# SIEMENS

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Reydisp Evolution 32 Software

V9.87

Manual

C53000-H7050-C032-1



#### NOTE

For your own safety, observe the warnings and safety instructions contained in this document, if available.

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## 1 Introduction and Installation

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### 1.1 Introduction

Reydisp Evolution is Microsoft Windows based support software for the Reyrolle brand of protection devices incorporating the **Informative Communications Interface**. The following features are provided:

- Data download
  - Settings
  - Events including spontaneous events
  - Waveforms
  - Faults
  - Instruments
  - System information
  - Data directory (Waveform storage times)
  - Device's built in help
- Settings manipulation
  - Edit settings
  - Upload settings
  - Store and retrieve settings
  - Get and switch active settings group
  - List settings group in English
  - Compare settings
- Waveform manipulations
  - View waveforms with values and timings
  - Zoom functions
  - Sample points only
  - User defined tabbed views
  - Configurable waveform display
  - Analysis functions
- Device control
  - Login/Logout
  - Trigger & reset waveforms
  - Reset events
  - Reset flags
  - Close output relay
  - Set device time
  - Map networked devices
  - Direct command teletype interface
  - Automatic polling of devices

- Communication features
  - Direct RS232 connection
  - Connection via USB to suitable devices
  - TCP/IP connection
- Usability features
  - Save to & reload from disk
  - Printing
  - Windows clipboard functions
  - Configurable button bar
  - Configurable confirmation safety options

### 1.2 Installation

Reydisp Evolution is supplied as a self extracting installer. On running this file the *Figure 1-1* dialog box appears.

The user should click setup to begin the installation.

5	Welcome to the	Revdiso Ev	olution
tio (	32 9.82.00.000	Setup Wiza	rd
nlo	This wizard will guide you Evolution 32 9.82.00.000	through the installat	ion of Reydisp
Å 🕘	It is recommended that yu before starting Setup. The relevant system files with computer.	ou close all other app is will make it possibl out having to rebool	olications e to update t your
is	Click Next to continue.		
Reyd		3	

Figure 1-1 Reydisp Evolution Setup Wizard

If you have the USB cable connected to a relay, you will be reminded to disconnect it before continuing, as shown in *Figure 1-2*, before the dialog *Figure 1-1* is shown.

le to the Relay before continuing, ther
cel to abort the installation!
Retry

Figure 1-2 USB Connection Test

The disclaimer dialog box appears; after reading the disclaimer, the user should check **I accept...** then click the **Next** button to continue.

	License Agreement			
NEYHULLE Please review the license terms before installin Evolution 32 9.82.00.000.				eydisp
Press Page Down to	see the rest of the agreement.			
				^
Reydisp	Evolution <sup>32</sup> for Windows - Us	er Licen	ce Agreement	
SYSTEM REQUI	REMENTS			
Supported	Platforms			~
If you accept the te agreement to install	rms of the agreement, select the Reydisp Evolution 32 9.82.00.00	first optio 0. Click N	on below. You mu: ext to continue.	st accept the
I accept the term	is of the License Agreement			
O I do not accept t	he terms of the License Agreeme	nt		
Ilsoft Install System	/2.46			

[sc\_ReydispEvolution\_License, 1, --\_

Figure 1-3 Reydisp Evolution License Agreement

The choose components dialog box appears; the user should select which components to install. Note the USB driver is compulsory, then the user can click the **Next** button to continue.

REYROLLE	Choose Components Choose which features of Reydia want to install.	sp Evolution 32 9.82.00.000 y
Check the component install. Click Next to c Select components to	install: USB Driver Reydisp Evolution Curve Editor Language Editor	Description Position your mouse over a component to see its description.
Space required: 1.2G	В	

Figure 1-4 Choose Components

The user can then select the target location drive and destination directory for the application and click **Next** to continue.

1.2 Installation

Reydisp Evolution	32 9.82.00.000 Setup				2
neunou Le	Choose Install Location				
HEYHULLE	Choose the folder in which to i 9.82.00.000.	nstall Reydisp	Evolut	ion 32	
Setup will install Reyo different folder, click	lisp Evolution 32 9.82.00.000 in the foll Browse and select another folder. Click	owing folder. Next to conti	To inst nue.	all in a	
Destination Folder					
Destination Folder					
Destination Folder Program Files (	x86)\Reyrolle Protection\Reydisp Evolu se	tion 32\	Brow	se	l)
Destination Folder Program Files ( Space required: 1.20 Space available: 300	x86)\Reyrolle Protection\Reydisp Evolu 18 .8GB	tion 32\	Brow	se	]
Destination Folder Program Files ( Space required: 1.20 Space available: 300	x86)\Reyrolle Protection\Reydisp Evolu 18 .8GB	tion 32\]	Brow	se	]
Destination Folder :Program Files ( Space required: 1.26 Space available: 300 illsoft Install System v	x86)\Reyrolle Protection\Reydisp Evolu 18 .8GB 2.46	tion 32\]	Brow	se	]

Figure 1-5 Install Location

The user should then select whether to install for a single user or everyone who uses the PC and click **Install** to begin the installation.

	1994 - J. S.Y. (2007) 1775 1995 (2004) 1177 277, 2005 12				
	Choose Users				
NETHULLE	Choose for which users 9.82.00.000.	s you want	t to install Reydis	p Evolution	32
Select whether you all users of this comp	want to install Reydisp Evolution nuter. Click Next to continue.	32 9.82.0	0.000 for yourse	elf only or fi	or
() Install for a	anyone using this computer				
🔿 Install just	for me				
Julisoft Install System v	2.46		//		
			Contract Contract of Contract	119201755	

[sc\_ReydispEvolution\_Users, 1, --\_--]

Figure 1-6 Choose Users

The progress dialog will be displayed.

REYROLLE	Please wait v installed.	vhile Reydisp Evolu	ition 32 9.82.00	.000 is being	1
Extract: 7SR 1204-4	(A12-xDA0 2436H800)	04R1g-1c#7c013,	5.SettingsTemp	late	
Skipped: 7SR 1204- Skipped: 7SR 1204-	4xA12-xCA0 2436H80 4xA12-xCA0 2436H80	0004R2c-2b#3931	3,5.SettingsTer 3,5.SettingsTer	nplate	^
Skipped: 7SR 1204- Skipped: 7SR 1204- Skipped: 7SR 1204-	4xA12-xCA0 2436H80 4xA12-xCA0 2436H80	0004R3b-3a#6d19	3,5.SettingsTer 3,5.SettingsTer	mplate mplate	
Skipped: 7SR 1204 Skipped: 7SR 1204 Skipped: 7SR 1204	4xA12-xCA0 2436H80 4xA12-xCA0 2436H80 4xA12-xCA0 2436H80	004R4g-3c#bbc9 004R4h-3d#bbc9	3,5.SettingsTen 3,5.SettingsTen	nplate nplate	
Skipped: 7SR 1204- Skipped: 7SR 1204- Extract: 7SR 1204	4xA12-xCA0 2436H80 4xA12-xDA0 2436H80	0004R4k-3d#bbc9	3,5.SettingsTen 3,5.SettingsTen	nplate nplate	
soft Install System y	2.46	00-#c1g-1c#7c01	5,5.5etungsren	pate	~

Figure 1-7 Reydisp Evolution Installing

During the installation the user will be asked to install the USB driver.

Windows Security	<b>X</b>
Would you like to install this device software? Name: Siemens Protection Devices Ltd. Ports (C Publisher: Siemens Protection Devices Ltd.	
Always trust software from "Siemens Protection Devices Ltd.".	Install Don't Install
Vou should only install driver software from publishers you trust. <u>software is safe to install?</u>	How can I decide which device

[sc\_ReydispEvolution\_DriverSecurity, 1, --\_

Figure 1-8 USB Device Driver Software

When this dialog box appears the user needs to confirm installation of a driver. The driver is a USB driver for use with the devices that have a USB port on their fascia.

The user can click **Install** to install the driver.

At this point if everything has installed correctly the confirmation dialog as shown in *Figure 1-9* will be displayed.

The user can then click **Finish** to complete the installation. If the **Run** box on the *Figure 1-9* is checked Reydisp will now start.

1.2 Installation



sc\_ReydispEvolution\_Installed

Figure 1-9 Reydisp Evolution Installation Completed

## 2 Getting Started

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### 2.1 Using Reydisp Evolution

.....

This section gives a brief tutorial on using Reydisp Evolution.

Reydisp Evolution can be used without being connected to a device. Some example (template) files of data and settings are supplied with the product to demonstrate its use. This description will make use of those files in the following examples. There will be some references to working with devices online, although, the majority of information regarding this subject will be given in the *3 Communications* section which describes connecting to a device.

In the following text when a menu command is described the notation **Menu > Command** or **Menu > Sub Menu > Command** will be used, for example, select **Open** from the **File** menu would be shown as **File > Open**.

When running Reydisp the help system can be used to get more information, for example, to get help about the active data window select **Help > Help for Active Window** or press **F1**.



If Reydisp Evolution is not running start it by double clicking on its icon

Reydisp Evolution can be used in both English Language or Turkish Language. To change the language select the **File** menu and **User Interface Language**.

	New From Template	
1	Connect	
2	Hangup	
	Open	>
3	Save	
a,	Save As	
	Close	
	Offline Revise Settings	
	User Interface Language	
à	Print	
	Print Options	
	Printer Setup	
	0 C:\Users\\TEMPLATE - 2021_05_30_09_33_13_000095 - DM01E051 - 7SR242x-2xAxx-0AA0-Ethernet.txt	
	1 C:\Users\\2021_05_30_09_26_01_000390 - DM01E051 - 7SR242x-2xAxx-0AA0-Ethernet.txt	
	2 C:\Users\\ARGUS-M 7SR21 - 7SR210[234]-1xAxx-0DA0-Test.rsf2	
	3 C:\Users\\EMP33-19-0145 HINCKLEY-CB02 Sapcote 2-MP OC EF AR-7SR21-V3.rsf2	
	4 R:\4_John\7SR23-SD-DATA\WAVEFORM.001.rdf2	
	5 R:\4_John\7SR23-SD-DATA\WAVEFORM.007.rdf2	
	6 R:\4_John\7SR23-SD-DATA\WAVEFORM.006.rdf2	
	7 R:\4_John\7SR23-SD-DATA\WAVEFORM.005.rdf2	
	8 R:\4_John\7SR23-SD-DATA\WAVEFORM.004.rdf2	
	9 R:\4_John\7SR23-SD-DATA\WAVEFORM.003.rdf2	
	Exit	

Figure 2-1 User Interface Language

A popup menu allows the selection between English (UK) and Turk.

	×
Turkce	Ň
English (UK) Turkce	63

Figure 2-2 User Interface Language Popup

After selection the user interface language will change to display menus and messages in the chosen language.



Figure 2-3 User Interface Language Turkish

### 2.2 Main Window

Reydisp Evolution
File Edit View Relay Options Window Help
Be 🐔 🚰 🔚 😂 🐴 🗙 La 🖧 🔑 🐜 🎱 💥 🕊 ₩ ₩ 🗐 🖌 🐼 🕭 🛃 🚺 👁 😬
Settings Editor (Untitled)
S Events = 24 (Untitled)
S Creat File (Untitled)
T Re Z Data Header Window (Untitled)
System Config INF Notes All Signals Analogues Digitals
d HV Line Ib 0.002Xin HV Line Ic 0.000Xin HV Line Ic 0.000Xin
P         FA         HV Line Ia         0.002xIn         0.002xIn           Max         1.417xIn         Nin - 1.480xIn         Nin - 1.480xIn
e
G         HV Line Ic         0.000xIn         0.002xIn           Max         1.474xIn         Max         1.474xIn           Min         -1.409xIn         Min         -1.409xIn
-0.002×in my/24/my/14/04/04/04/04/04/04/04/04/04/04/04/04/04
Utine Is 0.000xin wetwork w. An a how March a data with the Asard
-100.000 mS 800.000 mS 700.000 mS
E SE @ @ E SE
🐼 Address 1 @ COM3:57600,n

Figure 2-4 Main Window

The main display of Reydisp Evolution uses the standard Microsoft Multiple Document Interface (MDI) format. A menu bar (File, Edit ... Help) near the top of the window lists the commands.

