



GONIOMETER 2 RXG-234 ARGOS Goniometer / Direct Receiver USER MANUAL

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1 Highlights

The CLS Goniometer is a very highly sensitive direction finder that provides the signal direction as well as an indication of the signal power of an Argos transmitter for field recovery. It is fully compatible with:

A2: Argos-2 low data rate transmitters

A3/ZE: Argos-3 and Argos-3-ZE low data rate transmitters

VLD-A4: Argos-4 very low data rate transmitters

It can be used with two types of antenna:

- The AXG-234 Goniometer antenna
- Any BNC (Bayonet Neill-Concelman) antenna tuned for the correct frequency.

Mounted with the Goniometer antenna (AXG-234), the RXG-234 can be used as a direction finder as well as direct receiver. Depending on the Goniometer antenna altitude, the Argos platform transmission power and the environmental conditions, the Argos signal can be received by the RXG-234 from a few meters up to more than 100 km.

With a BNC antenna, the RXG-234 can only be used as a direct receiver. In this configuration, the Argos signal can be received by the RXG-234 from a few meters up to more than 100 km , depending on the RXG-234 altitude, the antenna size, performance, and power output of transmitters.

In direct reception mode, You must know (from manufacturers) the message format and how are encoded the GPS latitude/longitude into it in order to setup this information into the RXG-234. In this mode GPS positions of the platform can be displayed directly on the Goniometer if the two conditions below are satisfied:

- the Argos platform is equipped with a GPS receiver,
- the message is not encrypted, and the latitude and longitude are coded simply (sign bit + decimal degrees)

In this case, received Argos messages are instantaneously decoded by the RXG to display the latitude/longitude contained into the message. If GPS of the RXG is ON, it will also calculate the exact distance in meter and heading to the transmitter. If you are using the AXG-235 Goniometer antenna , you can still access the signal direction information changing to Goniometry mode (shortcut to switch mode by clicking on the central green cross).

The CLS Goniometer is an autonomous device with up to 50 hours of operation. All messages received for platforms declared as favorite are recorded into the internal memory and downloadable later with the Argos Gonio Manager Software.

GONIOMETER ANTENNA RECOMMENDATIONS

- Install the Argos Goniometer antenna as high as possible
- Don't hold the antenna with your hands, only with the provided support
- Keep the antenna vertical during bearings searches
- Place the white antenna pointer, at the base of the antenna, in your movement direction
- Wait for at least 2-3 collected signals before using a direction for the first location



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- Be careful of incorrect measurements in noisy environments: multi path effects (cf Recommendation for Goniometry document)
- Don't go directly in the bearings' direction, use a spiral technique to get closer :



PRECAUTION OF USE

- Store the Goniometer in a dry place with temperature from -20°C to +50°C
- When charging the battery through USB, ensure that room temperature is from 0°C to 45°C
- Do not open the Goniometer: doing so will void the warranty
- Use a microfiber cloth to clean the screen: ensure the Goniometer is off, and do not use alcohol or soap detergent
- In case of salt water spray, lightly rinse in fresh water then dry with a microfiber cloth
- The battery should be fully charged before using the Gonio
- Do not bend the Goniometer antenna cable < 5cm radius, as it will affect the signal to the measurements



2 Product overview

Please ensure that all items listed in this section are in the case and have not been damaged during shipping.

2.1 List of supplies

Your Goniometer is delivered in a hard case:



Goniometer hard case

1	Goniometer antenna with 5 meter cable (AXG-234)	
2	Gonio receiver (RXG-234)	
3	Universal main power converter – fast charging	
4	USB cable for PC connectivity & charging	
5	Antenna mount/support	
6	BNC small antenna (for direct reception only)	

In addition, an USB key is also provided with the following documents and software:

- ReadMe.txt
- Recommendations for using the RXG-234 goniometer ENG.pdf
- GONIOMETER-2 RXG-234 Installation and User Manual- ENG vvv.pdf (vvv : version number)
- Argos Gonio Manager xxx.zip (windows) and xxx.tar.gz (Linux) (xxx : version number)



2.2 General view of the receiver



Top view



2.3 Turn on/off and main screens

To turn ON/OFF the Goniometer, press the right Navigation button close to the "ON/OFF" indicator until you hear a beep.

There are 4 main screens. They are given below in order of appearance after turning ON:

- RECEPTION screen (default screen at turn ON)
- FAVORITES menu
- RECEIVING PTT menu
- OPTION menu





RECEPTION screen

B1		RECEIVI	NG PTT	H	, 🗩
		Erase	eList		
	20/03/03	12:47:06	OxFBE655F	H2	
	20/03/03	12:47:05	0x6B72796	A3	
	20/03/03	12:47:03	0xFBF2998	R5	
	20/03/03	12:47:00	0x688D84C	H2	
	20/03/03	12:46:56	0x0905D13	A5	
	20/03/03	12:46:53	0xFCB134C	A5	
111	1		line.		

FAVORITE menu



OPTIONS menu

To go from one screen to another, press the Navigation button under the "NEXT" or "PREV" labels on the screen. This is the same instruction for the "INFO" label on the RECEPTION screen.

You can navigate through the items in a menu by pressing the Arrow buttons (left, right, up and down).

To select an item in a menu, press the Validation button (green check button) in the middle of the control pad.

Details of the screens are given in Chapter 5.

RECEIVING PTT menu



3 Antenna installation procedures

3.1 Goniometer antenna

1. Insert one of the two cables into the opening in the antenna mount.





2. Then insert the second cable.



3. Screw the mount into the antenna.





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You may also pass the cables through the hole on the side of the antenna mount.



4. Connect both cables to the receiver.



<u>Note:</u> The white pointer on the receiving antenna corresponds to the reference azimuth (0°) for the bearings received.





Important: keep the antenna vertical and avoid touching the white part of the antenna with your hands to prevent interference when the Goniometer is receiving.

3.2 BNC antenna

For direct reception applications, connect your BNC Argos antenna as shown in the figure below.



Goniometer RXG-234 with BNC antenna



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4 Quick start guide

Here is a quick start procedure to setup and get signals from an Argos platform through your Argos Goniometer in:

- Goniometer mode
- Direct reception mode

Information on both modes will be given in the procedure below.

The procedure is:

- 1. mount the antenna
- 2. power ON the Goniometer
- 3. setup the configuration
- 4. add your ARGOS platform as a favorite
- 5. choose your platform from the favorite platforms list
- 6. check results displayed in the RECEPTION screen
- 7. follow the indicated direction to recover the transmitter (using a spiral technique to get closer)

4.1 Mount the antenna

Mount and connect the Goniometer antenna or the BNC antenna according to section 3.1 or 3.2.

4.2 Power ON the equipment

Power ON your Goniometer by pressing the Navigation button close to the ON/OFF indicator (red circle on the picture below) until you hear a beep. After the initialization process, the RECEPTION screen will appear.



