DΛΤΛΜΛRS

RUMISOFT

USER MANUAL

Version 1.7

DATAMARS

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1 Purpose

RumiSoft is a software application designed for Datamars Livestock readers. It allows you to manage, share, hold, upload and download all kinds of working file (messages, configuration, procedures, reading sessions and equivalences), with a friendly graphical user interface.

Rumisoft has two main working modes:

- **Basic**: designed for a final user typically using only one reader for day by day activities on the field.
- **Advanced**: designed for organization needing to manage several reader units and that must be backward compatible with the old readers. The Advanced mode enables the reader firmware update procedure and other special features.

2 File types

Rumisoft operates on the following file types:

.rdf: definition file. It is the main GES3S input file that specifies the list of data that users collect during the working session on the field. This software allows to: *open*, *edit*, *save*, *read and write* procedures from/to *GES3S* and it is backward compatible with old *GES2S*.

.gdf: old definitions file coming from GES2S. This can be opened and converted into newer .rdf type.

.req: equivalences data file. It is the second GES3S input file that creates a link between the EIC (Electronic Identification Code) with a Visual Tag. Once a new EIC is found on the field, the user can add the Visual Tag and save the new line in the reader. If the user read again the same animal, he gets both EIC and Visual Tag on the GES3S LCD. The Visual Tag is a 16 characters label that can connect univocally to an EIC to simplify animal identification on the field. User can: *open, edit Visual Tag, save, read from* and *write to GES3S*. The user can get these files either from GES3S or importing a text equivalence downloaded from GES2S.

.rsc: search data file. It is the main Bluestick input file. It stores a list of EID, animal, the user must found on the field. Rumisoft allows creating and loading search files into Bluestick readers.

.rct: GES3S control data file. It is the reader output file. It collects all data specified in the definition file. If required it can add also the Visual Tag label stored in the equivalence file. The user can get these files either from the USB readers and old GES2S.

.txt: text control, text equivalence or GES2S messages. The txt control and equivalence files are the exported and readable version of the .rct/.rcb/.rc3/.req files. Text file has been selected as interface with third software tools. The GES2S messages allow loading different language into GES2s reader.

.rcf: GES3S configuration file. These are the configuration files GES3S works with: *save, read from* and *write to GES3S*.

.rsb: Bluestick configuration file. These are the configuration files Bluestick works with: *save*, *read from* and *write to* Bluestick.

.zip: USB reader update file. It the firmware update file provided by Datamars support to update the USB reader. Rumisoft allows starting the updating procedure.

.rlg: USB reader language file. It is a new language support for USB readers. Rumisoft allows charging new language into USB readers.

.rs3: F310 configuration file. These are the configuration files F310 works with: *save* and *read from* and *write to* F310.

.rcb: Bluestick control file. It is the reader output file. All detected EICs are stored in the control file along with a time stamp (date and time), when the 'EIC Store' option is selected on the Bluestick reader. EIC duplication is not allowed.

.rc3: F310 control file. It is the reader output file. All detected EICs are stored in the control file along with a time stamp (date and time), when the 'REC' option is enabled on the F310 reader. EIC duplication is allowed.

.rsg: GES3S session file. It's the reader output file. All detected EIC are stored in the session file along with a time stamp (date and time).

3 Basic mode

Figure 1 show the main application window when no reader units are connected to the PC.



Figure 1

The window can be divided in four parts:

- Menu line
- Buttons bar
- Device panel
- Status bar

Menu line



USB Readers: this menu allows to:

- <u>Export to Txt, CSV or XML</u>: select export control file format. Default is text format; but csv or xml are also supported. This option is valid only for USB readers. It is not applicable to GES2 reader.
- <u>EIC format</u>: selects the EIC output format among ISO Long, ISO Short, ISO Tiris, ISO F-210, ISO BND Ita and ISO South America.
- *Backup*: starts a reader system and data backup.
- <u>*Restore*</u>: starts a reader's restore of last available backup.

NOTE: the first time a reader is connected to the PC, the Rumisoft automatically suggests the user to start a *Backup* procedure. It is highly recommended to ensure that a *Restore* operation can be performed in case that data corruption occurs.

Configuration: this menu allows to:

- <u>Show GES2S</u>: enables the GES2S reader support. If selected, the application shows the GES2S device in the devices panel and the GES2S menu.
- <u>Input folder</u>: shows a folder selector to choose where files picked from uploading actions have to be saved. (Figure 2).

Look in:	📙 RumiFolde	er 👻 📝 🃂 🖽	
<u>G</u>	🐌 RumiFold	ler	
Elementos recientes			
Escritorio			
Documentos			
Equipo			
<u>.</u>	File name:	\Proyectos\Abiertos\10008\Documentacion In\RumiFolder	Select
Red	Files of type:		Cancel

• <u>Output folder:</u> shows a folder selector to choose where files picked from downloading actions have to be saved. (Figure 3).

D. Select output	folder	X
Look in:	🕌 RumiFolder 🔹 🦻 📴 📰 📰	
Elementos recientes	RumiFolder	
Escritorio		
Documentos		
Equipo		
Red	File name: \\Proyectos\Abiertos\10008\Documentacion In\RumiFolder Files of type:	Select Cancel

Figure 3

- Advanced: enables the Rumisoft to switch to Advanced mode. If selected, application looks in advanced mode allowing the full functionality to the user. Refer to Advanced mode section.
- External tool configuration: allows running an external application once Rumisoft has completed specific operation:
 - Pop up menu: adds a link to the external tool pushing the right button over a file. It is available only in advanced mode.
 - Moving to library: runs the external tool every time a file is moved from a reader to the 0 library. It is available only in advanced mode.
 - Reading from reader: runs the external tool every time a control is read from the 0 reader, i.e. pushing the 'Read control' button in the buttons bar.

Tool configuration
Tool
Browse
Calling options
Pop up menu 🔲 Moving to library 📄 Reading from reader
OK Cancel
Figure 4

Figure 4

Help: in this menu the user can find the About.. option to see information related to the software (version, vendor, etc.).