These commands are duplicated on a configurable button bar beneath the menu bar, as shown in *Figure 2-5*. A description of a button can be seen by moving the mouse pointer over the button to display a hint.



At the bottom of the window is a status bar, illustrated in *Figure 2-6*, containing status and connection information. A green tick signifies connected and a red cross is disconnected. The connection information describes the address of the device and the type of connection, for example a COM port or TCP/IP connection.

Address 1 @ COM3:57600,n

Figure 2-6 Status Bar

### 2.3 Manipulating Relay Settings

#### **Opening an Example**

The user can select **File > New From Template**. A dialog box, shown in *Figure 2-7*, is displayed listing the template files installed.

0SR210x-1xAxx-0CA0					
		2435H85008R	9,8	#3ba4	Ļ
7SG1510-2xE30-0xA0 Mic	TOTAPP, Ad	2792H80002R7	11,5		
7SG1510-2xJ30-0xA0 "Mic	TOTAPP, Ad	2792H80002R7	19,13		
7SG1510-2xK30-0xA0 Mic	TOTAPP, Ad	2792H80002R7	19,13		
7SR1101-1xA12-xCA0 "AR	GUS-C, Non	2436H80003R	3,5	#a528	
7SR1101-1xA12-xCA0 "AR	GUS-C, Non	2436H80003R	3,5	#a528	
7SR1101-1xA12-xCA0 "AR	GUS-C, Non	2436H80003R2-2	3,5	#d47e	
7SR1101-1xA12-xCA0 "AR	GUS-C, Non	2436H80003R	3,5	#4fd4	
7SR 1101-1xA12-xCA0 AR	GLIS-C. Non	2436H80003R	3.5	#96a8	
Find		7			

Figure 2-7 Open Template

The user can then select the **Settings** tab and then a template from the list and click **OK**. The Setting Editor is displayed.

### 2.4 Settings Editor Window

saved the settings.

A settings editor window is used to manipulate settings. Reydisp Evolution can display several Settings Editor windows. This window allows settings to be downloaded from a device, changed, and uploaded to the device. Settings can also be saved to and reloaded from disk.

The settings editor shows an explorer style view with a menu tree on the left and a settings list on the right. The **System** tab at the top left of the settings editor window displays information about the device which

The **Notes** tab holds text which can be used to describe the settings within the file.

The **Config** tab is a shortcut page that lists settings which enable or disable elements.

The **Settings** tab displays the settings in a tree format.

The Matrix tabs, **Input**, **Output**, and **LED**, show the settings relating to respectively Status Inputs, Output Relays and LEDs in matrix displays; followed by any Quick Views that have been defined; these settings are also shown in standard format on the tree display.

#### **Changing Settings**

Click the **Settings** tab to make it active. There are different methods to change settings depending on the type of setting. To change a setting the user should select it in the list. The appropriate editor is then displayed or a button to open an editor.



Figure 2-8 Settings Editor

#### **Selectable Settings**

If the setting is a list of pre-defined options, a drop down list is shown when the setting is selected. The user should choose the value required from this list.

Settings	Parameter	Range	Value		
SYSTEM CONFIC  SYSTEM CONFIG  SUNCTION CONFIG  CURRENT PROT'N	System Frequency Setting Dependencies	(5060) (DisabledEnabled) (Off60)	50Hz Enabled 60min		
SUPERVISION     CONTROL & LOGIC     DOTROL & LOGIC     DOTRUT CONFIG     DOTPUT CONFIG     DOTPUT CONFIG     DOTA STORAGE     DOTA STORAGE     COMMUNICATIONS	Backlight timer  F/F Curr Set Display  Select Grp Mode  Couck Sync. From BI  Operating Mode  Control Password  Control Password  Trip Alert  General Alarm Alert	(Off60) (xNomSecondary) (Edge triggeredLevel triggered) (DisabledMinutes) (Out Of ServiceLocal Or Remote) (Password) (Password) (DisabledEnabled)	Smin Off Imin 2min 5min 10min 15min 30min 60min		
	AB Relay Identifier AB Circuit Identifier	(16 Character String) (16 Character String)	7SR11		

Figure 2-9 Settings Editor Dropdown

#### **Text Settings**

A text setting, for example, a Relay Identifier or User ID/Password, the text editor will be displayed; the user can type the text required then press return.



#### NOTE

The characters that can be used are shown in the status bar at the bottom of the window.

System I	Notes	Config	Settings	Input Matrix	Output Matrix	LED Matrix	Simplified Protectio	n Recloser	
E- E Settings				Parameter		Range	Value		
	SYSTE CT/VT FUNCT CURRE VOLTA SUPER CONTF INPUT OUTPU MAINT DATA COMMI	M CONFIG CONFIG ION CON INT PROT GE PROT VISION ROL & LO CONFIG T CONFIG T CONFIG ENANCE STORAGI UNICATI	I( IFIG I'N GIC G E ONS		Language Sei     System Frequ     Setting Depei     Favourite Met     Backlight time     Curr Set Disp     E/F Curr Set     Export Power     Select Grp Me     Clock Sync. F     Operating Mo     Setting Passw     Trip Alert     General Alarr     Relay Ident     Circuit Identif	tting Jency Indencies Jers Timer er Display Display /Lag VAr ode rrom BI de vord de vord m Alert <b>ifier</b>	(EnglishUSA-English (5060) (DisabledEnabled) (Off60) (Off60) (xNomSecondary) (xNomSecondary) (+ve/+veve/-ve) (Edge triggeredLeve (DisabledMinutes) (Out Of ServiceLoca (Password) (DisabledEnabled) (DisabledEnabled) (DisabledEnabled) (16 Character String)	l triggered) Or Remote) g)	English 50Hz Enabled 60min Smin xNom +ve/+ve Edge triggered Minutes Local Or Remote NONE Enabled Enabled TSR224



Some settings are edited as special strings and only allow certain characters. An example is **Settings Group Select**. On a device with 5 status inputs this setting will have 5 characters. The first (left) character represents status input 1 and the last (right) character the last status input (in this example input 5). To activate group 2 using input 1 enter 2 as the first character. Status inputs which are not to be used to set groups should be assigned the underscore character, for example 2 \_ \_ \_. To make status input 1 activate setting group 3, input 3 activate group 5 and input 4 activate group 2, enter 3 \_ 5 2 \_.

vstem Notes Config Settings Input Mat	rix Output Matrix			
ettings	Parameter	Range	Value	
SYSTEM CONFIG MENU	AB Settings Group Sel'n	(10 Character St		
PROTECTION MENU      DIRECTIONAL MENU      OVER MENU      OVER ELAY CONFIG NENU	Gn Inverted Inputs	( 9 Bit Binary)		
	Gn P/F Charact. Inhibit	(10 Bit Binary)		
	Gn P/F Lowset Inhibit	(10 Bit Binary)	0.000000000	
STATUS CONFIG MEN	Gn P/F Highset1 Inhibit	(10 Bit Binary)		
DATA STORAGE MENJ	Gn P/F Highset2 Inhibit	(10 Bit Binary)		
CB MAINTENANCE MENU	Gn E/F Charact. Inhibit	(10 Bit Binary)		
	Gn E/F Lowset Inhibit	(10 Bit Binary)		
	Gn E/F Highset1 Inhibit	(10 Bit Binary)		
	Gn E/F Highset2 Inhibit	(10 Bit Binary)		
	Gn SEF/REF Delay 1 Inhibit	( 9 Bit Binary)		
	Gn SEF/REF Delay 2 Inhibit	( 9 Bit Binary)		
	Gn SEF/REF Lowset Inhibit	( 9 Bit Binary)		
	Gn V Inhibit	( 9 Bit Binary)		
	Gn Trip Circuit Fail	( 9 Bit Binary)		
	Gn Waveform Trig	( 9 Bit Binary)		
	Gn Sum of I^2 Update	( 9 Bit Binary)		
	Gn Reset Flag & Output	( 9 Bit Binary)		

Figure 2-11 Settings Group Select

#### Bit Selection Strings

For bit selection settings a button is displayed next to the setting. The user should click it, or double click the setting, to open the bitwise editor. After changing the values click **OK** to store.



Figure 2-12 Bit Selection Strings

#### Using the Matrix Editor

To use a matrix editor the user should click the appropriate tab to make it active. A subset of settings is listed in the left pane and the controlled object across the top of the right pane. The user can click in the box at the

System	Notes	Config	Settings	Input Matrix	Out	put M	atrix	LED M	latrix									
Setting \ Output				BO1	BO2	BO3	BO4	BO5	L1	L2	L3	L4	L5	L6	L7	L8	L9	
Protection Healthy				1	0	0		-	-			-	0			-	-	
Active Setting Grp 1						-		-6-	_	-6-		-6-	_6_	-6-		-0-		
Active Setting Grp 2 Active Setting Grp 3					-	-6-		_	-0-	-0-	-0-	-6-		-0-	-6-		-6-	
				-	-			_	-0-	-0-	-6-	-0-	-@-	-0-	-6-	_	-6-	
			Active	Setting Grp 4	<u> </u>	-0-	-0-	-0-		-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
				51G-1	0		-	_		-0-	-				-	-	_	
				51G-2	-	-0-			-0-	-0-	-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
				50G-1	<u> </u>	-0-			-0-		-0-	-0-			-0-	-0-	-0-	
				50G-2	2	-			-	-0-				-0-			-	- <b></b>
				64H	-				-0-						-0-		-0-	
				37G-1	<u>–</u>	- <b></b>			-0-	-0-		-0-			-0-		-0-	- <b></b>
				37G-2	<u>-</u>	-			-	-0-	-0-	-0-	-0-			-0-	-0-	
				74TCS-1	m-	- <u></u>	_m_	_h	_ <u>_</u>	- <u>(n</u> )-	_m_		_ <u>_</u>	-m-	-m-	-m-	- <b></b>	
					•				III					(100):		10 U	20230	•

intersection between the two to select or deselect a point. *Figure 2-13* shows part of a matrix, in it LED (L) 1 will operate by Phase A, L2 by Phase B and L3 by Phase C.

Figure 2-13 Matrix Editor

#### **Help Hints**

Help hints are displayed, when the user hovers over a setting, describing each setting, as illustrated in *Figure 2-14* and *Figure 2-15*.