<u>Note:</u> When the Goniometer is switched on for the first time, no information is displayed on the RECEPTION screen, in the FAVORITES PLATFORMS menu or in the RECEIVING PLATFORMS menu.



4.3 Setup the configuration

Configure the Goniometer with the parameters given in the table below, according to the application of the Goniometer.

<u>Parameter</u>	Goniometer (Goniometer antenna)	Direct Reception (Goniometer or BNC antenna)
<u>GPS</u>	ON (can be OFF)	ON
Direction mode	Gonio or Goniometry (last firmware)	GPS or MSG Decoding (last firmware)
Antenna mode/type	Gonio/ AXG234 (last firmware)	Direct reception or Gonio/ AXG234 (last firmware)

Notes:

Goniometer mode is used for tag recovery and actively tracking tags using direction of signal. Direct Reception mode is used for transmitters where we can decode the GPS data information sent inside Argos message. Please confirm with your tag manufacturer if they have provided you or CLS with the decoding scheme BEFORE using the Direct Reception mode (declaration of MSG Format is necessary using the software).

Go to the OPTIONS menu by pressing the Navigation button under the NEXT label on the RECEPTION screen, the FAVORITE PLATFORMS menu and the RECEIVING PLATFORMS menu.



RECEPTION screen

FAVORITE PLATFORMS menu



RECEIVING PLATFORMS menu

OPTIONS menu

Enter the SETUP screens by selecting the SETUP option, using the Arrow buttons and the Validation button.



B1	SETUP 1/2 🔧 🗯
Backlight: Of	Date(YY/MM/DD): 20/3/3 UTCHour(HH:MM): 12:48 BUToEavorite: OFE
Acquisition G GPS: XX.XXX Declination:	PS: On Distance: Km Direction Comp:0"
CompassCal	bration
PREV	Temp:26°C Vbat:4122mV

On the first screen of the SETUP menu, turn the Goniometer GPS ON by using the ARROW buttons and the Validation button.

Go to the second screen of the SETUP menu by pressing the Navigation button under the "NEXT" label.

Configure the direction and antenna mode parameters.

67 SETUP2/2 2 5	81 SETUP2/2 ×0 =
Direction mode: Gonio	Direction model Goniometry
Antenna position: Up	Antenna type: AXG234
Cable Length 5m	Antenna position: Up
Antenna mode: Direct Reception	Cable lenght: 5m
Proximity: UFF	Proximity: OFF
Direction indicator: Huto (Lompass/GPS)	Direction indicator: Auto (Compass/GPS)
ArgosBand: 87 [401.69-401.61]	AngosBand: B1 [401.61-401.69]
PREV	PREV

Right Image shows renaming of parameters for latest firmware > v2.1.4

Configure the Argos Band where your beacons(s) is/are transmitting. If you have any questions regarding what band your tag is transmitting, you can test the tag prior to deployment or confirm with your tag manufacturer.

BIT SETUP2/2	H.	
Direction mode: Gonio		
Antenna position: Up		
Cable Lenght: 5m		
Antenna mode: Direct Reception		
Proximity: OFF		
Direction indicator: Auto (Compass/GPS)		
ArgosBand: 87 [401.69-401.61]		
PREV		

The Selected Band is always displayed on the top left corner in all screens.



Validate the setting by pressing the PREV button and save the parameters by pressing the Navigation button under the "YES" label. You will be taken back to the Screen 1 of the SETUP menu.

4.4 Compass feature

It is possible to have an internal compass activated and thus to have the magnetic north displayed on the reception screen.

The activation is performed in the page 2 of the setup menu through the "Direction indicator" option by choosing Auto (compass/GPS) or Compass. The option "Fixed" means the Compass will not activated.

Auto (compass/GPS) mode enable an automatic switch to GPS compass information instead of magnetic compass as soon as RXG234 speed is more than 20km/h (ie: inside car driving the magnetic compass is not working correctly due to speed and metallic environment but GPS compass is correct)

B1	SETUP 2/2	* =
Direction mode:	Gonio	
Antenna positio	n: Up	
Cable Lenght: 51	Tì	
Antenna mode: [Direct Reception	
Proximitu: OFF		
Direction indicat	or: Auto (Compass	(/GPS)
ArgosBand: B1	[401.69-401.61]	
PREV		

4.5 Compass calibration feature (new feature)

If you are too close to a magnetized surface, you should use the "Compass Calibration" feature on the SETUP $\frac{1}{2}$

B1	SETUP 1/2 🔧 🗯
Fuelos OFF	Date(YY/MM/DD): 20/3/3
Contraste: 8	All To Favorite: OFF
Acquisition GPS: On	Distance: Km
GPS: XX.XXX Declination: 0*	Direction Lomp: U
Compass Calibration	
PREV Temp	0:26°C Vbat:4122mV NEXT

Follow the instructions. The procedure to calibrate the Goniometer is intuitive and well described in the screens below.





4.6 Select your ARGOS platform as a favorite

The *RECEIVING PTT* screen displays all Argos transmitters whose signals have been received, in real time. Select your Argos platform in the list by using the arrows and the validation button. (*Note: Only hexadecimal Argos IDs are displayed; you may get the hexadecimal ID of your Argos platform from your ArgosWeb account:*

A -> Platforms or ask your User Services Group (<u>useroffice@cls.fr</u> or <u>userservices@clsamerica.com</u>).

The detected modulation is indicated for each ID: A2 / A3 / ZE

Note: If a beacon is transmitting two modulations, two lines will be displayed and they are considered as two different platforms.



B1	RECEIVI	ING PTT	H	
	Eras	eList		
20/03/0:	3 12:47:06	OXFBE655F	R2	
20/03/03	3 12:47:05	0x6B72796	A3	
20/03/03	3 12:47:03	0xFBF2998	SH	
20/03/03	3 12:47:00	0x688D84C	H5	
20/03/03	3 12:46:56	0x0905D13	A5	
20/03/03	3 12:46:53	0xFCB134C	A2	
21135	- Martin	-		

Once your Argos platform is selected you may access the FAVORITES PLATFORMS screen setup:

FAVORIT	TES PLATFORMS
Label	Repeat period: 1m0s FrequencyBand: B1 Modulation Type: B2 FrequencyNode: Wide
GTISSFormat. Yes CLSHRTYPE2	Deleteplatform: No
TINCEL	VAUD

We advise to setup the Label as the Argos decimal ID.

Repeat period: this is not mandatory, but the Goniometer will take this information if specified. If not specified, the Gonio will calculate the repetition period of the beacon with the delta time of the received messages.

Frequency Band: The band where was detected the Message/Platform

Frequency Mode:

- Wide (default) all the defined band will be listened by the Goniometer
- Narrow the Goniometer listens only to the detected frequency (specified bellow when selected). To be used in an environment with noise or many nearby transmitters and focusing on only one specific platform.

Once your favorite Argos platform details are setup, click on **VALID** to save.

4.7 Choose among the favorite platforms

Go to the *FAVORITE* screen, select your Argos platform in the list and click on **PREV** to access the *RECEPTION* screen.