GES2S: this menu is available only when Show GES2S is enabled in the configuration menu and it allows to:

- Equivalence: setups the equivalence space in the GES2S reader.
- Com: setups the RS232 Com port where the GES2S reader is connected to the PC station. •

Buttons bar



Through the buttons bar the user can access directly to the four main actions. Buttons are enabled if there is a device selected in the devices panel; otherwise they are shaded as in the previous figure.



Reads equivalences from the device and exports to text format if the downloaded equivalences are *.req* format. Save the equivalences in the output folder selected in the configuration menu. After downloading, application shows a window with the *.txt* file contents. ONLY GES3S/GES2.



Reads a Reading Session from the device and exports to text format if the downloaded file is in *.rct, .rcb* and *.rc3* formats. Save the control in the output folder selected in the configuration menu. After downloading, application shows a window with the *.txt* file contents.



Writes equivalences (either *.req* or *.txt*) to the selected device. The default folder to get the equivalences from is the input folder selected in the configuration menu. ONLY GES3S/GES2



Writes one or more Procedures to the selected device. The default folder to get the procedures from is the input folder selected in the configuration menu. ONLY GES3S/GES2

Device panel

The device panel shows the reader devices connected to the PC and the relative version.



When *Show GES2S* is enabled in the configuration menu, the device panel shows also a GES2S device.



This panel allows you to select the device to work with when using the buttons bar. The selected device lights-up its display on (Figure 5).



Figure 5

Status bar

The status bar shows actual step at the bottom right corner of the monitor and warns the user to avoid disconnecting readers during critical operations like: reader backup, restore, update, data loading and downloading.



4 Advanced Mode

Following figure shows the advanced mode main window:



Figure 6

The window can be divided in five parts:

- Menu line
- Buttons bar
- Navigation tree
- Document area
- Status bar (as described in basic mode session, see chapter 3.4)

Menu line

<u>D</u> .	Rumisoft			
File	Ges2s USB Rea	aders Cor	nfiguration	Help
ť	New Definition	Ctrl+N e Ctrl+F		
C (🕜 Open	Ctrl+0	e Open	Delete
	Save Save As	Ctrl+S		
ť	🔒 Delete	Ctrl+D		
	Exit	Ctrl+Q		

The user can find all actions in the menu. Options of the main menu are:

File

<u>New Procedure</u>: starts a wizard that helps step by step to create a new procedure (Figure 7).

Rumisoft File Ges2s USB Readers Configuration Image: Configuration of the second s	n Help		on Write messages	
Library Configuration Controls PesoITDef.rdf PesoSPDef.rdf VeightDef.rdf Ges2s Messages Ges2s Messages BlueStick F:\V.1.0.6 Ges3s G:\V.1.19 Configuration Configuration Equivalences Equivalences	Definition Wizard 1. Properties 2. Conditions 3. Duplicity 4. Export 5. Print 6. Generat	Field1 Field name? Previous Next	ish	
Figure 7				

<u>Open</u>: shows a file selector pointing to the *PC Library* to open a file in the document area. The user can import an old procedure file by selecting the *GesDef* version type file in the *Files of type* box (Figure 8).

P. Rumisoft		1 🕅			
File Ges2s USB Readers Configuration Help					
New Procedure New Search File New Procedure New Search File Library Configuration_Ges2_410 Configuration_Ges2_5_402 Configuration_Ges2_5_4 Configuration_Ges2_5_4 Configuration_Ges2_5_4 Configuration_Ges2_5_4 Configuration_Ges2_5_4 Configuration_Ges2_5_4 Configuration_Ges2_5 Configuration_Ges2_6 Configuration_Ges2	Autor Trep Deen Delete Read equivalences Read reading session Write equivalences Write procedure Write messages Mrite equivalences Controls Controls Controls Controls Controls Controls Controls Controls Controls Controls Controls Search Mrite equivalences Search Mrite equivalences Search	ard			
F310 E:\ V.1.0.6	Vetwork Files of type: XML Equivalence Cancel				
< <u>III</u>	GesDef v.4.1 Procedure GesDef v.3.2 Procedure GesDef v.3.1 Procedure Ges3s Reading Session Equivalence Text Reading Session Text Equivalence				
		0			

Figure 8

Save: saves the selected file in the document area without asking a new file name.

Save As: shows a file selector to save the selected file in the document area with a new file name.

Delete: deletes the selected file in the tree.

Exit: closes the application. **NOTE**: Rumisoft is still running in background mode. The user can open the application from the Windows task bar.

GES2S

Actions related to GES2S device. This menu is only visible if *Show GES2S* is selected in the *Configuration* menu.

<u>Read equivalences</u>: when GES2S is selected, it downloads via *Serial Com Port* the equivalences from the GES2S and saves them in a text equivalences file in the library folder. Software shows a file selector to select the file name (Figure 9).

P. Rumisoft					
File Ges2s USB Readers Configuration Help					
	Image: Sead opuipalences Image: Sead opu				
Ubrary Configuration_Ges2s Configuration_Ges2	Letter (Red equivalences reduired and session) white equivalences white procedure white messages import export basingoid import export import exp				
Births 2.rdf Camels.rdf Camels.rdf Groups.rdf Groups.rdf Microships.rdf Microships.rdf MyNewTest.rdf MyNewTest.rdf Weight.rdf Weight.rdf Weight.rdf Weight.rdf Weight.rdf Weight.rdf Search Ges2s Messages Search Ges2s V.5.0.7 CESII 10060 BlueStick E; V.1.0.9	Save in: Equivalences				
Ges3s F:\V.1.1.17 Ges3s F:\V.1.1.17 Gonfiguration Controls Generation Generations Generati	File name: equivalences.td Network Files of type: Text Equivalence Cancel				
▲	•	>			

Figure 9

<u>Read Reading Session</u>: when GES2S is selected in the tree, it downloads via Serial Com Port the positions of the control from the GES2S and saves them in a text control file in the library folder. Software shows a file selector to select the file name and asks the user to delete control in the reader (Figure 10).





<u>Write equivalences</u>: uploads via Serial Com Port the selected text equivalence file in the tree to the GES2S. Software warns the user that reader equivalences will be overwritten (Figure 11).



