40 0 N/A ~ 0 CPS2016* SPCGA, 110501.00, 5225.9998054, N, 00142.4168976, E, 4, 21, 0.7, 1.4991, M, 46, 9870, M, 2.0,0000*40 0 N/A ~ 0 CPS2016* SPCGGA, 110501.00, S Set Tare 0 N/A ~ 0 Setial 1022058 Chear Tare 10053, E, 4, 21, 0.7, 1.4981, M, 46, 9870, M, 2.0,0000*44 0 V N/A ~ Mead Tare 10053, E, 4, 21, 0.7, 1.4981, M, 46, 9870, M, 2.0,0000*44 0 V N/A ~ The excitation Deferential Data Serial Port Opened - COM15 Deferential Data Serial Port Opened - COM15 T T	
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✓ Serial: 1022056 GP52010 60P6GA, 110301.00, 5235.5998513, N, 00142, 4160689, E, 4, 29, 0.6, 1.4968, M, 46, 9970, M, 0.2,0000°42 0 ✓ N/A ✓ GP52010 60P6GA, 110501.00, 5235.5998054, N, 00142, 4169976, E, 4, 21, 0.7, 1.4891, M, 46, 9970, M, 2.0,0000°40 0 N/A ✓ GP52010° \$0P60D, 0.002, -0.00 Set Tare 0 N/A ✓ ✓ Serial: 1022058 Clear Tare 4063, E, 4, 21, 0.7, 1.4991, M, 46, 9870, M, 2.0,0000°44 0 ✓ N/A ✓ me Description Read Tare 4063, E, 4, 21, 0.7, 1.4991, M, 46, 9870, M, 2.0,0000°44 0 ✓ N/A ✓	riors
GPS2010 BGPGGA, 110501.00, 5225.9998512, N, 00142, 4160689, E, 4, 29, 0.6, 1.4969, M, 46, 9970, M, 0.2, 0000*42 0 V N/A ~ 0 GPS2010 9GPGGA, 110501.00, 5235.99980542, N, 00142, 4169976, E, 4, 21, 0.7, 1.4991, M, 46, 9970, M, 2.0, 0000*40 0 N/A ~ 0 GPS2010* 9GPGGA, 110501.00, S235.9998054, N, 00142, 4169976, E, 4, 21, 0.7, 1.4991, M, 46, 9970, M, 2.0, 0000*40 0 N/A ~ 0 GPS2010* 9GPGGA, 110501.00, S235.9998054, N, 00142, 4169976, E, 4, 21, 0.7, 1.4991, M, 46, 9970, M, 2.0, 0000*40 0 N/A ~ 0 GPS2010* 9GPGGA, 110501.00, S235.9998054, N, 00142, 4169976, E, 4, 21, 0.7, 1.4991, M, 46, 9970, M, 2.0, 0000*40 0 N/A ~ 0 GPS2010* 9GPGGA, 110501.00, S Set Tare 10053, E, 4, 21, 0.7, 1.4991, M, 46, 9970, M, 2.0, 0000*44 0 N/A ~ 0 GPS2010* 9GPGGA, 110501.00, S Read Tare 10053, E, 4, 21, 0.7, 1.4991, M, 46, 9970, M, 2.0, 0000*44 0 N/A ~ 0 M1200334 Differential Data Serial Port Opened - COM15 1016***********************************	
GP5201G 9GP4DT,266.312,T*37 0 N/A - 0 Serial: 1022057 9GP6GA,110501.00,5235.9990054,N,00142.4189976,E,4,21,0.7,1.4891,M,46.9870,M,2.0,0000*40 0 N/A * 0 GP5201G* 9GP6GA,110501.00,5235.9990054,N,00142.4189976,E,4,21,0.7,1.4891,M,46.9870,M,2.0,0000*40 0 N/A * 0 Serial: 1022058 GP5201G SGP6GA,110501.00,5 SetTare 0 N/A + 0 Serial: 1022058 Clear Tare 4053,E,4,21,0.7,1.4981,M,46.9870,M,2.0,0000*44 0 N/A + 0 Read Tare 4053,E,4,21,0.7,1.4981,M,46.9870,M,2.0,0000*44 0 N/A + 0 N/A Fead Tare 4053,E,4,21,0.7,1.4981,M,46.9870,M,2.0,0000*44 0 N/A + 0 Read Tare H053,E,4,21,0.7,1.4981,M,46.9870,M,2.0,0000*44 0 V N/A + 0 N/A Defeoration Setial Fort Opened - COM15	.00%
✓ Serial: 1022057 CP52010* \$GPGGA, 110501.00, 5225, 5998054, N, 00142, 4168976, E, 4, 21, 0.7, 1.4891, M, 46, 9870, M, 2, 0, 0000*40 0 N/A >	.00%
GPS2010* \$GPGGA, 110501.00, \$2255, \$998054, N, 00142.4166976, E, 4, 21, 0.7, 1.4891, M, 46, 9870, M, 2.0, 0000*40 0 N/A K GPS2010* \$FR0DD, -0.002, -0.00 Set Tare 0 A/A K Clear Tare Clear Tare 0 N/A K 0 GPS2010* \$GPGGA, 110501.00, \$2058 Clear Tare NOS3, E, 4, 21, 0.7, 1.4981, M, 46, 9870, M, 2.0, 0000*44 0 N/A K GPS2010* \$GPGGA, 110501.00, \$ Read Tare N/A K 0 N/A K 0 Ne Description Description N/A Description N/A K 0 N/A K 0	
GP 52016* Set Tare 0 N/A - 1 Serial: 1022058 Clear Tare 4063, £, 4, 21, 0.7, 1.4981, M, 46.9870, M, 2.0,0000*44 0 N/A + 0 Read Tare 4063, £, 4, 21, 0.7, 1.4981, M, 46.9870, M, 2.0,0000*44 0 N/A + 0 me Description 0 N/A - 0 N/A + 0 12:03:34 Differential Data Serial Port Opened - COM15 - 0 - 0 - 0 - 0	00%
Servisit 1022058 Servisit 1022058 GPS2010 \$GPGGA, 130501.00,5 Clear Tare Read Tare 4063,8,4,21,0.7,1.4981,M,46.9870,M,2.6,0000*44 0 ☑ N/A ← 0 me Description 0 Image: Service Committee Com	00%
Citizer same Read Tare H063,E,4,21,0.7,1.4981,M,46.9870,M,2.6,0000*44 0 N/A ++ me Description M12.03.34 Differential Data Serial Port Opened - COM15	
me Description (12.03.34 Differential Data Serial Port Opened - COM15	00%
12:03:34 Differential Data Serial Port Opened - COM15	