B1	FAVORITE	*, ***
	<u> </u>	
	0x0005305-A2-B1	
	0xE2D9700-A2-B1	
	0xEBF9626-A2-B1	
	0x38B715F-A2-B1	
	0x08FB135-A2-B1	
	0xCEF85BE-A2-B1	
	<10x0905000-A2-B1	
DREW		NI-MAIL

For each Favorite ID, the detected modulation and frequency band is displayed.

Favorite IDs that are not in the currently selected band are "transparent" (meaning that they cannot be received). If you select it, the Goniometer will ask to switch band.

4.8 RECEPTION screen

Platform information can be displayed on the RECEPTION screen in two different ways:

Goniometer mode and Direct Reception mode.

It can be changed:

Into thescreen 2 of SETUP menu: "direction mode "parameter

Using the central green button (instantaneously switch from one mode to other)



Goniometer mode display Direction is provided relative to the Antenna White pointer





Direct Reception mode display (Direction is provided relative to the North and based on lat/long received)

4.9 The Argos platform recovery can start

Goniometry Mode

- A. Place the white pointer of the receiving antenna toward your reference azimuth (0°). For terrestrial searches we suggest placing the white pointer toward the North, or for recovery at sea, place the white pointer on the bow axis.
- B. Wait for at least 3 received signals before you start to move in a direction.
- C. After 3 signals, you get an average bearing direction and signal strength.
- D. Move forward with an angle from 30° to 60° with the average bearing direction.
- E. When the signal strength gets higher, stop moving and wait for at least 3 additional bearings to be received. Then repeat actions from C to E until you recover your Argos platform.

Direct Reception/ MSG Decoding Mode

In the case of a GPS decoded platform, the distance and direction to the platform from the Gonio are displayed directly on the screen. Do not forget that the direction is given relative to the North.



5 Details of the screens

The screens are described in the following sections, in the order of appearance after turning it ON.

5.1 RECEPTION screen

To turn ON the Goniometer, press the ON/OFF button until you hear a beep. When initialization is complete, the *RECEPTION screen* is displayed:



Reception screen (direction finder display)

This screen allows you to monitor the selected platform. The information displayed on the screen is as follows:

(1)	Battery level
(2)	Goniometer internal GPS status
(3)	Platform hexadecimal ID
(4)	Estimated time to next reception (negative time means the reception is overdue)
(5)	Received signal strength (an indicator of distance)
(6)	Reference azimuth (white pointer at the bottom of the antenna)
(7)	Direction from the azimuth reference: 37° instantaneous direction, \emptyset 37° averaged direction
	(not shown in the above image; however, it will be in smaller size text below the 108° as
	shown)
(8)	Timestamp of the last received message
(9)	Messages received with a bad CRC (GPS Decoding mode, only displayed if CRC check is defined
	for the message format)

Press INFO (left navigation button) to display more details on the last received message.



Date 20/03/03 12:54:14 Fred 401626378 Lenght: 256 Level: -49dBm Data: 00632783 0001D00E 0538270A 88380001 70410200 0001513A 10000

Argos message information screen

This screen provides details of the most recent message received:

- **Date:** Date and time the message was received (year/month/day)
- Freq: Frequency of the received signal, in Hertz
- Length: Message length in bits, after Argos preamble (FFFE2F not included)
- Level: Level of the received power (signal strength)
- Data: Useful data contained in the Argos message (raw, undecoded message)

Pressing the RETURN button (left navigation button) takes you back to the RECEPTION screen.

5.2 FAVORITE screen

The screen below shows seven platforms that have been saved as "favorites". They can be selected using the up and down arrows on the control pad followed by pressing the validation button. Pressing the validation button will open the configuration screen for that particular ID.



Favorite Platforms management screen 1

Press the **PREV** navigation button to begin searching for the platform.



The Edit screen of the FAVORITE PLATFORMS is obtained after selecting a platform in the RECEIVING platform screen.



Favorite Platforms management Edit screen

This screen provides the following options:

- *ID Type:* Choose the ID type: 20 or 28 bits (if you are unsure, confirm with your manufacturer)
- ID Hex: ID in hexadecimal format
- Label: Set a name for the Argos platform or use the Decimal Argos ID as the label
- GPS Format: NO if no template has been set for this platform.
 - YES + Format Name if the GPS info has been defined (for Direct Reception mode). The setting of the platform is performed via PC through the USB connection (see section 6.8).
- **Repeat period:** Configure the repetition period, if known; otherwise, it will be calculated on reception.

To edit a field, select it using the arrow buttons then press the validation button. Modify the field using the up and down arrows, then press the validation button again to confirm the changes.

Once all the desired changes have been made, press the validation button to return to the Favorites screen. **5.3 RECEIVING PLATFORMS screen**

Press the **PREV** navigation button from the OPTIONS screen to go to the RECEIVING PLATFORMS screen, which displays, in real time, all transmitters whose signals have been received.



BT	RECEIVI	Ho	-	
20/03/03 20/03/03 20/03/03 20/03/03 20/03/03 20/03/03 20/03/03	Enas 12:47:06 12:47:05 12:47:03 12:47:00 12:46:56 12:46:53	EList 0x6B72796 0xFBF2998 0x688D84C 0x0905D13 0xFCB134C	A2 A3 A2 A2 A2 A2 A2	
PREV		NEXT		

Received Platforms screen

For each transmitter signal received, this menu displays the date and time the message was received (columns 1 and 2) its hexadecimal ID number (column 3) and the Modulation detected (column 4).

Select the desired platform using the arrows, and then press the validation button. This platform is now added to your favorites and can be customized.

5.4 OPTION Menu

In the main menu you will find the OPTION menu.



- 1. Select a menu using the arrows on the control pad, then press the validation button.
- 2. To return to the previous screen (OPTIONS), press the PREV navigation button.

The different menus displayed on the screen are:

OPTIONS menu

- (1) *USB menu:* to activate the USB connection (only available when connected to a PC)
- (2) *FFT menu:* to display the Argos band signals received (spectral analysis mode)
- (3) *Setup menu:* to configure the Goniometer's operating parameters
- (4) *GPS Info menu:* to display information about the Goniometer's GPS



5.4.1 SETUP menu



Setup screen page 1

Select the option you wish to change using the arrows on the control pad, then press the validation button. The setup menu is displayed on 2 pages.