<u>Write Procedure</u>: uploads via Serial Com Port the selected definition files to the GES2S. Software warns the user that controls in the reader will be erased (Figure 12), asks the user to rewrite or not procedures number and names in the reader and prompts the user to select right procedure position into the reader for each procedure upload (Figure 13).

🗜 RumiSoft	
File Ges2s Ges3s Help	
New Definition Open Delete Read equivalences	Read control Write equivalences Write definition Write messages
Library Library Configuration Controls Controls S1.GDF 32.GDF 32.rdf 41.rdf DEF CATALUNYA IDENTIFICACIÓ r9.rdf DEF CATALUNYA SANEJAMENT r9.rdf DIAGNOSIpecAmpliada.rdf GUIA IMPRESA (URUGUAY).rdf Prova v502.rdf Prova v504.rdf Controls Ges2s Messages Ges2s Messages Ges2s Messages Ges2s Messages Ges2s Messages Ges2s Messages Ges2s Messages	Seleccionar una opción
	Figure 12



<u>Write messages</u>: uploads via Serial Com Port the selected messages file to the GES2S. Software warns the user that reader messages will be overwritten (Figure 14).

🗜 RumiSoft	
File Ges2s Ges3s Help	
New Definition Open Delete	Image: Constraint of the sector of the se
Configuration Controls Controls Equivalences Ges2s Messages	Seleccionar una opción
Ges3s F:\ Ges3s G:\	Do you want to write mensajes rev5.txt? File will be overwritten in Ges2s Yes No Cancel
	Figure 14

Previous to write definitions operation, the user must read GES2S version by double clicking the GES2S icon. Otherwise, software shows an error message (Figure 15):



Figure 15

Equivalences: allows the user to change the maximum equivalences number the GES2S must keep in memory (Figure 16).

P. Rumisoft	
File Ges2s USB Readers Configuration	Help
New Definition New Search File Open	Delete Read equivalences Read control Write equivalences Wr
Library Configuration Controls Ges2s Messages Ges2s Messages Ges2s V.5.0.3 GesII 0642088 Ges3s F:\ Ges3s G:\	Input Select equivalences number OK Cancel
	Figure 16

<u>Com</u>: shows all available com ports in the *PC* to select the com port used to upload to and download from the GES2S (Figure 17).

<u>D</u> .	Rumisoft	
File	Ges2s USB Readers Configuration	Help
	Ges2s USB Readers Configuration New Definition New Search File Open Library Configuration Image: Controls Image: Controls Image: Controls Image: Controls Image: Controls Image:	Help Read equivalences Read control Write equivalences Write del RumiSoft Select COM port COM4 OK
1	Ges3s G:\	
		Figure 17

USB Readers

Actions related to USB READERS device.

<u>Import</u>: converts the text or CSV equivalences file selected to an equivalence file. Software shows a file selector to select the file name. This action allows you to use an old GES2S downloaded equivalence file with a GES3S by converting the old file format to the new one. This option is only visible in advanced mode.

<u>Export</u>: if there is an equivalence file selected in the tree software, it converts it to a text, CSV or XML equivalence file with the *EIC* format selected. This action allows you to use a new GES3S created equivalence file with an old GES2S by converting the new file format into the old one.

If there is a Reading Session file selected, it converts it to a text or CSV control file. Software shows a file selector to select the file name. This action allows old software using old text control format to work with GES3S created Reading Sessions by converting the new file format into the old one. This option is only available in advanced mode.

<u>Export to Txt, CSV or XML</u>: select export control file format. Text format is given by default but CSV and XML are also supported. This option is valid only for USB readers. It is not applicable to GES2 reader.

<u>EIC Format</u>: allows the user to change the EIC format used to show and export equivalences files and Reading Session files (Figure 18).

P. Rumisoft	
File Ges2s USB Readers Configuration Help	
New Definition New Search File Open Delete	Image: Second control Image: Second con
PesoSPDef.rdf WeightDef.rdf Equivalences Ges2s Messages Search Ges2s V.5.0.7 GESII 1006028 BlueStick F:\ V.1.0.6 Ges3s G:\ V.1.1.9 Ges3s G:\ V.1.1.9 Ges3	Select EIC format ISO Long OK Cancel Figure 18

<u>Update:</u> updates the USB READERS firmware from a *ZIP* file. Before updating, software asks the user for a backup of the reader (Figure 19) and shows a file selector to select the new firmware zip file (Figure 20). It is recommended to backup to be able to restore the reader if new firmware doesn't work. This option is only available in advanced mode.



<u>Backup</u>: backups the reader's files in the PC to be able to restore the reader with a previous status after any undesired action like files deleting or firmware crash. Software asks for a confirmation of this action (Figure 19).



<u>*Restore:*</u> restores the reader with the previous backup status. Software asks for a confirmation of this action (Figure 21).

P. Rumisoft	
File Ges2s USB Readers Configuration Help	
File Ges2s USB Readers Configuration Help New Definition New Search File Open Delete Read Library Configuration Controls PesoITDef.rdf PesoSPDef.rdf VeightDef.rdf Ges2s Messages Ges2s Messages Ges2s V.5.0.7 GESII 1006028 BlueStick F:\V.1.0.6	Image: Second control Image: Second co
Gesas G: (V.1.1.9 Gesas G: (V.1.9) Gesas G: (V.1.1.9) Gesas G	Figure 21

Add language: allows the user to load in the GES3S/Bluestick reader a new language.

P. Open							×
Look in:	🛅 RumiFolde	r			~	ø 🕫 🛄) 📰
My Recent Documents Desktop My Documents							
My Computer My Network Places	File name: Files of type:	Language				×	Open Cancel
			Figure	22			

The *.rlg file shall be provided by Datamars support. Select the file and click on open to start the reader update.

Buttons bar

P. Rumisoft	5 1-1-5 ## 11	· ABOD ARCA	1 Aal Marco Marco	X
File_Ges2s_USB Readers_Configuration	Help			_
	🖌 💽 🍬 💽 🍬	۲ () ه ()		
New Procedure New Search File Open De	elete Read equivalences Read reading session	on Write equivalences Write procedur	e Write messages Import Export Dashboard	
Library Configuration Configuration_Ges2s_402_401_33 Configuration_Ges2s_410.rd Configuration_Ges2s_510_500.rd Configuration_Ges2s_510_500.rd Configuration_Ges2s_510_507_50 Controls Definitions V Births 2.rdf Camels.rdf Comest Common Commo				

With the buttons bar the user can access directly to the most used actions. Buttons are enabled if their action is allowed for the selected items in the tree.