System Notes Config S	Settings Input Matrix	Output Matrix LED Matri	×	
E- E Settings		Parameter	Range	Value
SYSTEM CONFIG	<b>S</b>	E System Frequency	(5060)	50Hz
	IG	Setting Dependencies	(DisabledEnabled)	Enabled
E CURRENT PROT'N	N	E Favourite Meters Timer	(Off60)	60min
		Backlight timer	(Off60)	30min
E CONTROL & LOG	IC	E/F Curr Set Display	(xNomSecondary)	xNom
INPUT CONFIG		E Select Grp Mode	(Edge triggeredLevel triggered)	Edge triggered
. OUTPUT CONFIG		E Clock Sync. From BI	(DisabledMinutes)	Minutes
HAINTENANCE		Derating Mode	(Out Of ServiceLocal Or Remote)	Local Or Remote
E DATA STORAGE		🔓 Setting Password	(Password)	NONE
COMMUNICATIO	NS	Control Password	(Password)	NONE
		Trip Alert	(DisabledEnabled)	Enabled
		Greacel Alarm Alart Alarm Alart When Enabled the the Trip Alert Scr acknowledging th fascia	(Disabled Enabled) e occurance of a Trip will cause the r een, the only way to leave this scree e trip through the TEST/RESET butto	Feabled relay to display en is by on on the relay

sc\_ReydispEvolution\_HelpHintsExample1, 1, --\_--]

Figure 2-14 Help Hints Example 1

🔂 Settings Editor (Untitled)			
System Notes Config Settings Input Matrix	Output Matrix LED Matrix		
E- Settings	Parameter	Range	Value
SYSTEM CONFIG CT/VT CONFIG FUNCTION CONFIG This menu controls the individual function enable/disable settings. If any function is disabled in this and blocked from operating. If se enabled then the individual disable from the relay menus.	Gn Measured E/F Gn Restricted E/F Gn Linder Current I protection and supervis menu then it is disabled ettings dependencies are iled functions are remove	(EnabledDisabled) (EnabledDisabled) (EnabledDisabled) (EnabledDisabled) bledDisabled) bledDisabled) bledDisabled) bledDisabled)	Disabled Disabled Disabled Disabled Disabled Disabled Disabled
FUNCTION CONFIG This menu cont	rols the individual protection a	nd supervisory function	n enable/disable settings، If any fun،

Figure 2-15 Help Hints Example 2

The hints can be turned on or off from the context menu by clicking the right mouse button while on the settings display, illustrated in *Figure 2-16*.

System Notes Config Settings Input Matr	x Output Matrix	LED Matrix			
Settings SYSTEM CONFIG CT/VT CONFIG FUNCTION CONFI CURRENT PROT'N CURRENT PROT'N CURRENT PROT'N CURRENT PROT'N CURRENT PROT'N CURRENT PROT'N CURRENT PROT'N CURRENT PROT'N CONTROL & LOGIC CONTROL &	Parameter Gn Measured Gn Restricter Gn Line Cher Gn Trip Cet S Gn Close Co Gn Inrush Gn Close Co	d E/F d E/F irrent ck Supervision t Super V Show I le Cancel	Range (EnabledDisabled) (EnabledDisabled) (EnabledDisabled) (EnabledDisabled) (EnabledDisabled) (EnabledDisabled) ded) ded)	Value Disabled Disabled Disabled Disabled Disabled Disabled Disabled	

Figure 2-16 Show Help Hints

#### Using the Config Editor

To use the config editor the user should click the appropriate tab to make it active. A subset of settings is listed that control whether elements are enabled or disabled. The user can check the box to the left of the setting to enable or disable it.

System	Notes	Config	Settings	Input Matrix	Output Matrix	LED Matrix		
SYSTEM	1 CONFIG	;						- 1
🔽 🌔 Si	etting De	perdenci	es 🔽	C Trip Alert		🗹 🌔 General Alarm Alert		
FUNCT	ION CON	IFIG						_
🔲 🔘 G	n Measu	red E/F		C Gn Restrict	ed E/F	🔲 🌑 Gn Under Current	🔲 🌑 Gn Line Check	
🗖 🔘 G	n Trip Co	t Supervis	sion 📃	Close C	ct Supervis'n	🔲 🌑 Gn Inrush Detector	Gn CB Counters	1
MEASU	RED E/F							_
🔲 🕐 G	n 51G-1 I	Element	100	🔘 Gn 51G-2 E	lement	🔲 🌑 Gn 50G-1 Element	🔲 🌑 Gn 50G-2 Element	-
RESTRIC	CTED E/F							_
🗐 🔘 G	n 64H Ele	ement						
UNDER	CURREN	т —						_
🗌 🔘 G	n 37G-1 I	Element		@ Gn 37G-2 E	lement			
LINE CH	HECK —							_
🗖 🔘 G	n 50G LC	-1 Elemer	nt 🗐	C Gn 50G LC-	-2 Element			
T010 00				1.1.1.1.1.1.1				



#### **Quick Settings Pages**

Some devices have had quick settings pages defined for them, which contain a subset of related settings. These pages are displayed as additional tabs to the right of the matrix views. Settings are changed using the standard windows style controls.



#### NOTE

The controls for settings that are related to others may be disabled until other settings are changed, as illustrated in *Figure 2-18*.

*Figure 2-18* shows the 51-1 Element settings are unavailable until its checkbox is checked. Contrast this with the 51-2 Element settings which are available. In the Measured E/F group no settings are available because the whole function is disabled.

em Notes C	System Co	ttings   Input onfiguration	t Matrix	Output M	atrix   l	ED Matrix		ection Rec	loser	
	Relay Iden	tifier 7SR224					Syst	em Frequenc	y 50Hz 💌	
vercurrent hase Overcurrent		Disabled	-							
lement	Setting	Char.	Time Mul	lt. Delay	Min	Op. Time	Element	Setting	Delay	
51-1 Element	1xIn 💌	IEC-NI 💌	1	<b>5</b> 5	<ul> <li>Os</li> </ul>		50-1 Element	1xIn 💌	0s 💌	
51-2 Element	1xIn 💌	IEC-NI	1	- 5s	▼ Os	-	📃 50-2 Element	1xIn 💌	0s 💌	
51-3 Element	1xIn 💌	IEC-NI	1	- 5s	▼ 0s		🔲 50-3 Element	1xIn 💌	0s 💌	
51-4 Element	1xIn 💌	IEC-NI	1	• 5s	▼ 0s	-	🔲 50-4 Element	1xIn 💌	0s 💌	
round Quera Irron	t Cottingo									
leasured E/F	it betungs	Disabled	-							
	Setting	Char.	Time Mul	lt. Delay	Min	Op. Time	Element	Setting	Delay	
51G-1 Element	0.5xIr 💌	IEC-NI 💌	1	• 5s	▼ 0s	-	50G-1 Element	0.5xIr 💌	0s 💌	
51G-2 Element	0.5xIr 💌	IEC-NI	1	- 5s	▼ Os	-	50G-2 Element	0.5xIr 💌	0s 💌	
51G-3 Element	0.5xIr 💌	IEC-NI	1	- 5s	▼ 0s		50G-3 Element	0.5xIr 💌	0s 💌	
51G-4 Element	0.5xIr 💌	IEC-NI 💌	1	• 5s	▼ Os	•	🔲 50G-4 Element	0.5xIr 💌	0s 💌	



Figure 2-18 Quick Settings Pages

Once changed, settings from this page can be sent to the device relay using the using the update button



and Group control at the top left corner of the page. If the setting were loaded from a file, rather than directly from a device, the group box will initially be empty. Alternatively, the standard commands **Relay** > **Settings > Update Changed Settings** and **Relay > Settings > Send All Settings** can be used to update all settings or all changed settings across the tabs.

#### Saving, Opening, and Exporting Settings

The settings can be saved by using **File > Save**, or to save the file under a new name use the **File > Save As** command. Before using either of these commands, ensure the settings window is active (topmost). Settings can be saved in the original settings format (.set) or the new format (.rsf2) which holds more information and is more secure. To save the contents of the **Notes** tab the user should use the new format. Settings that are saved in either of these formats can be reloaded using the **File > Open** command.

To export settings in CSV, XML, TXT or RTF formats use the **File > Save As** command and select the type of file required from the **Save File as Type** list. CSV and TXT files are files that can be opened in another application, for example, CSV in the Excel spreadsheet or TXT in Notepad. XML files contain a list of the settings and their descriptive information. RTF files are a table of the settings containing their present value, default value and space for a user value, and can be opened in a suitable word processor, as illustrated in *Figure 2-19*.