On page 1, the options are:

- Audio: Activate or deactivate the beeps heard when pressing the buttons
- Backlight: Enable or disable the backlight
- Contrast: Change the contrast of the screen
- Acquisition GPS: Activate or deactivate the Goniometer's GPS
- GPS: Choose the GPS data format (decimal, degrees-minutes-seconds, degrees-minutes-decimal seconds)
- Declination: Indication of the degree to be set to compensate for the magnetic north. Set to 0° by default.
- **Compass Calibration:** This function allows you to calibrate the internal compass. You select the menu and turn the Goniometer several times on these three axes as you will do with your smartphone. The compass calibration is necessary when a magnet has been too close to the Goniometer.
- Year, Month, Day, Hour, Minute: Set the date and time Note: If the Goniometer's GPS is activated, this parameter will be automatically updated and it will be in UTC.
- **AllTooFavorite:** If ON, all receiving platforms IDs will be automatically added as favorites (up to 64 favorites limit). This allow you to record and store all Argos transmissions on a Band for any and all tags within range of the Goniometer.
- **Distance:** Select the unit of distance used (kilometer, nautical mile, mile)
- Direction Comp: Add an offset to the reference azimuth 🕰 To be left at 0°
- Temp.: Measured temperature
- Vbat: Battery voltage level



SETUP2/2 restlemmade Gonio Antenna position Up Cable Lenght 5m Antenna mode Direct Reception Proximity OFF Direction indicator Auto (Compass/GPS) ArgosBand:B1 [40169-40161]

Setup screen page 2

On page 2, the options are:

- **Direction mode:** Select GPS or Gonio Display mode:
 - Gonio: This will display the instantaneous direction of the received signal, on the RECEPTION screen. The reference for this direction is the white pointer at the bottom of the Goniometer's antenna. Note: Gonio mode is always used to recover satellite tags unless we have the GPS decoding from a given manufacturer.



 GPS (for decoded GPS platforms only): This will display differential direction between the Goniometer's position and the platform position, on the RECEPTION screen. The reference for this direction is North.

*Note that if you select direct reception in antenna mode, direction mode is always GPS





- Antenna position: Select the position of the antenna (up or down)
- Cable length: Indicate the length of the antenna cable used. By default, 5m.
- Antenna mode (type of computation to be performed):
 - Gonio: select this mode if you are using the equipment as a direction finder. The Goniometer's AXG antenna with 2 connectors must be connected for the device to function properly.
 - Direct Reception: select this mode if you are using the equipment for direct reception. Either the Goniometer's AXG antenna or the small BNC antenna can be connected.
- **Proximity:** Activate/deactivate the proximity mode (when you are very close (<100m) to the platform, this mode attenuates the signal)
- Direction indicator (activation of the compass):
 - \circ $\;$ Fixed: compass not activated (north is always on the top).



 Compass or Auto (Compass/GPS): compass activated. The principle of the two options will be described later





- Argos Band: Select the Band where your platforms are transmitting
 - o B1 [401.610-401.690]
 - o B2 [401.530-401.610]
 - o B3 [401.460-401.540]
 - o B4 [401.390-401.470]
 - B5 [401.310-401.390]
 - B6 [401.110-401.190]
 - B7 [401.010-401.090]
 - B8 [399.970-400.050]
 B0 [300.000.300.080]
 - B9 [399.900-399.980]

5.4.2 GPS INFO menu

This menu displays GPS-related information of the Goniometer when it is locked onto the GPS network.

12/02/20 15:47:22	*9
Lastreception: 13/03/30 13.47-22	
Longitude: 1.4187"	
Altitude: 135 meters	
Speed: 0 km/h	
Direction: 18"	
Nbsat: 9	
DIAN	

GPS Info menu screen

This menu displays information given by the GPS:

- Last reception: Date of the last GPS acquisition in YY/MM/DD HH:MM:SS format

- Latitude
- Longitude
- Altitude
- Speed
- Direction: GPS Heading computed by the Goniometer
- Nb sat: Number of GPS satellites within view of the Goniometer

GPS icon meanings:

GPS Activated and **Position is OK**



GPS is not Activated (go to the first Setup page if you want to activate the GPS)

5.4.3 FFT menu

The FFT menu allows you to display a graph of the spectrum once the frequency of the signal has been analyzed.



Example of FFT display

5.4.4 USB menu

Press on USB to connect to a PC. See chapter 6.





USB menu selection



6 Argos Gonio Manager (USB Serial connection)

The Argos Gonio Manager software will allow you to:

- A. Configure the Goniometer through a user-friendly setup menu
- B. Easily setup and manage (export/import) new Argos platforms list in the Goniometer as favorites
- C. Download all messages recorded and stored into the Goniometer for your favorite platforms (up to 200,000 messages), in CSV format or exported into the log file as \$NPRF frame.
- D. Automatically record all received Argos messages from any Argos tag within range in the log file while Goniometer is connected, in the (usually log_S/N.txt in data folder). \$NPR and \$NPRF format description are accessible upon request to CLS.
- E. Send direct AT Command to the Goniometer
- F. Choose a format for GPS position decoding (so GPS positions transmitted in the Argos message can be decoded, in real time, by the Goniometer). This field is only applicable to tags where we can decode the GPS from the transmitted data (confirm with your manufacturer if they have provided CLS with the decoding scheme).
- G. Add a new known GPS Format and export/import them.