All buttons have their equivalent menu action and some of them have a shortcut key: New Procedure (CTRL+N). Create a new procedure file *.rdf for Ges3s reader. New Search File (CTRL+F). Create e new search file *.rsb for Bluestick reader. Open (CTRL+O). Open a file. The file browser starts from the Library folder. File/Delete (CTRL+D). GES2S/Read equivalences. Visible only if Show GES2S is selected in the configuration menu. GES2S/Read Reading Session. Visible only if Show GES2S is selected in the configuration menu. GES2S/Write equivalences. Visible only if Show GES2S is selected in the configuration menu. GES2S/Write Procedure. Visible only if Show GES2S is selected in the configuration menu. GES2S/Write messages. Visible only if Show GES2S is selected in the configuration menu. GES3S/Import (CTRL+I). Convert the text or CSV equivalence file in the Rumisoft format *.req GES3S/Export (CTRL+E). Convert control file (*.rct/*.rcb/*.rc3) into a text, CSV or XML file. Dashboard. Start Dashboard application

Navigation Tree



The navigation tree shows contents of the library and the reader devices connected. It also allows opening, importing, exporting and deleting files, copying files between library and the reader and reading from and writing to the GES2S.

In the tree area there are many types of items easily selectable by clicking on them. To select more than one item, the user should click them keeping the *control* key pressed. To select a block of items the user should click on the first item and then click the last one while keeping *shift* key pressed.

Main tree items

In the tree area some main functions are shown depending on the type of the reader's connection. In example, when a reader is connected through RS232 port, the tree area will show the reader's version, when a reader is connected through USB port, the tree area will show the reader as an external disk. Hereafter some of the main functions are described:

Library

Shows files at your *PC*. It is the place to save the files created by the user for uploading/downloading from the GES2S and the USB Readers.

The user can show/hide contents of the library by double clicking on the icon.

GES2S

Represents the GES2S device. It is visible only when *Show GES2S* is selected in the configuration menu. Selecting this icon enables *Read Reading Session* and *Read Equivalences* actions in order to allow the user to read the sessions and equivalences from reader to the *Library*.

The user can read the version and the serial number of the connected reader by double clicking on the icon.

USB Readers

Shows the USB Readers contents. Software shows one icon for each reader connected to the PC with the drive unit assigned by the operating system in the name. Selecting this icon enables *Update, Backup* and *Restore* actions.

🔋 Bluestick reader, 📠 F310 Reader

The user can show/hide contents of the reader by double clicking on the icon.

Folders

Library and USB Readers items organize files inside folders.

There is a folder for each type of file:

Configuration: for configuration files.

Reading Sessions: for reading session files and, in the Library, also for text control files.

Procedure: for current procedure files and, in the Library, also for old procedure files.

<u>Equivalences</u>: for equivalences files and, in the *Library*, also for text equivalences files. Note that in the *USB Readers* the user can only have one equivalence file.

GES2S messages: for GES2S messages.

Search: for search files.

The user can show/hide contents of the folder by double clicking on the icon.

The user can copy one or more files from one folder of the *Library* to the same folder in the readers and vice versa by drag and drop the files.

Files

The icons to identify file types are:

- <u>Configuration</u>
- <u>Procedure</u>. selecting up to five of these files enables Write procedure action to allow the user to write procedure to the reader.
- <u>Reading Session</u>
- <u>Sequivalences</u>
- Text equivalences, text control, GES3S configuration and GES2S messages. Selecting one text equivalences file enables Write equivalences action to allow the user to write equivalences to the reader. Selecting one GES2S messages file enables Write messages action to allow the user to write messages to the reader.
- Comma Separated Values (CSV) file format
- XML file format
- Search The user can open the file in the document area by double clicking on the icon.

Pop up menu

By clicking the right button of the mouse, a pop up menu shows the common actions open, delete, import and export allowed for the selected file as well as the *Copy to* action that shows a file selector to copy the selected files to a different folder (Figure 24).



Document area



Figure 25

Files opened to show/edit are showed in the document area. Each file is opened in a window that the user can move, resize, hide and show, like other operating system windows.

There are two types of file the user can edit: equivalences and procedures.

Once a file has been modified, the user can "save" or "save as" the file selecting the desired function in the *file* menu.

Procedure

Procedure is the main input file required by Ges3s reader to collect data on the field. Rumisoft has a Wizard support to help users creating procedure.

A procedure is a list of field. Each field is a basic input data. Following example aims to collect weight and Breed of user animal, saving the EIC, the Visual Tag and Reading Time and Date:

Field 1: EIC, read the animal EIC
Field 2: VISUAL TAG, get the VISUAL TAG from the equivalence table
Field 3: Weight, ask the animal weight
Field 4: Breed
Field 5: Date
Field 6: Time

NOTE: A procedure can have a maximum of 20 fields

Push the New Procedure button to start the Wizard.

New Procedure

First insert the Field1 name:

Procedure Wizard	$\overline{\mathbf{X}}$
1. Properties 2. Conditions 3. Duplicity 4. Export 5. Print 6. General	Field 1 Field name? EIC
	Previous Next Finish

Figure 26

Push *next* and select one of the types of action available, in example *Read EIC*:

Procedure Wizard 🛛 🔀		
1. Properties	Field1	
2. Conditions 3. Duplicity	What do you want reader to do?	
4. Export 5. Print	 ⊙ Read EIC ○ Ask data 	
6. General and	 Save fixed data Save date 	
	Save time	
	Previous Next Finish	

Figure 27

Select how many EIC must be read before move to next field. Default and typical value is 1

NOTE:1 It may be convenient to read several EIC in order to group animals with common characterictics.