#### Getting Started 2.4 Settings Editor Window

Arial Arial B Z U - RELA SOFT RELA INPU OUTP OUTP System Setting Favou Backling EFC Cu Setting Control	*     10     *     A     A       *     *     A     *     A       *     *     A     *     A       *     *     A     *     A       *     *     A     *     A       *     *     A     *     A       *     *     A     *     A       *     *     *     A     A       *     *     *     A     A       *     *     *     A     A       *     *     *     A     A       *     *     *     A     A       *     *     *     A     A       *     *     *     A     A       *     *     *	TSR1101-1xA12-xCA0           2436H80003R1g-1d#4fd4           ARGUS-C 7SR11           3           5	AaBbCcI AaBb Normal No Sp Default 50Hz Enabled	Setting	Change Styles ~
Arial B Z U - • RELA SOFT RELA INPU OUTP OUTP System Setting Favou Backing EFCU Setect Clock 3 Operal Setting Control	Y IO → A A → A → A → A → A → A → A → A → A	TSR11C1-1xA12-xCA0         2436H80003R1g-1d#4fd4         ARGUS-C 7SR11         3         5         Range         50,60         Disabled,Enabled         Off, 1, 2, 5, 10, 15, 30, 60	AaBbCcI Normal Normal No Sp No Sp	Styles	Change Styles *
B Z U - a ard D RELA SOFT RELA INPU OUTF Bascri System Setting Favou Backfor Setting EFF Cu Select Clock 1 Operal Setting Control	AY Font (2) Font (2) Fo	TSR11C1-1xA12-xCA0           2436H80003R1g-1d#4fd4           ARGUS-C 7SR11           3           5           Range           50,60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default     Solution     Default     Solution	Setting	Change Styles *
Ard 5 RELA SOFT RELA SOFT RELA INPU OUTF OUTF System Setting Favou Backing EF Cu Select Clock 3 Operal Setting Control	AY Font Fo	Paragraph           7SR11C1-1xA12-xCA0           2436H80003R1g-1d#4fd4           ARGUS-C 7SR11           3           5           Range           50,60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	L Default 50Hz Enabled	Styles	Styles"
ard <sup>1</sup> 5 RELA SOFT RELA INPU OUTF OUTF 1 SY Descri System Setting Favou Backlig EFCO Select Clock: Operal Setting Control	AY TWARE AY IDENTIFIER TS PUTS YSTEM CONFIG iption m Frequency g Dependencies rritel Meters Timer	Paragraph         F           7SR11C1-1xA12-xCA0         2436H80003R1g-1d#4fd4           ARGUS-C 7SR11         3           5         5           Range         50,60           Disabled,Enabled         Off, 1,2, 5, 10, 15, 30, 60	L Default 50Hz Enabled	Styles Setting	
IRELA SOFT RELA INPU OUTF OUTF System Setting Favou Backlig EFCO Select Clock: Operal Setting Control	AY TWARE AY IDENTIFIER TS PUTS YSTEM CONFIG iption m Frequency g Dependencies ritel Meters Timer	7SR11C1-1xA12-xCA0           2436H80003R1g-1d#4fdd           ARGUS-C 7SR11           3           5           Range           50,60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	L Default 50Hz Enabled	Setting	
RELA SOFT RELA INPU OUTF OUTF System Setting Favou Backlig E/F Cu Select Clock: Operal Setting Control	AY IWARE AY IDENTIFIER TS PUTS VSTEM CONFIG iption m Frequency g Dependencies ritel Meters Timer	7SR11(1-1xA12-xCA0           2436H80003R1g-1d#4fdd           ARGUS-C 7SR11           3           5           Range           50,60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
RELA SOFT RELA INPU OUTF 1 SY Descri Systen Setting Favou Backlig E/F CU Select Clock: Operal Setting Control	AY INVARE AY IDENTIFIER TS PUTS VSTEM CONFIG iption m Frequency g Dependencies rritel Meters Timer	7SR1101-1xA12-xCA0           2436H80003R1g-1d#4fd4           ARGUS-C 7SR11           3           5           Range           50,60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
RELA     SOFT     RELA     SOFT     RELA     INPU     OUTF     1 SY     Descri     Systen     Setting     Favou     Backlig     Clock:     Operal     Setting     Control	AY IVVARE AY IDENTIFIER TS PUTS VSTEM CONFIG iption m Frequency g Dependencies rirtel Meters Timer	7SR1101-1xA12-xCA0           2436H80003R1g-1d#4fd4           ARGUS-C 7SR11           3           5           Range           50,60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
Interpret to the second section of the section of	AY WARE AY IDENTIFIER TS PUTS YSTEM CONFIG iption m Frequency g Dependencies rirtel Meters Timer	7SR1101-1xA12-xCA0           2436H80003R1g-1d#4fd4           ARGUS-C 7SR11           3           5           Range           50,60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
RELA SOFI RELA INPU OUTF OUTF System Setting Favou Backling EF Cu Select Clock: Operal Setting Control	AY IWARE AY IDENTIFIER TS PUTS SETEM CONFIG iption m Frequency g Dependencies rirtleMeters Timer	7SR1101-1xA12-xCA0           2436H80003R1g-1d#4fd4           ARGUS-C 7SR11           3           5           Range           50,60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
RELA SOFI RELA INPU OUTF 1 SY Descri Systen Setting Favou Backlig Control Setting Control	AY IWARE AY IDENTIFIER TS PUTS STEM CONFIG iption m Frequency g Dependencies rritel Meters Timer	7SR11C1-1xA12-xCA0           2436H80003R1g-1d#4fd4           ARGUS-C 7SR11           3           5           Range           50, 60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
SOFI REL4 INPU OUTF 1 SY Descri Systen Setting Favou Backlig Control Setting Control	TWARE AY IDENTIFIER TS PUTS STEM CONFIG iption m Frequency g Dependencies rirtelMeters Timer	2436H80003R1g-1d#4fd4           ARGUS-C 7SR11           3           5           Range           50,60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
RELA INPU OUTF 1 SY Descri Systen Setting Favou Backlig E/F Cu Select Clock 1 Operal Setting Contro	AY IDENTIFIER TS PUTS /STEM CONFIG iption m Frequency g Dependencies ritel Meters Timer	ARGUS-C 7SR11 3 5 Range 50,60 Disabled,Enabled Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
INPU OUTF System Setting Favou Backij E/F CU Select Clock 3 Operal Setting Contro	TS PUTS /STEM CONFIG iption m Frequency g Dependencies rite/Meters Timer	3 5 <b>Range</b> 50,60 Disabled,Enabled Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
OUTF 1 SY Descri System Setting Favou Backlig E/F CU Select Clock 3 Operal Setting Control	PUTS / STEM CONFIG iption m Frequency g Dependencies rite/Meters Timer	5 Range 50,60 Disabled,Enabled Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
1 SY Descri System Setting Favou Backlig EFCO Select Clock: Operal Setting Contro	YSTEM CONFIG iption m Frequency g Dependencies irite/Meters Timer	Range           50,60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
1 SY Descri Systen Setting Favou Backli E/F Cu Select Clock: Operal Setting Contro	Y STEM CONFIG iption m Frequency g Dependencies irite/Meters Timer	Range           50, 60           Disabled, Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	
Descri Syster Setting Favou Backlij E/F Cu Select Clock: Operal Setting Contro	iption m Frequency g Dependencies iriteMeters Timer	Range           50, 60           Disabled,Enabled           Off, 1, 2, 5, 10, 15, 30, 60	Default 50Hz Enabled	Setting	-
Syster Setting Favou Backlij E/F Cu Select Clock: Operal Setting Contro	m Frequency g Dependencies rriteMeters Timer	50, 60 Disabled, Enabled Off, 1, 2, 5, 10, 15, 30, 60	50Hz Enabled		-
Setting Favou Backlii E/F Cu Select Clock: Operal Setting Contro	g Dependencies irite Meters Timer	Disabled, Enabled Off, 1, 2, 5, 10, 15, 30, 60	Enabled		-
Favou Backlii E/F Cu Select Clock 1 Operal Setting Contro	riteMeters Timer	Off, 1, 2, 5, 10, 15, 30, 60	00i-	-	-
Backli E/F Cu Select Clock Operal Setting Contro			SUMIN		1
E/F Cu Select Clock Operat Setting Contro	ghttimer	Off, 1, 2, 5, 10, 15, 30, 60	5min		1
Select Clock Opera Setting Contro	urr Set Display	xNom, Primary, Secondary	xNom		1
Clock Operation Setting Contro	Grp Mode	Edgetriggered, Leveltriggered	d Edgetriggered		1
Opera Setting Contro	Sync. From Bl	Disabled, Seconds, Minutes	Minutes		-
Setting	ting Mode	Out Of Service, Local, Remote	, Local Or Remote		
Contro	Password	(Password)	NONE	-	
Conne	ol Password	(Password)	NONE		-
Trip Al	lert	Disabled Enabled	Enabled		-
Relay	Identifier	(16 Character String)	ARGUS-C	2	
( coup )		(re character carrily)	7SR11		
		23 <sup>3</sup>	72		1
2 CT	/VT CONFIG				
Descri	iption	Range	Default	Setting	]
Earth C	CurrentInput	1,5	1A		
Earth C	CT Ratio	1:0.2, 1:0.21 5000:6.9, 5000	2000:1		
	N/2/108/19/19/				
A FII					

Figure 2-19 Exported Settings Example

#### Getting Settings from and Uploading them to a Device

To upload settings the user should use the **Relay > Settings > Update Changed Settings** and **Relay > Settings > Send All Settings** commands.

Getting settings from a device is the online equivalent of opening a file. To get the settings use the **Relay > Settings > Get Settings** command.

#### **Printing Settings**

Settings files can be printed using the command **File > Print**.

#### **Configuring the Display**

To change the default colours of the display and the general options use **Options > Evolution**. Refer to *Evolution, Page 123* for a description of the options.

### 2.5 Manipulating Relay Waveforms

#### Opening an Example

Select **File > New From Template**. Select the **Data** tab and then the template **DU3-22OxC** from the list and click **OK**. The Data Header window will open.

### 2.6 Data Header Window

📈 Data Header V	Vindow (Ur	titled)						x
System Confi	g INF	Notes	All Signals	Analogues	Digitals			_
HV Line Ia HV Line Ib HV Line Ic	0.002xIn 0.003xIn 0.000xIn						0.002xIn -0.002xIn - 0.002xIn	* III -
HV Line Ia	0.002xIn						0.002xIn Max 1.417xIn - Min -1.480xIn	
HV Line Ib	0.003xIn						-0.002xIn Max 1.419xIn - Min -1.417xIn	
HV Line Ic	0.000xIn						0.002xIn Max 1.474xIn - Min -1.409xIn	Ŧ
4							F	
-100.000 mS			800.000 mS		70	00.000 mS		

Figure 2-20 Data Header Window

The waveform display window will open as illustrated in Figure 2-20.

Initially for each type of device there are default views defined containing the Analogue Channels, Digital Channels and All Channels. Users can create new views or modify existing views, edit the analogue channel information, and format the display using the **View > Properties** command.

A view has 2 vertical cursors (left and right), and a dashed dotted line showing the trigger point. In the status bar at the bottom of the window is the time of the position at each cursor, and centrally the difference between the times, as illustrated in *Figure 2-21*.

-100.000 mS	800.000 mS	700.000 mS	

Figure 2-21 Data Header Times

Up to 5 signals can be displayed on each graph, one of which can be a digital signal. Each graph in a view has a channel label followed by the magnitude of the sample point at the left cursor at its left, and the magnitude of the point at the right cursor to its right. When multiple signals are displayed on a graph this information is repeated for each signal. When single signals are displayed the maximum and minimum magnitudes of the displayed data are also shown at the right.

On digital signals the magnitude is shown as 1 (high) and 0 (low). In this edition of Reydisp digital signals are drawn as a single line for low and a coloured block for high as illustrated in *Figure 2-22*.



Figure 2-22 Data Header Digital Signal

Up to 5 Analogue signals can be drawn on an axis, as shown in Figure 2-23.



Figure 2-23 Analogue Signals on Axis

One Digital signal can be drawn with up to 4 Analogue signals on an axis, as shown in the expanded example *Figure 2-24*.



Figure 2-24 Digital and Analogue Signals on Axis

#### Cursors

To move the cursors, the user must ensure the window is active by clicking in it with the mouse. The mouse pointer can be moved over one of the cursors, and the cursor shape will change. When over the left cursor it will show  $\leftarrow$  and when over the right  $\rightarrow$ . If the user was to click and hold the left mouse button, the cursor changes again to the move cursor  $\leftrightarrow$ . While holding down the left mouse button the user can drag the cursor to a new position. Notice the changes in the times and magnitudes. The mouse button van be released when the cursor is in its new position.



#### NOTE

The left and right cursors cannot cross, if one cursor is in the way of the other, move the other cursor first.

Smaller movements can be made by using the keyboards cursor keys ( $\leftarrow \rightarrow$ ). The cursor to move is selected by the **View > Activate Left / Right Cursor** command. The cursor that is active for keyboard control is shown with a mark at its top. The last cursor moved with the mouse will be active for keyboard control.

#### Zoom

The data in the window can be expanded horizontally with the zoom function. The zoom function uses the cursors to mark the extremities. Select **View > Zoom In** to magnify the data between the cursors. **View > Zoom Out** reduces magnification slightly. **View > Show Full** removes any magnification. When a view is zoomed horizontally a scrollbar at the bottom of the screen allows movement of the waveform horizontally.





Figure 2-25 Zoomed Scrollbar

View windows can be expanded vertically with the command **View > Vertical Zoom In**. The expansion can be reduced with the **View > Vertical Zoom Out** command. There is a maximum limit on a vertical zoom.

#### **View Highlighted Sample Points**

Analogue waveforms can be displayed as with the sample points highlighted. **View > Highlight Samples** toggles highlighting on or off.



Figure 2-26 Highlighted Sample Points

#### **Additional Tabs**

The waveform display also contains tabs holding information about the device on the **System** tab, the COMTRADE configuration on the **Config** tab, the COMTRADE inf file on the **INF** tab and some text notes which correspond to the COMTRADE HDR file on the **Notes** tab. The information on the **Notes** and **INF** tabs is editable by the user.

#### Saving, Opening, and Exporting Data

Waveforms are by default saved in the private Reyrolle file format RDF2. They can also be saved in the original Reydisp format (DAT) with some loss of information, or COMTRADE 1991 and 1999 formats. These types of files can be reopened in Reydisp using the **File > Open** command. The data is saved by using **File > Save**, or to save the file under a new name use the **File > Save As** command. Before using either of these commands, ensure the settings window is active (topmost).

Reydisp can export data as DADiSP or Text (Real Values) format; these files cannot be reopened by Reydisp. To export use the **File > Save As** command, selecting the type of file required from the **Save as type** list, as shown in *Figure 2-27*.



Figure 2-27 Save As

When saving the Data Values as Real Values (ASCII text) an options dialog box is displayed allowing the user to choose which items to include. Another options box is displayed when exporting COMTRADE.

#### Getting Data from a Device

Getting data from a device is the online equivalent of opening a file. To get the settings use the **Relay > Waveform > Get Waveform Record** command.

#### **Printing Waveforms**

Waveforms can be printed using the command **File > Print**. When printing waveforms some additional information can be added to the page. The **Print Options** dialog box is displayed prior to printing or it can be opened with the **File > Print Options** command.

#### Data Window Menu

A shortcut menu of useful commands is displayed when the user right clicks on a waveform window.