📓 Argos Gonio I	Manager - 1.2 - d3b06fe					- 🗆 X
Help: 🕦 👖	COM3 - GONIO V2 - SN/0001-3960318					
Conferentian	Environment of the second second				Terminal	
Configuration	Favorites Platforms RX					
Versions					2021-12-31T10:43:11.302 DEBUG	Receive \$IP,32.0,0,00000,.0,.0,0,0,0,0,0,0,0,0,0,0,0,
Veraiona					2021-12-31T10:43:11.312 DEBUG	Send \$IP,33,*1F
					2021-12-31T10:43:11.334 DEBUG	Receive \$IP,33,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0
Connection					2021-12-31110:43:11.344 DEBUG	Send \$IP,34,*18
Control on one how		Lander Kerning Do 15			2021-12-31110:43:11.349 DEBUG	Send ¢ID 35 *10
Serial number	E 20/0001-2320.318	Application version 2.0.15			2021-12-31T10:43:11.388 DEBUG	Receive \$IP.35.0.000000.0.000.0.0.0.0.0.0.0.0.0.0.0
Conio version		Bootloader version			2021-12-31T10:43:11.395 DEBUG	Send \$IP,36,*1A
Gonio version	60/40/12	bootdedder version 2:0:2			2021-12-31T10:43:11.414 DEBUG	Receive \$IP,36,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0,
Mode		FPGA version 2.0.16			2021-12-31T10:43:11.423 DEBUG	Send \$IP,37,*1B
					2021-12-311 10:43:11.448 DEBUG	Receive \$1P,37,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0,
					2021-12-31110:43:11.434 DEBUG	Receive \$1P.38.0.0.00000.0.0.0.0.0.0.0.0.0.0.0.0.0.
Status					2021-12-31T10:43:11.486 DEBUG	Send \$IP,39,*15
					2021-12-31T10:43:11.509 DEBUG	Receive \$IP,39,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0,
Internal GPS	Latitude INVALID Internal GPS Longitu	de INVALID	Compass Direction 183		2021-12-31T10:43:11.516 DEBUG	Send \$IP,40,*1B
					2021-12-31T10:43:11.541 DEBUG	Receive \$IP,40,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0
Temperature	24°C Voltage 4.18V Arg	os Band B1: 401.610 MHz to	401.690 MHz (A2, A3, ZE-A3)	C	2021-12-31110:43:11.548 DEBUG	Send \$IP,41,
					2021-12-31T10:43:11.579 DEBUG	Send \$IP.42
Colores Color					2021-12-31T10:43:11.602 DEBUG	Receive \$IP.42.0.000000.0.000.0.0.0.0.0.0.0.0.0.0.0
Software Setup	1				2021-12-31T10:43:11.611 DEBUG	Send \$IP,43,*18
					2021-12-31T10:43:11.638 DEBUG	Receive \$IP,43,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0,
✓ Audio	V Backlight Contrast				2021-12-31T10:43:11.642 DEBUG	Send \$IP,44,*1F
J CDS Acre	visition Apple officet 0 degrees				2021-12-31110:43:11.666 [DEBUG	Receive \$1P,44,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0
V GF5 Acqu	usidon Angle onset o degrees			V	2021-12-31110:43:11.700 DEBUG	Receive \$IP.45.0.0.00000.0.0.0.0.0.0.0.0.0.0.0.0.0.
Corrdinates t	time vy vyv ^e	▼ Distance unit km		-	2021-12-31T10:43:11.708 DEBUG	Send \$IP,46*1D
containates t	CIPC CARLON				2021-12-31T10:43:11.735 DEBUG	Receive \$IP,46,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0,
Date and time	e 31 Dec 2021 09:43:00.000			Oh Now	2021-12-31T10:43:11.737 DEBUG	Send \$IP,47,*1C
					2021-12-31T10:43:11.766 DEBUG	Receive \$IP,47,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0,
Argos Band	B1: 401.610 MHz to 401.690 MHz (A2, A3, ZE-A3)		*	All to favorites	2021-12-31110:43:11.768 [DEBUG 2021-12-21T10:42:11 707 [DEBUG	Send \$IP,48,
					2021-12-31T10:43:11.801 DEBUG	Send \$IP.49
Underson Cabo	_				2021-12-31T10:43:11.828 DEBUG	Receive \$IP,49,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0,
naruware Setup	,				2021-12-31T10:43:11.832 DEBUG	Send \$IP,50,*1A
					2021-12-31T10:43:11.919 DEBUG	Receive \$IP,50,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0
Direction Mod	de GPS 🔻 Cable length 5			\$	2021-12-31110:43:11.933 DEBUG	Send \$IP,51,
					2021-12-31110:43:11.939 DEBUG	Send \$TP.52 *18
Antenna Posi	ition HIGH * Antenna Mode GONIO			•	2021-12-31T10:43:11.967 DEBUG	Receive \$IP,52.0.0.0000000.0.0.0.0.0.0.0.0.0.0.0
Company Ma	do ALIFO X Declination 05				2021-12-31T10:43:11.975 DEBUG	Send \$IP,53,*19
Compass Moo	de Auto * Decination de				2021-12-31T10:43:11.998 DEBUG	Receive \$IP,53,0,0,00000,,0,,0,0,0,0,0,0,0,0,0,0,0,
Proximity	v mode				2021-12-311 10:43:12.007 DEBUG	Send \$IP,54,*1E
					(<u>}</u>
					Command	▶ Send
					Save config as script	te script CReload GUI
					and a sector	



6.1 Software Installation

- Unzip the software file somewhere on your computer.
- Execute the file ArgosGonioManager.bat into the unzipped folder.
- Connect your Goniometer to the PC with the USB cable.
- Turn on the Goniometer.
- Select the « USB » option to activate Serial connection.



USB menu selection



USB active (Goniometer connected to PC)



USB not active (Goniometer not physically connected to PC = cable issue)



When you connect Goniometer for the first time to your computer, Windows will automatically install required drivers and recognize the USB connection as "XERIUS RS232".



First time after turning ON goniometer, you must activate 2 times the USB on the Goniometer before the PC detect it (known issue to be corrected).

Once the Software detect the Serial connection, a "COM X" will appear on the top part of the screen. Click to connect Argos Manager to the Goniometer and retrieve settings.

🖁 Argos Gonio Manager - 1.2 - d3b06fe									
Help: 🚺 📙 COM3									
Configuration	Connect to RXG @COM3 Favorites Platforms RX								

Note that if you have several Goniometers, you can connect them in different USB port and they will be manage by the Software.

6.2 Configuring the Goniometer

Once connected, the Goniometer configuration will be retrieved and displayed in the first tab.

You can edit parameters

To configure the Goniometer (equivalent to the Setup Menu of the equipment) click on "Edit Configuration".

Settings are instantaneously saved into the gonio when you edit fields (no save button)



uels: 📭 🔟 Coulo - Coulo - 20/0001-3400318	
Configuration Favorites Platforms RX Terminal	
Configuration RX Terminal Versions Connection Con	Send \$SETUPHW, 1,0,5,0,2,06,0*20 Receive \$SETUPHW, 1,0,5,0,2,6,0*20 Send \$SETUPHW, 1,0,5,0,2,6,0*20 Send \$SETUPHW, 1,0,5,0,2,6,0*20 Receive \$SETUPHW, 1,0,5,0,2,6,0*20 Receive \$SETUPHW, 1,0,5,0,2,6,0*20 Send \$SETUPHW, 1,0,5,0,0,2,0,0*29 Send \$SETUPHW, 1,0,5,0,0,0,0*29 Send \$SETUPHW, 1,1,5,1,0,0,0,2,1,2,3,1,0,1,2,0,1 Send \$SETUPW, 1,1,6,1,0,0,0,2,1,2,3,1,0,1,2,0,1 Send \$SETUPW, 1,1,6,1,0,0,0,2,1,2,3,1,0,1,2,0,1 Send \$SETUPWSW, 1,1,6,1,0,0,0,2,1,2,3,1,0,1,2,0,1 Send \$SETUPSW, 1,1,6,1,0,0,0,2,1,2,3,1,

6.3 Favorite platforms tab

The second tab in the software will allow you to manage the favorite platforms.