NOTE 2: The sum 'number of fields + nb of EIC read' can't exceed 50. For example, if the procedure is made of 4 fields (Date, Time, Farm Name and EIC), Rumisoft will limit the size of the group to 47 EIC (Read EIC how many times is = < 47)

Procedure Wizard	\mathbf{X}
1. Properties	Field1
2. Conditions 3. Duplicity	Read EIC
4. Export 5. Print	How many times? 1
6. General	
	Previous Next Finish

Figure 28

Now is possible to add a condition in order to ask this field only when the condition is true. Since it is the first field it must be asked every time:

Procedure Wizard	\sim
1. Properties 2. Conditions	Field 1
3. Duplicity	Ask field
4. Export	🔿 never
5. Print	💿 always
6. General	 with a condition
	first time Conditions Previous Next Finish

Figure 29

Now it is possible to select if the field can be modified or not:



Figure 30

Now it is possible to define the Duplicity rules of this field. In this example there is not proposed value and it is not allowed to add two EIC field with same value:

Procedure Wizard	
1. Properties 2. Conditions 3. Duplicity 4. Export 5. Print 6. General	Field1 Propose values No ✓ Don't allow duplicated values Autoedit no asked fields
	Previous Next Finish

Figure 31

The duplicity is applied also across different fields. Since this is the first, the field list is empty:



Figure 32

Then start the Export field properties. Select yes if this field must be exported in the txt file:

ocedure Wizard	
1. Properties 2. Conditions 3. Duplicity 4. Export	Field1 Export this field? No
5. Print 6. General	Sequence EIC Move up Move down
	Previous Next Finish

Then start the Print field properties. Print means sent by Bluetooth. Select *yes* if this field must be sent through Bluetooth:

Procedure Wizard	
Procedure Wizard 1. Properties 2. Conditions 3. Duplicity 4. Export 5. Print 6. General	Field 1 Print this field? No Yes Sequence Move up Move down
	Previous Next Finish

Figure 34

First field is completed. Let's start Field 2 definition:

Procedure Wizard	
1. Properties 2. Conditions 3. Duplicity 4. Export 5. Print 6. General	Field2 Field name? CIC
	Previous Next Finish

Figure 35

Select Save Visual Tag from the field action option:



Figure 36

Select the related EIC field that will be used to search the Visual Tag label in the equivalence file:

Procedure Wizard	X
1. Properties	Field2
2. Conditions	
3. Duplicity	Visual Tag
4. Export	EIC Field
5. Print	EIC
6. General	
	Previous Next Finish

Figure 37

Then follow same steps as previous field for Conditions, Duplicity, Export and Print properties.

Start field 3:

Procedure Wizard	X
1. Properties 2. Conditions 3. Duplicity 4. Export 5. Print	Field3 Field name? Weight
	Previous Next Finish

Figure 38

Select Ask data as field action:

Procedure Wizard	
1. Properties	Field3
2. Conditions 3. Duplicity 4. Export 5. Print 6. General	What do you want reader to do? Read EIC Ask data Save fixed data Save date Save time
	Previous Next Finish

Figure 39

Select Number as data type:



Figure 40

A number can be defined as Alphanumeric, Integer and Decimal. As shown in the following example, we select three integer digit and 2 decimal digits:

Procedure Wizard	
1. Properties	Field3
2. Conditions 3. Duplicity	Ask number
4. Export 5. Print 6. General	Number of alfanumeric digits? 0 Number of integer digits? 3 Number of decimal digits? 2
	III.DD
	Previous Next Finish
	Figure 41

Then follow same steps as previous field for Conditions, Duplicity, Export and Print properties.

Start field 4:

Procedure Wizard	$\overline{\mathbf{X}}$
 Properties Conditions Duplicity Export Print General 	Field4 Field name? Breed
	Previous Next Finish

Figure 42

Select *Ask Data*, and then 'From proposed options". That means that input value can be selected from a list of options:

Procedure Wizard				×
1. Properties	Field4			
3. Duplicity	Ask data fron	n proposed options	5	
4. Export	Show	Save		
5. Print	Breed 1	B1	Move up	
6. General	Breed 2	B2		
	Breed 3	B3	Move down	
			~	
		Previous Nex	t Finish	

Figure 43

Column A is the label shown by the reader, while column B is the value stored in the control file. A user can add 32 proposed options.

Then follow same steps as previous field for Conditions, Duplicity, Export and Print properties.

Start field 5, select as field action save date:



Figure 44

Then follow same steps as previous field for Conditions, Duplicity, Export and Print properties.

Start field 6, select as field action save time:

Procedure Wizard	
1. Properties	Field6
2. Conditions 3. Duplicity 4. Export	What do you want reader to do?
4. Export 5. Print 6. General	O Read EIC
•	 Save fixed data Save date
	 Save time Save Visual Tag
	Previous Next Finish

Figure 45

Then follow same steps as previous field for Conditions, Duplicity, Export and Print properties. Since this is last field of this definition, select *finish* and start the General session:

Procedure Wizard	
 Properties Conditions Duplicity Export Print General 	Position Export CRC Export prefix: Export sufix: Compare fields number: Identity field EIC CIC Weight Breed
	Previous Next Finish
	Figure 46

The user can add a CRC at the end of each control line. Add a Prefix and a Suffix at the begging and at the end of the control file. *Compare field number* is the last step of duplicity rule: 1 means that first field must always be unique with the control file, 2 means that first 2 fields must be unique, 3 first three field and so on.

Finally Identity field is the field used by the reader as identification of a control line when it is shown on the LCD. In this example the EIC has been selected.

The new procedure is ready. Select the procedure folder and the definition name and select save.