### 2.7 Data Window Menu

🛃 Data Header V	Nindow (Untitled)		- • ×
System Config	g INF Notes All Signals Analogues Digitals		
HV Line Ia HV Line Ib HV Line Ic	0.002×In 0.003×In 0.000×In	Properties Set Left Cursor	0.002xIn -0.002xIn 0.002xIn
HV Line Ta		Set Right Cursor Copy Data As Samples Copy Data As Values	0.002×1n x 1.417×In 1 -1.480×In
HV Line Ib	0.003×In	Zoom In Zoom Out Zoom Full	-0:002xIn x 1.419xIn -1.417xIn
HV Line Ic		Vertical Zoom In Vertical Zoom Out Highlight Samples	0.002xIn x 1.474xIn 1 -1.409xIn
HV EF	-0.002×In	Relative Scaling Absolute Time	0.003xIn × 0.005xIn -0.007xIn
LV Line Ia LV Line Ib LV Line Ic		Activate Right Cursor Auto Save Views As Device Default Save Views As Device Default NOW!	0.002×In 0.000×In -0.005×In
LV Line Ia	0.000×1n	Save Views As ? NOW! Cancel	0.002xIn
-100.000 mS	800.000 mS	700.000 mS	

<sup>[</sup>sc\_ReydispEvolution\_DataWindowMenu, 1, en\_US] Figure 2-28 Data Window Menu

This popup menu appears when the right mouse button is clicked on a graphical data view. It is a shortcut menu which duplicates commands from the main menus, and allows setting the cursors directly.

**Set Left Cursor** and **Set Right Cursor** allow setting the cursor to the position of the mouse pointer on a waveform signal display. Right click the mouse at the point to set the cursor and select one of these options from the menu.



#### NOTE

The user is unable to cross the cursors therefore they may only have one option at the point they select. In this instance, and also if the cursors are off the screen the user may have to set one cursor first and then the other.

**Absolute Time** toggles time mode between Relative Time (time relative to the origin), and absolute Year/ Month/Day, Hours, Minutes and Seconds.

### 2.8 Event Display

#### Opening an Example

To open an example the user should select **File > New From Template**. Then, select the **Data** tab and then the template **AG1-402-Events** from the list and click **OK**.

### 2.9 Event Window

System Event Record				
Time	Type	Action	Description	
	160	Raised	Setting G1 selected	
13:52:31.105,19/08/2013	60	Raised	Local & Remote	
13:52:31.110,19/08/2013	80	Raised	Binary Output 1	
09:30:17.124,22/08/2013	160	Raised	Settings changed	
08:24:24.819,23/08/2013	160	Raised	Settings charged	[

#### Figure 2-29 Event Records

The event display consists of 2 tabs, a **System** tab with information about the source device and an **Event Record** tab with a list of events. Each event is on a separate line. Events are grouped into blocks of events with the same time stamp. The first line in a block has the time stamp, followed by the event information, subsequent lines in the block only have the event information. The event information consists of an event type, an action and a description.

Definitions	
Time format	HH:MM:SS.SSSS
Date format	dd/mm/yy
Event Type	
IEC	IEC defined event
Rey	Reyrolle privately defined event

#### Action

There are 2 kinds of events, 1 and 2 stage. 1 stage events occur to signify an event has happened, for example, the Start/Restart of the device. 2 stage events signify a binary event has changed state. An example of this type would be when a starter picks-up (raised) and sometime later drops-off (cleared). In summary, a 1 stage event is Raised only, a 2 stage event maybe Raised or Cleared.

#### Description

The Event described in English.

#### Delta Time

If 2 events in the list are selected the time difference between them is displayed in the status bar at the bottom of the Event window. This information can also be displayed using the **Relay > Events > Events Time Difference** function.

#### Saving and Opening Events

Events are saved in a text file that can be opened in a normal text editor, or if not changed reopened in Reydisp using the **File > Open** command. The data is saved by using **File > Save**, or to save the file under

a new name use the **File > Save As** command. Before using either of these commands, ensure the events window is active (topmost).

#### **Getting Events from a Device**

Getting events from a device is the online equivalent of opening a file. To get the events use the **Relay > Events > Get Events** command.

#### **Printing Events**

Events can be printed using the command **File > Print**.

### 2.10 Fault Display

#### **Opening an Example**

Select **File > New From Template**. Select the **Data** tab and then the template **GAF-Faults** from the list and click **OK**.

### 2.11 Fault Window

evrolle Protection	
ext File :-	
Relay Type	: GAF2P+E+SEF(4)
Software Revision	: S2716H80005R3
Boot Block Revision	- B2434H80017B1
User Information	- bpcrs 4
OSEL INTOIMACION	
AULT 1 29/01/00 17:0	25.0550 G1 PHASE & IA= 0.37xIn PHASE B IB= 0.11xIn PHASE C IC= 0.47xIn SEF <ls> TIMER 1 ISE=0.114xIn</ls>

Figure 2-30 Fault Window

The fault display consists of a list with information about the source device at the top followed by the faults; see *Figure 2-30*. Each fault is a textual description on a separate line.

#### Saving and Opening Faults

Faults are saved in a text file, that can be opened in a standard text editor, or reopened in Reydisp using the File > Open command. The data is saved by using File > Save, or to save the file under a new name use the File > Save As command. Before using either of these commands, ensure the faults window is active (topmost).

#### **Getting Faults from a Device**

Getting faults from a device is the online equivalent of opening a file. To get the faults use the **Relay > Data Record > Get Data Record** command.

#### **Printing Events**

Faults can be printed using the command **File > Print**.
### 2.12 Instrument Window

The Instrument window displays a real time list of instruments from a device. This function requires the device to be online.

System Active Available			
Instrument	#	Unit	-
📝 Ia Primary		A	
V Ib Primary		A	
🔽 Ic Primary		A	
Ia Secondary		A	
Ib Secondary		A	
Ic Secondary		A	
📃 Ia Nominal			
Ib Nominal			
C Ic Nominal			
In Primary		A	
Ig Primary		A	-

Figure 2-31 Available Tab

There are 3 tabs at the top of the instruments window. Use the **Available** tab, *Figure 2-31*, to show the list of instruments that can be monitored on a particular device. Each instrument in the list has a checkbox next to it that must be checked for the instrument to be polled.

System	Active	Available			
Instrume	ent	Value	Unit		
Ia Prin	mary	0.00	A		
Ib Pri	mary	0.00	A		
Ic Prin	mary	0.00	A		
Ia Sec	ondary	0.00	A		
Ib Sec	ondary	0.00	A		
CE1 Sta	atus	=0			
				Foregoing as	

Figure 2-32 Active Tab

The selected instruments are displayed in the list on the **Active** tab. The instruments are polled from top to bottom of the list. The more instruments selected the slower the polling time. Instruments will only be polled when the **Active** tab is selected.

The instrument lists can be sorted be clicking on the column headings. The sort is alphabetic by instrument name or units when clicking respectively the Instrument or Unit columns. Clicking on the Value (or #) column will sort the instrument by their logical identification number, which is how the available list is initially displayed.

The **System** tab displays information about the device.

Several instrument windows can be opened simultaneously to poll different device addresses. When opened the instrument window polls the current address. Therefore before opening an instrument window set the address using the **Relay > Set Address > Address** or **Relay > Set Address > Device Map** commands.

#### **Saving Instruments**

The present content of the instrument window can be saved using the **File > Save** or to save the file under a new name use the **File > Save As** command. Instruments are saved as text files which can be reopened in a text editor, or as a text file in Reydisp. Before using either of these commands, ensure the faults window is active (topmost).

#### **Getting Faults from a Device**

Getting instruments from a device is the online equivalent of opening a file. To open the instruments use the **Relay > Information > Monitor Instruments** command.

#### **Printing Instruments**

Instruments can be printed using the command File > Print.

# 2.13 Edit Window

Reyrolle Protection		
Text File		
Instruments		
Ia Primary	0.00	A
Ib Primary	0.00	A
Ic Primary	0.00	A
Ia Secondary	0.00	A
Ib Secondary	0.00	A
El Status	-=0	



The Edit window is used to display and edit a text file or a text response from a relay.

# 2.14 Teletype Window

SI																		•	V Hex Mode	Send
0010	1	41	78	20	32	34	33	35	48	38	30	30	31	31	52	34	68	1	Ax 2435H80011R4h	
0020	1	2D	34	65	23	63	63	35	34	20	54	43	31	37	37	35	2E	I.	-4e#cc54 TC1775.	
0030	1	30	30	32	2E	30	30	30	20	31	30	57	20	38	47	20	31	1	002.000 10W 8G 1	
0040	1	33	49	20	31	34	4F	20	37	53	52	32	32	34	20	20	20	1	3I 140 7SR224	
0050	1	20	20	20	20	20	20	20	00	43	69	72	63	75	69	74	20	1	·Circuit	
0060	1	49	64	65	6E	74	69	66	69	65	72	3A	20	20	20	20	20	I.	Identifier:	
0070	1	20	20	20	20	20	20	20	20	20	20	20	00	53	65	72	69	1	·Seri	=
0080	1	61	60	20	4E	75	6D	62	65	72	3A	52	4D	30	35	31	2D	1	al Number:RM051-	
0090	1	2D	2D	2D	2D	2D	2D	00	44	4F	43	20	49	44	3A	46	46	1	DOC ID:FF	
OAOO	1	46	46	46	46	46	46	32	33	46	46	46	46	46	46	31	44	1	FFFFFF23FFFFFF1D	
00B0	1	44	38	32	33	46	37	30	37	30	30	31	39	31	34	00	46	1	D823F707001914 · F	
0000	1	69	72	6D	77	61	72	65	20	52	65	76	69	73	69	6F	6E	1	irmware Revision	
OODO	1	3A	32	34	33	35	53	38	32	33	30	39	52	34	69	00	00	T	:2435582309R4i ···	-

Figure 2-34 Teletype Window

The Teletype window allows commands to be sent to the devices and displays the responses as text or in hexadecimal notation. Type a command, for example HELP, into the control and click **Send**. If the response should be displayed in hexadecimal format check the **Hex Mode** box before clicking the **Send** button. The commands are those displayed by the online help function.

### 2.15 General Command Window

Energise Output Relay 12	-
Energise Output Relay 13	
Energise Output Relay 14	
LED Reset	
Auto-reclose on/off	
Hot Line Working on/off	
E/F off/on	
SEF off/on	
Inst Protection off/on	
Reset CB Total Trip Count	
Reset CB Phase A Trip Count	
Reset CB Phase B Trip Count	1
Reset CB Phase C Trip Count	-
Reset CB E/F Trip Count	
Reset CB Delta Trip Count	
Reset CB Count To AR Block	
Reset CB Frequent Ops Count	
Reset CB LO Handle Ops Count	
Reset I^2t CB Wear	
Reset Demand metering	
Reset Energy Meters	
Settings Group 1 Select	
Settings Group 2 Select	
Settings Group 3 Select	
Settings Group 4 Select	-
Settings Group 5 Select	
•	
Off On / Execute	Help

Figure 2-35 General Command Window

This is an interface for the user to perform an IEC 60870-5-103 style General Command from within Reydisp Evolution. The response to this command is displayed in the Spontaneous Messages window with a cause of transmission either C/A (Command Acknowledgement) or NCA (Negative Command Acknowledgement). A list of general commands for the connected device is displayed. Select a command from the list and press the appropriate command button. Some commands are binary, in which case both the **On/Execute** and **Off** buttons are available. Others are single state and only the **On/Execute** button is available. The General Commands window can be kept open while other windows are activated.