Argos Gonio Manager - 1.2 - d3b06fe			· □ ×
elp: 🚺 📓 COM3 - GONIO V2 - SN/0001-3960318			
Configuration Favorites Platforms RX		Terminal	
CReload from Gonio X Delete All Image: Control of the	Platform Info Index ID @Create Argos ID 32CF926 Label UW6 GPS Format CLS LINKT Argos Band B1: 401.610 HHz to 401.69 Modulation A2 Repetition period 0 s GPS Format Info	2021-12-31T11:12:06.010 DEBUG Send \$SETUPHW, 1,0,5,0,2,0€,0*20 2021-12-31T11:12:06.007 DEBUG Receive \$SETUPHW, 1,0,5,0,2,0€,0*20 2021-12-31T11:12:06.018 DEBUG Receive \$SETUPHW, 1,0,5,0,2,0€,0*20 2021-12-31T11:12:06.138 DEBUG Receive \$SETUPHW, 1,0,5,0,2,0€,0*20 2021-12-31T11:12:11.430 DEBUG Receive \$SETUPHW, 1,0,5,0,2,0€,0*20 2021-12-31T11:12:11.430 DEBUG Receive \$SETUPHW, 1,0,5,0,2,0€,0*20 2021-12-31T11:12:11.430 DEBUG Send \$SETUPHW, 1,0,5,0,2,0€,0*20 2021-12-31T11:12:11.430 DEBUG Send \$SETUPHW, 1,0,5,0,2,0€,0*20 2021-12-31T11:12:15.180 DEBUG Send \$SETUPHW, 1,0,5,0,2,0€,0*20 2021-12-31T11:12:15.249 DEBUG Send \$SETUPHW, 1,0,5,0,2,0€,0*20 2021-12-31T11:12:15.240 DEBUG Send \$SETUPHW, 1,0,5,0,2,0€,0*20 20	20 20 20 20 20 20 20 20 20 20 20 20 20 2
Name Origin	General	2021-12-31T11:12:29.774 DEBUG Receive \$SETUPSW,1,1,6,1,0,0,0,2 2021-12-31T11:12:29.777 DEBUG Send \$SETUPSW,	1, 12, 31, 10, 12, 0,0
CLS LINKIT From CLS file CLS MARGET HR From CLS file CLS MARGET HR CRI From CLS file CLS MARGET HR CR2 From CLS file CLS MARGET LR From CLS file CLS MARGET LR CR1 From CLS file CLS MARGET LR CR2 From CLS file CLS MARGET LR CR2 From CLS file CLS MARGET LR CR2 From CLS file VEXPLINKS MRBA From CLS file WAVYOCEAN From CLS file	Name CLS LINKT Type Tracker GNSS Manufacturer CLS Description CLS Linkit Tracker Payload length 0	2021-12-31T1112:23.0780 DEBUG Receive \$EFUFW, 1,1,6,10,0,0.2 2021-12-31T1112:38.959 DEBUG Receive \$FP,11,0,0,00000,0,0,0,0,0,0 2021-12-31T1112:784.959 DEBUG Send \$FP,11,1,0,00000,0,0,0,0,0,0,0,0,0,0,0,0,0	1,12,31,10,12,0,0 ,12,31,10,12,0,0 ,12,31,10,12,0,0 ,14,10,12,10,10,10,10,10,10,10,10,10,10,10,10,10,
	Create Save	Source Script Execute script	CReload GUI



1

Will allow you to

- Add a new favorite into the list or edit existing (clicking on it).
- Export or import a list of Favorites using

Will allow you to

- Define properties of each favorite as described in chapter 4.6
- Define a GPS Format for a favorite using the scroll down list of predefined formats (3)

	No GPS Format	
GPS Format	CLS LINKIT	
	CLS MARGET HR	
	CLS MARGET HR CR1	
	CLS MARGET HR CR2	
	CLS MARGET LR	
	CLS MARGET LR CR1	
	CLS MARGET LR CR2	
	SYRLINKS MRBA	
	WAVYOCEAN	

Will allow you to

- See the list Format that is provided by tag Manufacturers and present in the software. (noted From CLS file)
- See the list of Format that were found into the Goniometer favorites but not defined in the software (noted From Gonio favorite platform)
- See the list of Format that you just created (noted From Argos Gonio Manager)
- Save the entire Format list into the Computer file for later usage or sharing (saved into Data/format.cls file)

4

Will allow you to

- Define new Format that is provided by tag Manufacturers (request support to CLS for this action)

Argos Message Format information for Direct Reception mode:

The parameters displayed during the Direct Reception mode (bearing and distance to platform) are calculated using the GPS information from the platform and the Goniometer. The GPS information from the platform is extracted from the user message by the Goniometer, and then it calculates the distance and heading comparing the message to Goniometer's own GPS position.

In order to have the format of your platform declared in the Goniometer software please contact CLS.

NOTE: If you are unsure whether or not CLS has the decoding scheme for your GPS equipped tag, please confirm with your manufacturer.

6.4 RX tab (live and recorded data)

This screen display the live feed (if activated) and let you download the data recorded into the Goniometer.