Procedure edit

When the user opens a procedure, data is organized in three tabs: Fields, conditions and general (Figure 47).

equivalences Read	control Write equivalences Wri	te definition Write messages
<mark>CIÓ r9.rdf</mark> IT r9.rdf df	C:\Users\ISDEL1\AppData Fields Conditions General NIF MARCA OFICIAL DATA ACTUACIO ID ELECTRONIC CROTAL M. INCAPACITAT ESPECIE SEXE	Roaming\Datamars\RumiSoft\Library\I

Fields tab shows data related to a particular field that the user can select in the upper left list. The user can change sequence, delete and add fields with the buttons right to the list (Figure 48).

equivalences Read co	% %	Import Expr
<mark>CTÓ r9.rdf</mark> IT r9.rdf df ⊑	✓ C:\Users\ISDEL1\AppData\Roaming\Datamars\RumiSo Fields Conditions General INTRO D. COMUNES NIF MARCA OFICIAL DATA ACTUACIO ID ELECTRONIC CROTAL M. INCAPACITAT ESPECIE SEXE Ask number Number of alfanumeric digits? Number of integer digits? I \$\Low Copy CIC EIC Field Number of derimal digits?	ft\Library\I

Conditions tab shows data related to a particular condition that the user can select in the upper left list. The user can delete and add conditions with the buttons right to the list (Figure 49).

control Write	equivalen	ces Writ	e definitio	on Write m) 📰	
C:\Users\I Fields Con Condició	SDEL1\A ditions (ppData\ General	Roamin	g\Datama	irs\Rumi	Soft\
Condició	n2			Delete		
	control Write e	control Write equivalen	control Write equivalences Write C:\Users\ISDEL1\AppData\ Fields Conditions General Condición1 Condición2 Figure 49	control Write equivalences Write definition	control Write equivalences Write definition Write m C:\Users\ISDEL1\AppData\Roaming\Datama Fields Conditions General Condición1 Add Delete Figure 49	control Write equivalences Write definition Write messages C:\Users\ISDEL1\AppData\Roaming\Datamars\Rumit Fields Conditions General Condición1 Add Delete Figure 49

General is data related to the control like prefix, suffix and conditions used to allow to modify and delete positions.

New Search File

Bluestick readers allow enabling the search mode working session. It is a special functional mode created in order to allow the user to search a specific group of animals within a herd. A search file is a simple text file that must be saved with the extension *.rsb and placed in the Rumisoft Search library folder in order to be automatically managed by Rumisoft. Rumisoft is also able to create the search file pushing the *New Search File* button.

Searches are composed by a line for each EIC. Each line is confined into square brackets and ended by $r\n$ (carriage return= 0x0D and line feed= 0x0A).

[{eic 1}] [{eic 2}]

EICs are in ISO Long format. Example of a search:

[A000000981098100607823] [A0000000999270920100022] [A0000000999270920100030] [A0000000999270920100018]

Pushing the New Search File button, Rumisoft opens the following window:

P. Save						
Save in:	🛅 Library			~	00	
My Recent Documents Desktop	Configurati Controls Definitions Equivalence Ges2s Mes: Search	on es sages				
My Documents						
My Computer	File name: Files of type:	Test Search			~	Save Cancel

Figure 50

Select Search folder and file name, then push save; a new file Test.rsc is be added under the Search folder. Open the new file from the Navigation window:

C: Documents and Settings\spalla\Application Data\Datamars\RumiSoft\Library\Search\Test.rsc	
EIC	

Figure 51

It is an empty file with a single column that can store the ISO Long EIC (23 digits). Rumisoft allows populating the Search file in two ways:

• Using a Reading Session file: open a reading session file in the Library. Select the EIC that must be searched and drop it in the Test.rsc file.



Figure 52

EIC will be added to the search file:

🚜 C: Wocuments and Settings'	\spalla\Application Data\Datam	ars\RumiSoft\Library\Controls\BSDATA_200912	
EIC	Date	Time	
A0000000999270920100025	13122009	1920	
A0230000999123456000012	13122009	1920	
A0000000999270920100014			
A0000000996183251937956	13122009	1920	
		C:\Documents and Settings\spalla\Applicat	ion Data\Datamars\RumiSoft\Library\Search\Test.rsc 🛛 🔲 🗖 🔀
		EIC	
		A000000999270920100025	
		A000000999270920100014	
		A000000996183251937956	
			I
		Eiguro 52	
		Figure 55	

• Using another search file: open search file from the Library and select the EIC that must be added to the search file. Drag and drop selected lines in the Test.rsc window:

C:\Documents and Settings\spalla\Application Data\Datamars\RumiSoft\Lib	rary\Search\Prova.rsc		
STC	,		
LIC A00000000027000017			
A000000999270920100017			
400000035500000000000			
A00000039990000000002			
A0000009990000000047			
A000000999270920100011			
A000000999270920100019			
	(
	🔍 C:\Documents and Settings\spalla\A	Application Data\Datamars\RumiSoft\Library\Search\Test.rsc	
	EIC		
	EIC		
	AU00000999270920100025		
	A0000000999270920100014		
	AUUUUUU996183251937956		
	Eiguro 5/		
	rigule 34		

New EIC will be added to the search file. If an EIC is already present it is discharged:



Save the file. New Test.src file is competed and can be loaded in the Bluestick reader in the search folder.

Equivalence

Equivalence is a link between an EIC and a label. A label, named Visual Tag, is a generic string that the user can select to identify/remember easily the EIC on the field. It is used to simplify the day by day work on the field since when a user read a tag already stored in the equivalence file gets on the LCD both the EIC number and Visual Tag label.

Rumisoft supports three types of Equivalence file: Datamars property format (*.req), text format (*.txt) and CSV format. Rumisoft automatically convert text or CSV format to Datamars format (Note that XML format can be exported but not imported). Only Datamars format file can be loaded on a Ges3s reader.

Equivalence edit

When the user opens a Datamars equivalence file, it shows two columns in the file window: left column for *EIC* and right column to Visual Tag. The user can edit a Visual Tag value by double clicking on the cell Figure 56).

Figure 56 0, C R 0 10 60 quivalences Read control Write equivalences Write definition Write messages Import Export C:\Users\ISDEL1\AppData\Roaming\Datamars\RumiSoft\Library\Eq... 👝 🔳 📧 FIC CIC 724010000013406 1.1 22 999 000000624565 33

When the user opens a text equivalence file, it shows a read only file as in the following image:

[A000000999270920100013 CTC2] [A0000000999270920100014 CIC3] [A0000000999270920100003 CTC4]	C: Documents and Settings\spalla\Application Data\Datamars\RumiSoft\Library\Equivalences\equivalences.txt	
[A000000099270920100014 CIC3] [A0000000999270920100003 CIC4]	[A000000999270920100025 CIC1]	
[A000000999270920100014 CTC3] [A0000000999270920100003 CTC4]	[&000000999270920100013 CIC2]	
[A0000000999270920100003 CTC4]	[&0000000999270920100014 CIC3]	
	[A000000999270920100003 CIC4]	

Figure 57

The import button is now enabled to convert text format in Datamars format.