Menu



<u>File</u>

The pod configuration for the currently connected pods can be saved to a file. The saved settings include ID, ID On, Diff. On and Output Port. This saved file can then be recalled for future operations.

<u>Receiver</u>

The serial port that the receiver is connected to can be selected. However, the correct receiver serial port should be automatically selected on start up.

<u>Tools</u>

- Get ID will call all the identification details from the connected mini pods and populate the Pod list.
- Clear Error counts will reset the error details located in the pod list.
- Configure Network will set the relevant delays for the MiniPod(s) that are connected.
- Extended info toggles the extra pod list column on/off
- Options will take you into the program options menu as explained on the following page.

<u>Help</u>

About will bring up the following menu which shows the current software version of the application followed by the serial number of the RFR-101G and Network Port that it is broadcasting across (if enabled). The link at the bottom will take you to the applied acoustic website where contact details for help and support can be found.



About MiniPod Receiver

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underwater technology

MiniPod Receiver

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Software Version V2.2.1.0

Configuration

Serial No : 0101010 Network Port : 17003

Applied Acoustic Engineering Ltd

ОК



Options

🏀 Options	-	
Differential Corrections (In)	WiFi Channel Selection Current Operating Channel 12 ~	OK Cancel
Baud Rate 230400 V	Networking UDP Port 17003 Broadcast Enabled	
Parity None ~ Stop Bits One ~	Serial Output Baud Rate 230400 V	
Interval 2 MSM Message Number		
○ 1 ○ 2 ○ 3 ● 4 ○ 5 ○ 6 ○ 7		

Differential Corrections

The RFR-101G is able to send the MiniPod(s) differential corrections in RTCM or CMR format to improve their positional accuracy.

Comport settings can be amended to reflect which port differential corrections are being received on the PC. Select the correct format and check the enabled box to enable transmission of corrections.

When Show Events is ticked the log window will display the RTCM message sent as below.

Time	Description	^
12:07:33	RTK 1005 Sent	
12:07:33	Differential Data Serial Port Opened - COM15	
12:07:35	RTK 1074 Sent	
2 12:07:35	RTK 1084 Sent	
0 12:07:35	RTK 1094 Sent	
3 12:07:35	RTK 1124 Sent	
0 12:07:35	RTK 1230 Sent	
2 12:07:35	RTK 1005 Sent	
		Ŷ
<		2
COM13,2304	0	



Within the GGA message the positional quality can be monitored to provide feedback that the corrections are being applied by the MiniPod(s).

- 5 indicates RTK Float and corrections are being applied, standard 101G accuracy.
- 4 indicates RTK Int and corrections are applied with the position converged.
 (101G RTK Option required, 201G Standard.)
- 2 SBAS corrections.
- 1- standalone GPS.

🖲 MiniPod Receiver		- 🗆 X
File Receiver To	ols Help	
i 🚰 🔚 🥸		
Configuration		
Pod List		
Model Serial	Data	ID ID On Port Errors
GPS101G MT015	\$GPGGA,142053.20,5235.55524129,N,00142.45161309,E,5,21,0.6,14.178,M,46.861,M,2.2,0000*74	0 🗌 N/A 🖌 0.20%
	5 in th	ne GPGGA string shows that
	corre	ctions are being used.

RTK Message Filter Options

In addition to setting the MSM message type / group to send to the MiniPods the user can select individual RTCM message IDs to filter out and not send to the pods using the Ignore list function and Send All list functions. When using these functions enable show events to monitor the messages and status. The user should only disable messages not required for the local area.