	COM3-G	DNBD V2 -	24/0001-3960318																	
figuration	Favorites P	Natforms	RX															Terminal		
UveRX 🖌	Log to file							ID Filte	r (#					CR	ad from flash	KErase flash memory	2021-12-31T12:15:37.485 DEB 2021-12-31T12:15:37.507 DEB	JG Send \$IP JG Receive	*,38, \$7P,38,0,0,00
Origin	Index	Label	Time	ld	Frequency	Direction	Band	Modulation	Level	Period	Latitude RXG	Longitude RXG	Direction RXG	Latitude payload	Longitude payload		Payload *	2021-12-31T12:15:37.517 DEB 2021-12-31T12:15:37.538 DEB	JG Send \$0P JG Receive	,39, \$12,39,0,0,00
Live			2021-12-31T11:52:58	1176F26	401649405Hz	341°	B1	A3ZE	-110 dBm	Invalid	Invalid	Invalid	183*			4E819F01003	CB8FB00C0C90C1	2021-12-31T12:15:37,548 DEB 2021-12-31T12:15:37,569 DEB	JG Send \$D JG Receive	\$P,40,0,0,00
Live			2021-12-31T11:50:55	1176F26	401649405Hz	213*	B1	A3ZE	-99 dBm	Invalid	Invalid	Invalid	183*			4E53A431003	1B3FB00E0CE0C1	2021-12-31712:15:37.607 DEB 2021-12-31712:15:37.607 DEB	JG Receive	siP,41,0,0,00
Live			2021-12-31T11:49:55	1176F26	401649405Hz	198*	81	A3ZE	-99 dBm	Invalid	Invalid	Invalid	183*			71EE5530009	10FD200F0B70087	2021-12-31712:15:37.610 DEB 2021-12-31712:15:37.631 DEB 2021-12-31712:15:37.642 DEB	JG Receive	\$P,42,0,0,0
Live			2021-12-31T11:48:56	1176F26	401649406Hz	332*	81	A3ZE	-99 dBm	Invalid	Invalid	Invalid	183*			4E95832F003	1B3FB00E0CE0C1	2021-12-31T12:15:37.664 DEB 2021-12-31T12:15:37.674 DEB	JG Receive JG Send \$UP	\$2P,43,0,0,0 P,44
Live			2021-12-31T11:47:56	1176F26	401649406Hz	358*	81	A3ZE	-100 dBm	Invalid	Invalid	Invalid	183*			4EE0802E003	1B3FB00E0CE0C1	2021-12-31T12:15:37.696 DEB 2021-12-31T12:15:37.707 DEB	JG Receive JG Send \$IP	\$\$P,44,0,0,0 2,45,
ive			2021-12-31T11:47:01	1176F26	401649406Hz	207*	B1	A3ZE	-99 dBm	Invalid	Invalid	Invalid	183*			4E7F852D003	1B3FB00E0CE0C1	2021-12-31T12:15:37,728 DEB 2021-12-31T12:15:37,736 DEB	JG Receive JG Send \$IP	\$\$P,45,0,0,0 2,46
ive			2021-12-31T11:37:53	1176F26	401649410Hz	233*	B1	A3ZE	-99 dBm	Invalid	Invalid	Invalid	182*			4EA29D2400	1B3FB00E0CE0C1	2021-12-317 12:15:37, 757 DEB 2021-12-317 12:15:37, 767 DEB 2021-12-317 12:15:37, 767 DEB	JG Send \$DP	9,47,
ive			2021-12-31T11:36:22	1176F26	401649410Hz	215*	81	A3ZE	-99 d8m	Invalid	Invalid	Invalid	182*			4E9C9622003	1B3FB00E0CE0C1	2021-12-31T12:15:37.799 DEB 2021-12-31T12:15:37.823 DEB	JG Send \$IP	\$P,48,0.0.
ive			2021-12-31T11:34:56	1176F26	401649410Hz	178*	81	A3ZE	-100 dBm	Invalid	Invalid	Invalid	181*			71988521009	10FD200F0B70087	2021-12-31T12:15:37.830 DEB 2021-12-31T12:15:37.855 DEB	JG Send \$0P JG Receive	\$1P,49,0,0,0
lach	10	UW6	2021-12-31710-48-29	3205926	401629831Hz	304*	B1	42	-84 dBm	65s	Invalid	Invalid	175*	43.7046	1.6495	82648035598	0080DE011026AB	2021-12-31T12:15:37.863 DEB 2021-12-31T12:15:37.884 DEB	JG Send \$0 JG Receive	,50, \$1P,50,0,0,0
lerb.	8	11W7	2021-12-31710-48-20	2267535	401649912Hz	08*	81	A2	-84 dBm	64	Invalid	Invalid	174*	43 7047	1.6495	SEEA.483550	8080DE010426AB	2021-12-311 12:15:37.894 DEB 2021-12-317 12:15:37.923 DEB 2021-12-317 12:15:37.924 DEB	3G Receive	\$P,51,0,0,
a de	10	IRANE	2021 12 21710-0220	21/2016	40163083364	3305	81	41	0.1 dBm	624	Invalid	Invalid	174	42 7046	1.6405	4064 492550	0000050100508	2021-12-317 12:15:37.920 DEB 2021-12-317 12:15:37.949 DEB 2021-12-317 12:15:37.957 DEB	JG Receive	\$P,52,0,0
asn	0	000	20211121311104/123	3207920	40464000311	220	01	12	-ou upm	005	Invalid	Invalid	1/4	43.7040	1.0495	10700-033339	00000201102048	2021-12-31T12:15:37.980 DEB 2021-12-31T12:15:37.989 DEB	JG Receive	\$\$P,53,0,0 P.54
asn	8	0117	2021-12-31110/47:15	2201050	401049902Hz	291-	81	AL .	-84 dBm	285	Invalid	invalid	1/3	45.7040	1.0495	39190433398	0080DE010026AB	2021-12-31T12:15:38.008 DEB 2021-12-31T12:15:38.020 DEB	JG Receive JG Send \$IP	\$2P,54,0,0 P,55
lash	10	UW6	2021-12-31110:46:20	32CF926	401629832Hz	230*	81	A2	-84 dBm	615	Invalid	Invalid	1/5*	43.7046	1.6495	13F9D435598	0080DE011026AB	2021-12-31T12:15:38.041 DEB 2021-12-31T12:15:38.051 DEB	JG Receive JG Send \$09	\$P,55,0,0
lash	8	UW7	2021-12-31T10:46:17	2267535	401649903Hz	192*	B1	A2	-84 dBm	56s	Invalid	Invalid	175*	43.7047	1.6495	4BFA0035598	8080DE010426AB	2021-12-31T12:15:38.073 DEB 2021-12-31T12:15:38.083 DEB	JG Receive JG Send \$IP	\$P,56,0,0 P,57
lash	8	UW7	2021-12-31T10:45:20	2267535	401649914Hz	229*	81	A2	-84 dBm	63s	Invalid	Invalid	174*	43.7046	1.6495	4AFA2835598	0080DE010426AB	2021-12-31/12/15/38,107 DEB 2021-12-31712:15:38,115 DEB 2021-12-31712:15:38,115 DEB	JG Send \$UP	\$P,57,0,0 P,58
lash	10	UW6	2021-12-31T10:45:18	32CF926	401629824Hz	171°	81	A2	-83 dBm	63s	Invalid	Invalid	176°	43.7046	1.6495	F0FA0035598	0080DE011026AB	2021-12-317 12:15:38,156 DEB 2021-12-317 12:15:38,147 DEB 2021-12-317 12:15:38,168 DEB	JG Send \$DP	59,59,0,0
lash	8	UW7	2021-12-31T10:44:17	2267535	401649915Hz	294*	B1	A2	-83 dBm	60s	Invalid	Invalid	175*	43.7047	1.6495	C8FA5435598	18080DE010026AB	2021-12-31T12:15:38.178 DEB 2021-12-31T12:15:38.207 DEB	JG Send \$IP	50,50,50,0,0
lash	10	UW6	2021-12-31T10:44:15	32CF926	401629836Hz	53*	B1	A2	-84 dBm	56s	Invalid	Invalid	175*	43.7046	1.6495	E9FA283559E	0080DE011026AB	2021-12-31T12:15:38.209 DEB 2021-12-31T12:15:38.230 DEB	JG Send \$IP JG Receive	\$1,61, \$1P,61,0,0
lash	10	UW6	2021-12-31T10:43:18	32CF926	401629836Hz	158*	81	A2	-85 dBm	56s	Invalid	Invalid	173*	43.7046	1.6496	61FA543559E	0080E0011026AB3	2021-12-31T12:15:38.240 DEB 2021-12-31T12:15:38.260 DEB	JG Send \$0 JG Receive	\$\$P,62,0,0,
lash	8	UW7	2021-12-31T10:43:16	2267535	401649904Hz	273°	81	A2	-84 dBm	58s	Invalid	Invalid	171°	43.7047	1.6495	91FA803559E	8080DE00FC26A8	2021-12-31712:15:38,271 DEB 2021-12-31712:15:38,293 DEB	JG Send \$P JG Receive	\$P,63,0,0,
lash	10	UW6	2021-12-31T10:42:22	32CF926	401629838Hz	273*	81	A2	-87 dBm	62s	Invalid	Invalid	171*	43.7046	1.6495	82FA803559E	0080DE011026AB	2021-12-31712:15:38.407 DEB 2021-12-31712:15:38.407 DEB 2021-12-31712:15:40.176 DEB	JG Receive	\$P,0,1,2,F
lash	8	UW7	2021-12-31T10:42:18	2267535	401649914Hz	105*	B1	A2	-89 dBm	61s	Invalid	Invalid	171*	43.7047	1.6495	5EFAA83559	8080DE010426AB	2021-12-31T12:15:40.128 0EB 2021-12-31T12:15:40.133 INFI	G Receive	stFP, 58982 30 bytes of c
lash	10	UW6	2021-12-31T10:41:19	32CF926	401629828Hz	312*	81	A2	-88 dBm	66s	Invalid	Invalid	170*	43.7046	1.6495	40FAA835598	0080DE011026A8	2021-12-31T12:15:40,135 DEB 2021-12-31T12:15:40,360 INFO	G Send SR	FP, 589824, essages in F
lash	8	UW7	2021-12-31T10:41:16	2267535	401649904Hz	340°	81	A2	-88 dBm	61s	Invalid	Invalid	170°	43.7046	1.6495	39F9D435598	0080DE010026AB	2021-12-31T12:38:19.438 DEB 2021-12-31T12:38:19.440 DEB	JG Send \$0 JG Receive	\$0FP,5898
lash	8	UW7	2021-12-31T10:40:15	2267535	401649902Hz	355*	81	A2	-93 dBm	64s	Invalid	Invalid	170°	43.7046	1.6495	0AF9F235596	0080DE010426AB	2021-12-311 12:38:19.449 INFC 2021-12-311 12:38:19.457 IDEB	JG Send \$8	FP,589824
lesh	10	UW6	2021-12-31T10:40:13	32CF926	401629839Hz	132*	B1	A2	-89 dBm	60s	Invalid	Invalid	170*	43.7046	1.6495	76F9CA3559	80080DE011026AB	4	, Codpay III	convyCS [1]
lash	10	UW6	2021-12-31T10:39:12	32CF926	401629841Hz	116*	81	A2	-87 dBm	Invalid	Invalid	Invalid	171*	43.7046	1.6495	58F9F235598	0080DE011026AB	Command		
																		Save config as excipt	toing ature	CRek