Equivalence text format specification

To allow Rumisoft to import a text equivalence file few rules must be satisfied.

Each line is confined into square brackets. First field is the EIC, then the | (0x7C) as separator and then the Visual Tag label. Each line is ended by $r\n (carriage return = 0x0D and line feed = 0x0A)$.

[{eic 1}|{Visual Tag 1}] [{eic n}|{Visual Tag n}]

EICs may be in ISO Long format (23 digits); Visual Tag's length may be up to 16 characters.

Example of text equivalence:

[A000000999270920100025|VISUAL TAG1] [A0000000999270920100013|VISUAL TAG2] [A0000000999270920100014|VISUAL TAG3] [A0000000999270920100003|VISUAL TAG4]

Configuration

How to change the configuration values

Rumisoft allows showing and modifying reader parameters. A user can create a library of configuration file with a specific setting for specific operation in the field. The following picture shows an example of configuration for the reader F310:

🥑 G:\Configuration\Configuration.rs3	
Name	Value
Major version	1
Minor version	0
Auto Shutdown	180
Reading timeout [sec]	10
EIC format	ISO F-210
RS232 Baudrate	9600
Reading sound	On
Bluetooth	On
ISO Mode	On
Power Save Mode	Off
TI Front End	On
F210 Mode	Off
Power safe timeout	60
FDXB double check	On
HDX double check	On

Following picture shows the GES3S configuration file. To modify a parameter, just select it (for example the Auto shutdown parameter in the below figure) and edit its value.

- nateoninguration(coninguration.fcf		
Name	Value	
Major version	1	
Minor version	1	
Auto Shutdown	2	
Reading timeout [sec]	100	
Decimal separator		
EIC format	Long	
Send version	On	
Send reading	EIC	
Send reading session	On	
Send field name	On	
Ask Visual Tag	On	
Buzzer duplicate Visual Tag	Off	
Duplicate Visual Tag allowed	Off	
Blank EIC allowed	Off	
Use retagging counter	Off	
Duplicate EIC allowed	Off	
Blank repetition	Off	
Auto start new	On	
Timeout backlight	40	
Keyboard sound	Off	
Start-up sound	Off	
Start-up image	On	
Format	EU	
Reading sound	Off	
Shut-down sound	Off	
Bluetooth	On	
Audio level	High	
Display brightness	Mid	
Show EIC/Visual Tag	CIC	
ISO 24631-2	Off	
FDXB double check	On	
HDX double check	Off	
EIC Prefix (Bluetooth)		
EIC Postfix (Bluetooth)	\r\n	
Reader name	GES3	
Continuous mode	On	

Figure 59

Following picture shows the Bluestick configuration file, when 'EIC format' parameter is under modification, the parameter can be changed selecting the setting from the drop-down menu.

Name Value Major version 1 Minor version 1 Minor version 1 Auto Shutdown 2 Reading timeout [sec] 100 Decimal separator . EIC format HEX Send version Long Send reading session Tris Send field name F-210
Major version 1 Minor version 1 Auto Shutdown 2 Reading timeout [sec] 100 Decimal separator . EIC format HEX Send version Long Send reading session Short Send field name F-210
Minor version 1 Auto Shutdown 2 Reading timeout [sec] 100 Decimal separator . EIC format HEX Send version Long Send reading session Short Send reading session Tris Send field name F-210
Auto Shutdown 2 Reading timeout [sec] 100 Decimal separator . EIC format HEX Send version Long Send reading Short Send reading session Tris Send field name F-210
Reading timeout [sec] 100 Decimal separator . EIC format HEX Send version Long Send reading Short Send reading session Tris Send field name F-210
Decimal separator . EIC format HEX Send version Long Send reading Short Send reading session Tris Send field name F-210
EIC format HEX Send version Long Send reading Short Send reading session Tris Send field name F-210
Send version Long Send reading Short Send reading session Tiris Send field name F-210
Send reading Short Send reading session Tiris Send field name F-210
Send reading session Tiris Send field name F-210
Send field name F-210
Ask Visual Tag BDN_Ita
Buzzer duplicate Visual Tag ShortSA
Duplicate Visual Tag allowed HEX
Blank EIC allowed Bi-HEX
Use retagging counter Off
Duplicate EIC allowed Off
Blank repetition Off
Auto start new On
Timeout backlight 40
Keyboard sound Off
Start-up sound Off
Start-up image On
Format EU
Reading sound On
Shut-down sound Off
Bluetooth On
Audio level Low
Display brightness Mid
Show EIC/Visual Tag CIC
ISO 24631-2 Off
FDXB double check On
HDX double check Off
EIC Prefix (Bluetooth)
EIC Postfix (Bluetooth) // /n

Features table and Configuration setting description

The following table indicates the configuration setting of each Datamars livestock reader:

	GES3S	Bluestick	F310
Major version	•	•	•
Minor version	•	•	•
Auto Shutdown	•	•	•
Reading timeout [sec]	•	•	•
Decimal separator	•		
EIC format	•	•	•
Send version	•	•	
Send reading	•	•	
Send reading session	•		
Send field name	•		
Ask Visual Tag	•		
Buzzer duplicate Visual Tag	•		
Duplicate Visual Tag allowed	•		
Blank EIC allowed	•		
Use retagging counter	•		
Duplicate EIC allowed	•		
Blank repetition	•		
Auto start new	•		
Timeout backlight	•	•	
Keyboard sound	•	•	
Start-up sound	•		
Start-up image	•		
Format	•	•	
Reading sound	•	•	•
Shut-down sound	•		
Bluetooth	•	•	•
Audio level	•		
Display brightness	•	•	
Show EIC/Visual Tag	•		
ISO 24631-2	•		• *
Reading Vibro		•	
LCD Contrast		•	
Store EIC data		•	

Continuous reading	•	•	
FDX double check	•	•	•
HDX double check	•	•	•
EIC Prefix (Bluetooth)	•		
EIC Postfix (Bluetooth)	•		
Cyclic delay		•	
RS232 Baudrate		•	•
Power Save Mode			•
TI Front End			•
Reader Name	•		

Major Version: Shows the first digit of the Configuration file.