🖲 MiniPod Receiv	/er		
File Receiver	Tools Help		
2 🖂 🔁 🚵	Get ID's		
: 💶 🧠	Clear Error Counts		
Configuration	Configure Network		
Pod List	Extended Info		
Model Ser	RTK 🕨	lgnore List 🛛 🕨	Add ID
GPS101G MTC	Options	Send All List 🕨	Remove ID 5.(
			List Contents
			Clear List



🖲 MiniPod Receiv	/er			
File Receiver	Tools Help			
2 🗖 🚵	Get ID's			
: 📁 🗖 👋	Clear Error Counts			
Configuration	Configure Network			
Pod List	Extended Info			
Model Ser	RTK 🕨	Ignore List	•	
GPS101G MTC	Options	Send All List	►	Add ID 2.
				Remove ID
				List Contents
				Clear List

Adding a message to the ignore list:

10000	14111 (A)	21 JULY						
File Reco	eiver To	als Help						
2	12							
Conference interest								
							_	_
Pod Litt		The second s			1000	111		-
Model	Serial	Deta		10.	ID ON	Port	-	Errors
GP5101G	MT015	#GPGGA.152510.20.5235.56003547.N.00142.44433834.E.5.18	0.8.6.745.M.46.861.M.2.2.0000*41	0		N/A	+-	0.05%
			1230 OK	Car	icel			
Time	Description	an .						
15.25.06	RTK 105	A Sert						
3 15:25:06	RTK 11	l4 Sent						
3 15.25:06	ATK 12	0 Sent						
the set of the set	RTK 10	6 Sent						
10.25/06	CONT. 1.00	A Count						
15.25.05	PIN 19	e pere						
15.25.08	ATK 10	W Sent						
15.25.08 15.25.08 15.25.08 15.25.08	RTK 10 RTK 10	4 Sent 4 Sent 4 Sent						
15.25.08 15.25.08 15.25.08 15.25.08 15.25.08 15.25.08	ATK 10 ATK 10 ATK 10 ATK 10	4 Janu 14 Sent 14 Sent 15 Sent						

Events show message 1230 not sent to MiniPod(s).

		Add ID Message ID 1230 added to Ignore I	×
Time	Description		
15:26:53	RTK 1084 Sent		- 11
15/26:53	RTK 1024 Sent	OK	
15:26:53	RTK Memage lonore = 1230	1	-
15,26.53	RTK Message Ignore - 1230		
15/26.53	RTK Message Ignore = 1230		
10.30.00	DTY 1005 Card		



WiFi Channel Selection

The WiFi channel selection box will selected as channel 12 default this may be amended in order to change the frequency band of operation depending on the environment. The below table shows the frequencies of operation;

Decimal	Hex	Frequency	SC mask	WiFi Conflict
11	0x0B	2.405GHz	0x0001	Overlaps Ch 1
12	0x0C	2.410GHz	0x0002	Overlaps Ch 1
13	0x0D	2.415GHz	0x0004	Overlaps Ch 1
14	0x0E	2.420GHz	0x0008	Overlaps Ch 1
15	0x0F	2.425GHz	0x0010	Overlaps Ch 6
16	0x10	2.430GHz	0x0020	Overlaps Ch 6
17	0x11	2.435GHz	0x0040	Overlaps Ch 6
18	0x12	2.440GHz	0x0080	Overlaps Ch 6
19	0x13	2.445GHz	0x0100	Overlaps Ch 6
20	0x14	2.450GHz	0x0200	Overlaps Ch 11
21	0x15	2.455GHz	0x0400	Overlaps Ch 11
22	0x16	2.460GHz	0x0800	Overlaps Ch 11
23	0x17	2.465GHz	0x1000	Overlaps Ch 11
24	0x18	2.470GHz	0x2000	Overlaps Ch 11
25	0x19	2.475GHz	0x4000	No Conflict
26	0x1A	2.480GHz	0x8000	No Conflict

<u>Networking</u>

This section enables the toggling on/off of broadcasting across Ethernet as well as allowing the UDP Port to be changed.

The checkbox must be ticked to enable broadcasting.

Serial Output

The baud rate for the serial output can be selected here, please make sure that the baud rate is suitable for the data speed.



End of Life Recycling / Disposal



Within the UK, all electronic components and batteries must be taken for separate collection at the end of their working life under the Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 and Waste Batteries and

Accumulators Regulations 2009 respectively. The AAE Technologies Ltd group (AAE Tg) of companies as UK manufacturers will responsibly dispose of any returned end of life AAE Tg components/batteries through registered/approved recycling schemes. In order to prevent uncontrolled waste disposal and promote recycling, please contact Technical Support for a RMA number and return any end of life items (if safe to do so) carriage paid by the sender to our UK head office.

Applied Acoustic Engineering Limited is a leading company in the design and manufacture of a wide range of subsea navigation and positioning products, and marine seismic survey equipment.

The extensive product range includes the innovative USBL tracking system, Easytrak, a variety of positioning and release beacons and selsmic sub-bottom profiling equipment for offshore geotechnical and seabed analysis.

All products use acoustics, underwater sound waves, in location, positioning, navigation and data acquisition applications.



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