Reminder: Only the data for platforms declared as favorites are saved into the internal memory of the Goniometer.

The **log to file** option will activate/deactivate the write of all \$NPR \$NPRF received frame into the Logs/Log_xxx.txt file. This file can be used to plug 3rd party Software to the live feed of data.

To retrieve internal data from Flash memory, click on the button:

CRead from flash

<u>When you have saved your Data</u> (exported to CSV) and you want to empty the internal flash memory of the Gonio, click the button:

💢 Erase flash memory

Data Table Column description:

Origin: will indicate you if the data is from gonio internal memory (**Flash**) or **Live** feed (data received while the Software is connected)

Index: If the Software detect this is a favorite platform, this field will indicate its favorite List index

Label: If the Software detect this is a favorite platform, this field will indicate Name from favorite List

Time: Date Time of Reception on the Goniometer (dated with internal GPS)

Id: 28bit Hexadecimal Id received

Frequency: Central Frequency of reception (Hz)



Direction: Instantaneous reception direction relative to the Goniometer's antenna reference (deg.)

Band: selected Frequency Band on the Goniometer

Modulation: Argos Modulation of the message received

Level: Signal level received from platform (dBm)

Period: Transmission period (seconds)

Latitude RXG: Latitude of the Goniometer GPS (degrees)

Longitude RXG: Longitude of the Goniometer GPS (degrees)

Direction RXG: Direction of the Goniometer's Compas relative to the north (degrees)

Latitude payload: If the Software detect this is a favorite platform with a GPS Format defined, it will use it to decode and display the latitude contained into the payload.

Longitude payload: If the Software detect this is a favorite platform with a GPS Format defined, it will use it to decode and display the longitude contained into the payload.

Payload: Data content (ARGOS message without 8 first bit of ID extension)

Operations on the data table:



The Filter field allow to enter a Hexadecimal ID in order to display the data concerning only one platform.

If you select some lines (using ctrl or MAJ key), only this selection will be taken into account when exporting data.

You can clear the selection using the first button

You can empty the table using the second button (lines from Live feed will be lost, lines from Flash can be retrieved)

You can export the data to a CSV file using the 3rd button.

6.5 Live Log File

If "Live RX" option is activated on the RX tab , once the PC is connected to the Goniometer through the USB, all received Argos messages are stored in the log file which is located under ./Logs/ folder. The name of this file is as follows "Log XXXX.txt", where XXXX is the Goniometer number (example: 0027).

Below is an example of file.

- the first record line will be the date, time at which you start the connection ("USB Connection to RXG234")
- then for each received Argos message you will have one line with:
 - o date
 - o time
 - o type of reception (Reception or Flash)

The label "Received" means the data is coming from the live feed.

The label "Flash" means the data is coming from a user that requested a flash data download in the

Software: CRead from flash

The commands and their parameters are as follows:

• NPR(F),i,y,m,d,h,mi,s,id,fr,f,ai,l,log,lag,dg,le,da

where:

- i: index of the platforms in the Favorite platforms screen
- y, m, d, h, mi, s: year, month, day, hour, minutes, seconds
- id: hexadecimal ID (28 bits)
- fr: frequency (Hz)
- f: 8 bits validity parameter on Goniometer direction, GPS and repetition period.
 0,0,0,0,0,validity goniometer direction, GPS-Goniometer validity, period validity (0 = bad 1=0K)
- ai: instantaneous angle
- I: level
- log, lag: latitude and longitude of the Gonio (divide values by 60,000 for Decimal °)
- dg: Goniometer direction (not implemented yet)
- le, da: message length and data message (in hexadecimal with the first 8 bit of ID extension)



7 Technical characteristics

RXG-234 receiver & AXG-234 antenna								
Frequency range (MHz) (to be selected)	B1 [401.610-401.690] B2 [401.530-401.610] B3 [401.460-401.540] B4 [401.390-401.470] B5 [401.310-401.390] B6 [401.110-401.190] B7 [401.010-401.090] B8 [399.970-400.050] B9 [399.900-399.980]							
Frequency stability	±3.5ppm over the temperature range							
Minimum detection sensitivity	-131dbm (63nVrms @50Ω)							
Accuracy of angle measurement	±5°							
Resolution of the measurement of the angle	±1°							
Standard length of AXG-234 antenna cables	5m							
Maximum length of AXG-234 antenna cable with extension	25m							
Battery charging time (External Charger)	7h							
Battery charging time via USB connected to a PC	15h							
Internal battery capacity	6800mAh							
Autonomy								
(GPS OFF – Backlight OFF – contrast-0 – Audio OFF)	46h @ 25°C							
(GPS ON – Backlight ON – contrast-5 – Audio ON)	21h @ 25°C							
Temperature range	0°C to +45°C for battery charging -20°C to +50°C in use							
Waterproof rating	IP 66							
Goniometer RXG-234 dimensions	135mm x 92.5mm x 34mm							
Goniometer RXG-234 weight	565g							
Dimension of AXG-234 antenna	400mm x 65mm							
AXG-234 Antenna Weight (without cable)	650g							