# 2.16 Spontaneous Messages Window

Reydisp contains a Spontaneous Events (or Messages) Window where data sent by the device during a communications transaction but not explicitly requested by the user, is placed. This window is initially minimized at the bottom of the main window. To monitor devices constantly ensure **Auto Poll Mode** is switched on.



Figure 2-36 Spontaneous Event Window

Open this window at any time to examine these events.

Measurands	Event Log	Data Point Monitor
------------	-----------	--------------------

Figure 2-37 Spontaneous Event Window Tabs

The Spontaneous Events window display consists of 3 tabs:

- Measurands
- Event Log
- Data Point Monitor

### 2.17 Spontaneous Messages Window Measurands

Measurands Event	Log Data Poi	nt Monitor								
Time	Address									
12:23:55.813	1	Ia 0.0000	Ib 0.0000	Ic 0.0000	Va 0.0000	Vb 0.0000	Vc 0.0000	₽ 0.000000 %	Q 0.000000 %	F 0.000000
C [				.00						

[sc\_ReydispEvolution\_SpontaneousEventWindowMeasurands, 1, en\_US]

Figure 2-38 Spontaneous Messages Window Measurands

This display shows a table listing the IEC 60870-5-103 measurands being monitored. Each row has the time of the measurand, its source address, and a list of the values it contains. The row will be updated when a new measurand of the same type from the same source is received. Each value is displayed as a percentage of the maximum that can be sent. Refer to the device documentation or settings for further information.

The descriptions used are stored in the ReyMeas.ini file in the program settings folder. The format used is an INI file where the Function Type (FUN) number is the section heading and the Information number is the item key, for example with FUN = 182 and INF = 148:

#### [182]148=Ia,Ib,Ic,Va,Vb,Vc,P,Q,F

Reydisp can automatically calculate the values if it knows the scaling factors, either 1.2 or 2.4 times nominal, of the measurands. This information can be added to the description of the measurand, in round braces after the measurand name, as shown in the following example:

[182]148=Ia(1.2),Ib(1.2),Ic(1.2),Va(2.4),Vb(2.4),Vc(2.4),P,Q, F

# 2.18 Spontaneous Messages Window Event Log

Measurands Event	Log Data	Point N	Ionitor											
Time	Address	Туре	Action	COT	Add	itio	nal Infor	mat	ion			- 11	Description	
Identification	1	160	Raised	S/R	CL=	2	REYROLLE	1	0	0	3	0]	Start/Restart	
Identification	1	160	Raised	FCB	CL=	2	REYROLLE	1	0	0	3	0]	Reset FCB	
Identification	255	160	Raised	S/R	CL=	2	REYROLLE	1	0	0	3	0]	Start/Restart	
Identification	255	160	Raised	FCB	CL=	2	REYROLLE	1	0	0	3	0]	Reset FCB	
Identification	1	160	Raised	S/R	CL=	2	REYROLLE	[	0	0	3	0]	Start/Restart	
Identification	1	160	Raised	FCB	CL=	2	REYROLLE	1	0	0	3	0]	Reset FCB	
Identification	1	160	Raised	S/R	CL=	2	REYROLLE	1	0	0	з	0]	Start/Restart	
Identification	1	160	Raised	FCB	CL=	2	REYROLLE	1	0	0	3	0]	Reset FCB	
Identification	1	160	Raised	S/R	CL=	2	REYROLLE	1	0	0	3	0]	Start/Restart	
Identification	1	160	Raised	FCB	CL=	2	REYROLLE	1	0	0	3	0]	Reset FCB	
Identification	1	160	Raised	S/R	CL=	2	REYROLLE	1	0	0	3	0]	Start/Restart	
Identification	1	160	Raised	FCB	CL=	2	REYROLLE	1	0	0	3	0]	Reset FCB	
Identification	1	160	Raised	S/R	CL=	2	REYROLLE	1	0	0	3	0]	Start/Restart	
Identification	1	160	Raised	FCB	CL=	2	REYROLLE	1	0	0	3	0]	Reset FCB	
Identification	1	160	Raised	S/R	CL=	2	REYROLLE	1	0	0	3	0]	Start/Restart	
Identification	1	160	Raised	FCB	CL=	2	REYROLLE	1	0	0	3	0]	Reset FCB	
Identification	1	160	Raised	S/R	CL=	2	REYROLLE	1	0	0	3	0]	Start/Restart	
Identification	1	160	Raised	FCB	CL=	2	REYROLLE	1	0	0	3	0]	Reset FCB	
Identification	1	160	Raised	S/R	CL=	2	REYROLLE	1	0	0	3	0]	Start/Restart	
Identification	1	160	Raised	FCB	CL=	2	REYROLLE	1	0	0	3	0]	Reset FCB	
19-46-21 694	1	160	i = 3	TOD	TV								Disturbance Records	
11:17:56.249	1	160	Cleared	GI	IV		SI=245	RT=			F#=		Binary Input 1	
11:17:56.469	1	160	Cleared	GI	IV		SI=245	RT=			F#=		Binary Input 2	
11:17:56.629	1	160	Cleared	GI	IV	55	SI=245	RT=			F <b>#=</b>		Binary Input 3	
11:17:56.789	1	160	Cleared	GI	IV		SI=245	RT=		-	F#=		Binary Input 4	
11:17:57.009	1	70	Cleared	GI	IV		SI=245	RT=		-	F <b>#</b> =		Binary Input 5	
<			III											- F.

Figure 2-39 Event Log Tab

The event time difference function is available on the Event Log.

If there is no communication taking place devices can be monitored for spontaneous events in the background by toggling **Relay > Control > Auto Poll** on. Reydisp will poll the active nodes returned by the device map. Clear the contents of the spontaneous event window with **Relay > Events > Clear Spontaneous Events Window**, this doesn't affect the device.

The events can either be sorted by the event time, or when they arrive (which is faster) by changing the setting accessed through **Options > Evolution**.

#### **Display Format**

The events are displayed in the following format:

<Time><Address><Protection><Action><Event Specific Information><Description> These fields are described in the following table:

Field	Description	
Time	The time stamp of time stamp a des	of the event in the format HH:MM:SS.SSS. If the event does not have a scription of the type of event e.g. identification is displayed.
Address	The address of th	ne device that sent the event.
Protection	A description of	the type of protection device that generated the event, for example:
	Mnemonic	Description
	OC-IEC870	IEC defined overcurrent event
	OC-Reyrolle	Reyrolle defined overcurrent event

Field	Description		
Action	Can be one of 5 states	S	
	State	Description	
	Travelling	A double point event is between	states.
	Cleared	The event is <b>cleared</b> or <b>off</b> .	
	Raised	The event is <b>raised</b> or <b>on</b> .	
	Invalid	The event state is invalid, i.e. ma	rked as both <b>raised</b> and
	Unknown	The event returned a code that c	appot be decoded
Event Specific Infor-	Additional informatio	n depending on the type of event	
mation	Format for Time Tag	ged Event	
	[ <cot><invalid time:<br="">Time&gt;<faultnumber></faultnumber></invalid></cot>	> <summer time=""><supplementar< td=""><td>y Information&gt;<relative< td=""></relative<></td></supplementar<></summer>	y Information> <relative< td=""></relative<>
	COT (Cause of Trans-	SpE	Spontaneous event
	mission)	Сус	Cyclic
		FCB	Reset frame count bit
		RCU	Reset communications unit
		S/R	Start/Restart
		Pow	Power on
		T/M	Test mode
		T/S	Time synchronize
		GI	General interrogation
		TGI	Termination of general inter- rogation
		L/O	Local operation
		R/O	Remote operation
		C/A	Command acknowledgement
		NCA	Negative command acknowl- edgement
		TDD	Transmission of disturbance data
		CAP	Generic write command with acknowledgement positive
		CAN	Generic write command with acknowledgement negative
		RCV	Generic read command data valid
		RCI	Generic read command data invalid
		GWC	Generic write confirmation
		nnn	Unknown value
	Invalid Time	The flag to indicate whether the invalid. Show <b>IV</b> when time may The time would become invalid i over 23 hours.	time of the event may be / be invalid, or –– if time is valid. f the clock had not been set for
	Summer Time	The flag to indicate whether the set. This is used to indicate daylig when the Daylight Saving Flag is	summer time bit of the event is ght saving is active. Shows <b>su</b> set, otherwise ––.

Field	Description						
	Supplementary Information	Used when the COT is GI to show the scan number, otherwise <b>0</b> .					
	Relative Time	The Relative Time in milliseconds, if available, since the start of the fault.					
	Fault Number	Shows the fault number if available.					
		E.g. 1 No Relative Time and Fault Numbers Available					
		[GI SU SI=246 RT= F#=]					
		E.g. 2 Relative Time and Fault Numbers Available					
		[GI IV SI=246 RT= 0 F#= 0]					
	Format for Identifica	tion Event					
	[ <cot><compatibility< td=""><td>y Level&gt;<manufacturer name="">[<revision numbers="">]]</revision></manufacturer></td></compatibility<></cot>	y Level> <manufacturer name="">[<revision numbers="">]]</revision></manufacturer>					
	СОТ	Cause of transmission, as described previously.					
	Compatibility Level	2 = No generic services, 3 = Supports generic services					
	Manufacturer Name	Manufacturer specific text					
	Revision Numbers	Manufacturer specific numbers					
		E.g. [RCU CL= 2 REYROLLE [ 0 0 0 0]]					
	Format for Time Syn	chronization Event					
	<pre>[<cot><invalid pre="" time:<=""></invalid></cot></pre>	> <summer time=""><day of="" week=""><date>]</date></day></summer>					
	СОТ	Cause of transmission, as described previously.					
	Invalid Time	As described previously					
	Summer Time	As described previously					
	Day of Week	Monday, Tuesday, etc. Day Not Set if not available.					
	Date	Date in dd/mm/yy format.					
		E.g. [T/S Day Not Set 04/08/99]					
	Format for Terminat	e General Interrogation Event					
	[ <cot><supplement< td=""><td>ary Information&gt;]</td></supplement<></cot>	ary Information>]					
	СОТ	Cause of transmission, always TGI					
	Supplementary	This value should be the same as those in the events with COT					
	Information	GI. In this message it indicates that the GI sequence with this					
		number has completed.					
Description	Describes d	E.g. [IGI SI=246 ]					
Description	Describes the event						

Further Examp	oles				
Identification	Ad= 1	OC IEC870	Raised	[RCU CL=2 REYROLLE [0000]]	Reset CU
Identification	Ad= 1	OC IEC870	Raised	[FCB CL=2 REYROLLE [0000]]	Reset FCB
15:44:04.000	Ad= 1	Global	Raised	[T/S Day Not Set 04/08/99]	Time Synchro- nization
15:45:17.040	Ad= 1	OC IEC870	Raised	[L/O SI=0=]	Settings changed
15:45:17.090	Ad= 1	OC IEC870	Cleared	[L/O SI=0=]	Settings changed
15:45:39.660	Ad= 1	OC IEC870	Cleared	[GI SI=246=]	Trip Test
15:45:39.765	Ad= 1	OC IEC870	Cleared	[GI SI=246 RT=0 F#= 0]	General starter

Further Examp	les				
15:45:40.025	Ad= 1	OC Reyrolle	Cleared	[GI SI=246 RT=0 F#= 0]	SEF/REF starter
15:45:40.275	Ad= 1	OC IEC870	Cleared	[GI SI=246 RT=0 F#= 0]	A-starter
15:45:40.560	Ad= 1	OC IEC870	Cleared	[GI SI=246 RT=0 F#= 0]	B-starter
15:45:40.785	Ad= 1	OC IEC870	Cleared	[GI SI=246 RT=0 F#= 0]	C-starter
15:45:41.035	Ad= 1	OC IEC870	Cleared	[GI SI=246 RT=0 F#= 0]	E-starter
GI Termination	Ad= 1	Global	Raised	[TGI SI=246]	<b>GI</b> Termination