Minor Version: Shows the second digit of the Configuration file.

Auto Shutdown: Configure the period of time, while the reader is inactive, after which the device automatically switch off.

<u>GES3S</u>: 1 to 5 minutes <u>Bluestick</u>: 10 to 60 seconds <u>F310</u>: 10 to 240 seconds

Reading Timeout [sec]: Configure the period of time after which the device stops searching for a tag.

<u>GES3S</u>: 1 to 100 seconds <u>Bluestick</u>: 1 to 240 seconds <u>F310</u>: 1 to 120 seconds

Decimal Separator: Configure the type of separator for the decimal digits. (dot or comma)

EIC format: Configure the EIC format between the followings:

Long Short Tiris F-210 Bdn_Ita ShortSA Hex Bi-Hex

Send Version: Enable/disable the sending of the reader version on a serial interface.

Send reading: Enable/disable the sending of the read tags on a serial interface.

Send reading session: Enable/disable the sending of the session file on a serial interface.

Send field name: Enable/disable the sending of the field name on a serial interface.

Ask Visual Tag: Enable/disable the request of the Visual Tag when a tag is read.

Buzzer duplicate Visual Tag: Enable/disable a sound if a Visual Tag code is inserted twice.

Duplicate Visual Tag allowed: Enable/disable the possibility to insert a Visual Tag more than once.

Blank EIC allowed: Enable/disable the opportunity to insert a blank EIC.

Use retagging counter: Enable/disable the retagging counter.

Duplicate EIC allowed: Enable/disable the possibility to insert an EIC more than once.

Blank repetition: Enable/disable the opportunity to insert a blank repetition in a control.

Auto start new: Enable/disable the auto-start of a new control.

Timeout backlight: Configure the period of time while the backlight is on. GES3S: 1 to 40 seconds Bluestick: 1 to 40 seconds.

Keyboard sound: Enable/disable the sound of the keyboard.

Start-up sound: Enable/disable the sound of the Start-up.

Start-up image: Enable/disable the image of the Start-up.

Format: Configure the format of the data and time. (EU, USA and TIMESTAMP)

Reading sound: Enable/disable the sound during the reading of a tag.

Shut-down sound: Enable/disable the sound of the Shut-down.

Bluetooth: Enable/disable the Bluetooth.

Audio level: Configure the volume of the device (NO, LOW, MID, HIGH)

Display brightness: Configure the brightness of the display (LOW, MID, HIGH)

Show EIC/Visual Tag: Configure the default type of tag searching when browsing in the device (EIC, VISUAL TAG)

ISO 24631-2: Enable/disable the ISO standard mode.

Reading vibration: Enable/disable the vibro while the device is reading a tag.

LCD Contrast: Configure the contrast of the display (0 up to 100%)

Store EIC data: Enable/disable the possibility of recording EIC codes in the control file.

Continuous reading: Enable/disable the continuous reading mode.

FDX double check: Runs check algorithm during FDX tag decoding. Should be set when reading in noisy environments.

HDX double check: Runs check algorithm during HDX tag decoding. Should be set when reading in noisy environments.

EIC Prefix (Bluetooth): Each time an EIC or a CIC is sent by the reader via Bluetooth, the reader will first send this Prefix. The prefix is user-defined and can be up to 8 characters. Carriage return is \r New line is \n Default value for this variable is an empty line (no character)

EIC Postfix (Bluetooth): Each time an EIC or a CIC is sent by the reader via Bluetooth, the reader will then send this Postfix. The postfix is user-defined and can be up to 8 characters. Carriage return is \r New line is \n Default value for this variable is \r\n *Cyclic delay*: Configure the delay of a reading cycle.

RS232 baudrate: Configure the default RS232 baudrate (9600,14400,38400,57600,115200)

Power save mode: Enable/disable the Power save mode, which can increase the battery duration up to 10 hours. It can be enabled only in ISO mode, when enabled in Synchro mode will be ignored.

TI front end: Configure the decoding of HDX Tag with TI or DATAMARS decoder.

Reader Name: This variable is appended to the name of each control generated by the GES3. Default value is GES3.

Dashboard functionalities

		4. Readings Box	6. F310 Box
	P. Dashboard		
 Readings List Console 	Readings List Console List EIC Time	Readings TOTAL: IN LIST: DUPLICATED List TOTAL: Copen	F310 Image: Single reading Image: Single re

5. List Box

7. Command Box

1. Readings

Shows the EIC read and check the EIC present in the search list. In order to show the EIC reads, EIC format must be set on both RumiSoft and Device.

2. List

Shows the search list.

3. Console

Console reads directly on the serial com port, in the same way as HyperTerminal does.

4. Readings box

<u>Total</u> Shows the total number of tags read. <u>In list</u> Shows the total number of tags read present in the search list. <u>Duplicated</u> Shows the total of the tags read minus the tags read only once. <u>Reset</u> Reset all the counters and the tag read list (does not reset the search list and the console).

5. List box

<u>Total</u> Shows the full list of tags present in the search list. <u>Open</u> Allows loading a search list.

6. F310 box

Gives quick access to some standard F310 commands:

<u>Single reading</u>: reads for a limited duration (defined by the 'reading timeout' variable) <u>Continuous mode</u>: reads continuously and displays the tag number as many times as it's read <u>Buffered mode</u>: reads continuously but a single tag is displayed only once <u>Set date</u>: send SET DATE command to F310. The date is taken from the computer clock. <u>Set time</u>: send SET TIME command to F310. The time is taken from the computer clock.

7. Command box (full command set for F310, reduced command set for F210)

Proprietary commands (see F310 and F210 manuals) can be typed in the text box. They are sent to the reader (connected through serial port) by pressing the SEND button or ENTER (carriage return) on the computer keyboard.

<u>ComPort</u>: select the ComPort (usually it's COM 1 if the reader is connected via cable) <u>ComBaudrate</u>: select the Baudrate on the PC side (it shall be the same number as the 'RS232 baudrate' config variable)