# 2.19 Spontaneous Messages Window Data Point Monitor

leasurands	Event Log	Data Point Moni	tor	
Time		Address	Description	Additiona
011:18:00	.749	1	Binary Output 11	
011:18:01	.034	1	Binary Output 12	
011:18:01	.874	1	Binary Output 13	
011:18:02	.089	1	Binary Output 14	
11:18:02	.314	1	Trip Circuit Fail 1	
11:18:02	.469	1	Trip Circuit Fail 2	
011:18:02	. 689	1	Trip Circuit Fail 3	
11:18:02	.909	1	Trip Circuit Fail	
11:18:03	.069	1	50BF Stage 1	
11:18:03	.289	1	50BF Stage 2	
11:18:03	.509	1	Battery Test	
11:18:03	. 669	1	Battery Volts High	
11:18:03	.829	1	Battery Volts Low	
011:18:04	.054	1	Battery Healthy	
11:18:04	.209	1	Capacitor Ready	
11:18:04	. 429	1	Capacitor Test	
11:18:04	. 654	1	General Start/Pick-up	
011:18:04	.809	1	Start/Pick-up L1	
11:18:05	.024	1	Start/Pick-up L2	
11:18:05	.279	1	Start/Pick-up L3	
11:18:05	.439	1	Start/Pick-up N	
11:18:05	. 659	1	Trip PhA	
011:18:05	.889	1	Trip PhB	
11:18:06	.049	1	Trip PhC	
11:18:06	.209	1	60 CTS	
011:18:06	.434	1	VT Fuse Failure	
11:18:06	. 589	1	49-Alarm	

[sc\_ReydispEvolution\_SpontaneousEventWindowDataPointWindow, 1, en\_US]

Figure 2-40 Spontaneous Messages Window Data Point Monitor

This display shows a table listing the present state of the data points (events) being monitored. Each row contains an icon depicting the present state, the last time a point was updated, its source address, a description, and any additional information sent. The row will be updated when a new data point of the same type from the same source is received.

Table 2-1	lcons
-----------	-------

	(Blank) No binary state to display.
8	(Green) The data point is cleared.
8	(Red) The data point is raised.
8	(Blue) The data point is travelling between states.
۲	(Black) The data point is in error, both raised and cleared signalled.

# 2.20 File Manager Window

### NOTE

The file manager has been disabled in the standard release of Reydisp.



# WARNING

Using file manager should only be used with extreme caution.

♦ Modification or deletion of files can cause the device to cease to operate as expected.

Some devices have file management facilities. This window allows manipulation of the files within the device.

Directory				
Name	Туре	Size	Description	
Folder				
FILES	<dir></dir>	0	Folder	ĸ
SECURE	<dir></dir>	0	Folder	
SYSTEM	<dir></dir>	0	Folder	Q
USER 🖉	<dir></dir>	0	Folder	
BINARY	<dir></dir>	0	Folder	
	<dir></dir>	0	Folder	
DATA	<dir></dir>	0	Folder	
FACTORY	<dir></dir>	0	Folder	×
SERIAL	<dir></dir>	0	Folder	



Initially a list of folders is displayed, shown in *Figure 2-41*. A menu is available by right clicking on the window to format the display. Double click on a folder or select a folder and press the **view** button to display its contents, shown in *Figure 2-42*.

😡 Relay File Manager					×
Directory					
Relay Event File					
evt					2
EVENTS.001				E	Ø
Relay Data Log File					
	1234	12034	1234		
DATA_LOG001 DATA_LOG.00	2 DATA_LOG.003	DATA_LOG.004	DATA_LOG.005		×
DATA_LOODO DATA_LOODO	ATA_LOG.000	DATA_LOG.005	DATA_000.010		
		10004			
DATA_LOG011 DATA_LOG.01	2 DATA_LOG.013	DATA_LOG.014	DATA_LOG.015	Ŧ	
\DATA	Mem Used: 4	138086, Available 1	17551104 bytes		

### Figure 2-42 File Manager Folder Contents

Other functions are available from the buttons down the right hand side of the window. They are described in *Table 2-2*.

### Table 2-2Button Descriptions

lcon	Description
	Move up to the previous folder
	Refresh the display by rereading the device
Q	View the contents of the folder or file
	Send a file from the computer to the device
×	Delete a file from the device

Icon	Description
	Create a new document
	Get all the files from a folder on the device to a folder on the computer
	Get the selected file from the device to the computer
	Restart the device (requires the device's user ID/pass- word)

😡 Relay File Manager		
Directory Argus-RM-2-2.cmd	Example.txt	
Here is an example of crea	ing a file	
		AB
\FILES	Mem Used: 109603, Available 117551104 byte	<b>5</b>

Figure 2-43 File Manager Example Document

*Figure 2-43* shows the display of a document created. Documents created or files viewed from the device are displayed on tab after the directory listing. When a file viewer tab is selected additional commands are available, they are described in *Table 2-3*.

Icon	Description
AB	Renames the document, this name is used when sending the document to the device
	Close the document tab
	Send the document to the device

### Table 2-3 Additional Button Descriptions

### 2.21 Data Log Window



Figure 2-44 Data Log Icon

System C	ata Log												
DATE	TIME	P (3p)	Q (3p)	Ia	Ib	Ic	Ig	Va	Vb	Vc	Vab	Vbc	Vca
2013/08/23	08:17:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	08:12:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	08:07:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	08:02:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	07:57:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	07:52:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	07:47:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	07:42:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	07:37:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	07:32:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	07:27:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013/08/23	07:22:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Figure 2-45 Data Log Window

The Data Log window displays a list of logged points over a period of time. The usual **Open**, **Save**, and **Print** commands can be used on this window. This data can also be copied to a spreadsheet.

# 3 Communications

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# 3.1 Configure Communications

Reydisp can communicate with devices in several ways. These include Serial or USB Ports, TCP/IP ports and via some control systems. All connections are managed through the Connection Manager (File > Connect). In order to connect to a device the communication protocol, communication parameters, and the address of the target device must be configured. The following section describes the various connection methods. Of course, the user only needs to configure the types of connection in which they are interested.

#### Connecting a Device to a Serial Port or USB Port

It is beyond the scope of this manual to describe commissioning the communications features of a device in detail; however, a brief description follows.

If the connection to the device is going to use its USB or electrical RS232 port connect it to the PC using a suitable cable. If it uses the RS485 port, connect that to the PC using a suitable (Auto Device Enable (ADE) supported) interface.

If a fibre optic connection is to be used the Transmit port (Tx) of the interface should connect to the Receive (Rx) port of the device and the Tx port of the device should connect to the Rx port of the interface, as shown in *Figure 3-1*.



Figure 3-1 Fibre Optic Connection

### **Star or Ring Connections**

When using fibre optic connections to network several devices they can be connected in either a Star or a Ring connection.

In a Star connection the port on the device is connected to a port on the hub. Each device will have a dedicated communication link.



Figure 3-2 Star Connection

In a Ring connection devices are connected to each other and to a single port on the interface. Serial communication interface devices provide one fibre optic port for connecting a ring of Protection Devices. The Tx from the interface goes to the Rx of the first device, the Tx of that device goes to the Rx of the second device, whose Tx goes to the Rx of the third device etc. until finally the Tx of the last device goes to the Rx of the interface as illustrated in *Figure 3-3*.



Figure 3-3 Ring Connection

The main advantage of a ring connection is that it is inexpensive to implement. The main disadvantage is that as there is a single communication link, and all devices act as repeaters, if you lose one device or one part of

the fibre cable the whole network will cease to operate. When using a fibre optic ring configuration all devices in the ring must have their **Data echo** setting, for the port in use, set to **ON**.

For any type of fibre optic connection the device's **Line Idle** setting should be set to match that of the interface.

The remaining communications settings on the device's port, **Baud** rate and **Parity**, should be set to match those that will be used in Reydisp.

If the devices are configured in a network, whether star, ring, or RS485, each should be assigned a different address, and not be set to address zero.

#### **Configuring Reydisp for Serial Communications**

SAT200 Server	_
<add connection="" new="" sat200=""> Lab1</add>	
Serial Com Port	-
COM8 - ATEN USB to Serial Bridge COM1 - Communications Port	
COM3 - Siemens Protection Devices Relay	
PSTN MODEM	-
<pre><add connection="" new="" telephone=""></add></pre>	
Network TCP/IP Connection	- 11
Add new socket connection> Lantronix	
Paul 1 Paul 2	+
et as Default Clear Default	lelp
	ancel



Open the Connection Manager (File > Connect), as illustrated in *Figure 3-4*. Select the appropriate serial connection on the computer, e.g. Com 2, and click **Properties**.



### NOTE

Only ports detected on the computer will be listed.

Set the **Baud** rate and **Parity** to match those set on the device, as illustrated in Figure 3-5.

#### Communications

3.1 Configure Communications

Baud Rate	Parity
57600 🔻	None 🔻
3	Advanced
<u> </u>	
	OK Cancel

Figure 3-5 Configure Communications

#### USB - RS232 Converters

It is becoming standard for computers, especially laptops, not to have an RS232 port. In most cases this is being solved by buying an additional USB – RS232 connection cable. Some problems, for example, delays introduced into the communications, have been encountered when using different types of these cables. Therefore, when using USB converters please make the communications timeout defined in the Advanced Options at least 250 ms.

For further information refer to 3.3 Advanced Communications Options.

#### **Configuring TCP/IP Communications**

The TCP/IP driver allows communication through a TCP/IP network. When using TCP/IP communications the devices will either have a TCP/IP connection to an Ethernet network, or be connected to an external Ethernet interface, for example the Lantronix UDS-10, via their serial port.

#### **Configuring Reydisp for TCP/IP Communications**

In the Connection Manager, select the appropriate TCP/IP connection and click **Properties** or select **Add new socket connection** and click **Add** to create a new connection. Set the parameters to match those of the system; Host Address to the IP addresses of the device or interface, and the Port Number to its Reydisp port. An example is shown in *Figure 3-6*.

Displayed Alias		
Local Host		
Host Address		
127.0.0.1		
Port Number		
10001		
Protocol		
TCP	© UDP	
	Advanced	
<u>H</u> elp	OK <u>C</u> ancel	

Figure 3-6 Example TCP Connection

For further information refer to 3.3 Advanced Communications Options.

#### **Configuring Modem Communications**

The Modem driver allows communication through a telephone network. When using Modem communications the devices will be connected to a remote Modem usually via their serial port.

#### **Configuring Reydisp for Modem Communications**

In the Connection Manager, select the appropriate PSTN Modem connection and click **Properties** or select **Add new Telephone connection** and click **Add** to create a new connection. Set the parameters to match those of the system. An example is shown in *Figure 3-7*.

#### Communications

3.1 Configure Communications

Displayed Alias
An Alias
Telephone Number
123 4567
Modem
Configure
<u>A</u> dvanced

[sc\_ReydispEvolution\_TelephoneConnection, 1, en\_US]

Figure 3-7 Example Telephone Connection

For further information refer to 3.3 Advanced Communications Options.

#### Configuring the Modem for Modem Communications

Click the **Configure** button, *Figure 3-8* will appear. Select the Com Port of the PC connected to the modem and the connection parameters. If required modify the Modem strings. Refer to the documentation for the Modem for details of these values.

COM(x) E	Baud Rate Parity
	19200 🔻 None 🔻
Modem String	gs
Initialisation	AT&FO&C1^M
Dial Prefix	ATDT
Dial <mark>Suff</mark> ix	~M
Hang-up	00000000000000000000000000000000000000
Connect	CONNECT
Success	ОК
Dial Time	30 Redial Pause 10 Attempts 3
Switch Boa	ard Prefix 9

Figure 3-8 Modem Settings

# 3.2 Communications Tutorial

The user should now be able to communicate with their chosen relay. If any problems are encountered try **Relay > Communications > Synchronise** or **Relay > Communications > Clear**. The indicator at the bottom left corner of the main screen will inform as to the state of the communications. Clicking the Stop icon at the bottom left of the main screen will stop communications. The functions for communicating with the devices are all on the relay menu. They are described in detail along with the other commands in the Command Reference. During communication events may appear in the spontaneous events window which can be opened at any time to examine these events.



### NOTE

Certain protection devices have a setting **Operating Mode** accessed either via a key switch on the fascia or from the **System Config** sub menu of the **Settings**. The setting can be **Remote**, **Local** or **Service** mode. These modes affect the communications function in the following way:

Remote Mode – All communication functions are available through the fibre optic ports.

Local Mode – Remote change of settings and remote control functions (e.g. close an output relay) through the fibre optic ports are disabled.

Service Mode – Remote control functions (e.g. close an output relay) and sending spontaneous events and measurands to the control system through the fibre optic ports are disabled.

#### Set the Address

The first thing to do is set the address of the target device in Reydisp. Use **Relay > Set Address > Address** to set the address directly, or **Relay > Set Address > Device Map** to search for the device.



### NOTE

When the device map builds the list it takes time as it has to poll all the addresses and wait for a response. As there are unlikely to be devices on all addresses, an upper limit can be set for the address to poll; the lower limit is always 1. Use the command **Relay > Set Address > Device Map Limit** to set the highest address to poll.

Next try to get some information back from the device. Use **Relay > Information > Get System Information** and there should be a response similar to that shown in *Figure 3-9*.

Address	-	1	
Function Type	:	160	
IEC Compatibility Level	5	2	
Manufacturer	5	REYROLLE	
Supplementary	:	0 0 3 0	
Relay Type	3	7SR224x-2xxxx-0CAx	-
Software Revision	=	2435H80011R4h-4e#cc54	-
Boot Block Revision	=	TC1775.002.000	
Configuration	-	10w-8g-13i-14o	
User Information	5	7SR224	
Circuit Identifier	:		
Serial Number	=	RM051	
DOC ID	:	FFFFFFFF23FFFFF1DD823F707001914	
Firmware Revision	2	2435S82309R4i	-
A			Ok

[sc\_ReydispEvolution\_DeviceSystemInformation, 1, --\_-]

Figure 3-9 System Information

#### Set the Device Time

To ensure the real time clock in the relay is correct select **Relay > Control > Set Time and Date**, and click **Get Relay Time** button to get the time from the relay. Check the **Synchronise** and **Synch to PC** boxes, and then press the **Set Relay Time** button to set the time.

#### **Change Settings**

To get a group of settings the user should use **Relay > Settings > Get settings**, after a short while the user will be asked to select a settings group, then the Settings Editor is displayed.

To change the settings in the relay either use **Relay > Settings > Update Changed Settings** which sends the settings changed to the group they came from, or **Relay > Settings > Send Settings** to send all the settings to a group selected.

Get the active settings group with **Relay > Settings > Get Setting Group**. Activate a different group using **Relay > Settings > Set Setting Group**.

A non-editable listing of a settings group (in English) is obtained by **Relay > Settings > List Setting Group**.

#### Get a Waveform

Download a waveform record with the command **Relay > Waveform > Get Waveform Record**. After a short while the user will be asked to select a record, record number 1 is the latest. If no records are available trigger a new waveform record remotely using **Relay > Waveform > Trigger Waveform Record** and repeat the Get process. The data returned can be manipulated in the Waveform Display. All the data records in the relay can be reset using **Relay > Waveform Record**. To display a list of the times the records were recorded use the command **Relay > Waveform > Get Data Directory**.

#### Get the Events

Get the events using **Relay > Events > Get Events**. Select two events from the list, choose **Relay > Events > Events Time Difference** and the time between the events will be displayed. This function is also available on the Spontaneous Events window . The event store of the relay (but not the Spontaneous Events) can be reset with **Relay > Events > Reset Events**.



### NOTE

Spontaneous events can be polled in the background while working by toggling **Relay > Control > Auto Poll on**.

Clear the contents of the spontaneous event window with **Relay > Events > Clear Spontaneous Events Window**, this doesn't affect the relay.

#### **Issue Commands**

Reydisp provides access to the General Commands of the device through the function Relay > Control > General Commands. Other Control functions available are, reset the flag indication LED s (Relay > Control > Reset Flags), close an output device (Relay > Control > Close Output Relay), file management (Relay > Control > File Manager), and the direct control (Relay > Control > TeleType).

#### **Other Information**

Other information available from the relay are, faults (**Relay > Information > Get Data Record**), instruments (**Relay > Information > Monitor Instruments**), and online help (**Relay > Information > On-line Help**).

### **3.3** Advanced Communications Options

Communications Ti	imeout (ms)
	250
Device Map Timeo	ut (ms)
	100
Generate Data Tim	ne (ms)
	100
Retries	
	15
	4
Do NOT Check	Communications Connection
Parity Check	
eset Defaults	

[sc\_ReydispEvolution\_AdvancedCommunicationsOptions, 1, en\_US]

Figure 3-10 Advanced Communications Options Window

These settings should be changed with caution.

The **Communications Timeout** is the amount of time (in milliseconds) Reydisp waits for a node to respond during data transfer.

The **Device Map Timeout** is the amount of time (in milliseconds) Reydisp waits for a node to respond during a device map function.

The **Generate Data Time** is the amount of time (in milliseconds) Reydisp waits before sending a further request to a node after a successful response.

The **Retries** setting is the number of attempts the communications driver will make before it reports a communications failure. This setting is not used by all drivers, and therefore may not be shown.

Set **Do NOT Check Communications Connection** to checked and Reydisp will not test for a connection on the PC port. This can be used if Reydisp cannot detect a connection automatically, or problems are encountered. When checked Reydisp will assume the connection is satisfactory. This only applies to the serial port driver.

Use the **Parity Check** option to switch parity checking on or off.



### NOTE

Not all of these options are available on all drivers.

#### Communications

3.3 Advanced Communications Options



# NOTE

The **Do NOT Check Communications Connection** is often required to be selected when using a USB or RS485 connection.

# 4 Command Reference

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### 4.1 File Menu

The File menu can be viewed from the top menu bar and has the following options:

- New From Template
- Connect
- Hangup
- Open
  - Open Waveform with Default Viewer
  - Open Waveform with Selected Viewer
- Save
- Save As
- Close
- Offline Revise Settings
- Print
- Print Options
- Printer Setup
- Recent files list
- Exit



Figure 4-1 File Menu

#### **New From Template**



Figure 4-2 Templates Icon

There are 2 types of template, settings templates and data templates. To view the templates available for each type, click on the appropriate tab at the top of the dialog box. The view can be sorted alphabetically on the contents of each column by clicking on that column's header label.



Figure 4-3 Templates Tabs

#### **Settings Templates**

0SR210x-1xAxx-0CA0         2435H85008R         9,8           7SG1510-2xE30-0xA0         "MicroTAPP, Ad         2792H80002R7         11,5           7SG1510-2xJ30-0xA0         "MicroTAPP, Ad         2792H80002R7         19,13           7SG1510-2xK30-0xA0         "MicroTAPP, Ad         2792H80002R7         19,13	#3ba4
7SG1510-2xE30-0xA0         "MicroTAPP, Ad         2792H80002R7         11,5           7SG1510-2xJ30-0xA0         "MicroTAPP, Ad         2792H80002R7         19,13           7SG1510-2xK30-0xA0         "MicroTAPP, Ad         2792H80002R7         19,13	
7SG1510-2xJ30-JxA0         "MicroTAPP, Ad         2792H80002R7         19,13           7SG1510-2xK30-0xA0         "MicroTAPP, Ad         2792H80002R7         19,13	
7SG1510-2xK30-0xA0 <sup>®</sup> MicroTAPP, Ad 2792H80002R7 19,13	
7SR1101-1xA12-xCA0 "ARGUS-C, Non 2436H80003R 3,5	#a528
7SR 1101-1xA 12-xCA0 "ARGUS-C, Non 2436H80003R 3,5	#a528
7SR1101-1xA12-xCA0 "ARGUS-C, Non 2436H80003R2-2 3,5	#d47e
7SR 1101-1xA 12-xCA0 "ARGUS-C, Non 2436H80003R 3,5	#4fd4
7SR 1101-1xA 12-xCA0 "ARGUS-C. Non 2436H80003R 3.5	#96a8
Find	

Figure 4-4 Settings Templates

Settings templates allow setting for devices to be created offline. Templates are available for the different software variants and I/O configurations of each device. The templates box now contains a **Find** facility. To search, type all or part of an item into the field and click the **Start** button ( $\rightarrow$ ). This will start to search from the top of the list. To continue the search click the next button ( $\downarrow$ ). Select the template to open from the list and then click **OK**.

#### Data Templates

AG1-402-Events "ARGU DCD1P "ARGU	S 1", "7S S2434H80005.	1,7	
DCD 1P *ARGU		-	
	S 1", "7S S2434H80003R	.7 1,7	
DCD1S "ARGU	S 1", "7S S2434H80002R	.7 1,7	
DCD2PS *ARGU	S 1", "7S S2434H80004R	.7 1,7	
DCD3P "ARGU	S 1", "7S S2434H80005R	.7 1,7	
DCD3PE "ARGU	S 1", "7S S2434H80007R	.7 1,7	
DCD3PS "ARGU	S 1", "7S S2434H80006R	.7 1,7	
DUOBIAS-M-210-2W DUOB	IAS-M", " 2661H80025R5	19,21	
GAE-FALIETS "ARGU	S 4 <sup>*</sup> . <sup>*</sup> 75 S2716H80005R	3 9.7	
Find			

Figure 4-5 Data Templates

Data templates show examples of data to highlight the features of Reydisp. They are provided to allow users to become familiar with the Waveform, Events and Faults displays without needing to be connected to a device. Select the template to open from the list and then click **OK**.

#### Connect



Figure 4-6 Connect Icon

Reydisp Evolution 32, Software, Manual C53000-H7050-C032-1, Edition 03.2023

SAT200 Server         Image: Add new SAT200 connection >         Image: Com Port         Image: Com Port <t< th=""><th>Connection Manager</th><th>×</th></t<>	Connection Manager	×
Add new SAT200 connection>       Lab1         Serial Com Port       Image: COM8 - ATEN USB to Serial Bridge       Image: COM1 - Communications Port         Image: COM3 - Siemens Protection Devices Relay         Image: PSTN MODEM          Image: COM3 - Siemens Protection Devices Relay       Image: Commettion Protection Devices Relay       Image: Commettion Protection Devices Relay       Image: Commettion Protection Protection Devices Relay       Image: Commettion Protection Protec	SAT200 Server	
Serial Com Port         Image: COM8 - ATEN USB to Serial         Bridge         COM3 - Siemens Protection         Devices Relay         PSTN MODEM         Image: Comparison of the serial connection is connection         Image: Comparison of the serial connection         Image: Connect connection         Ima	<add connection="" new="" sat200=""> Lab1</add>	
COM8 - ATEN USB to Serial Bridge COM3 - Siemens Protection Devices Relay PSTN MODEM Add new Telephone connection > Network TCP/IP Connection Add new socket connection > Lantronix Paul 1 Paul 2 * Set as Default Add Properties Delete Connect	Serial Com Port	
COM3 - Siemens Protection   Devices Relay     PSTN MODEM   Add new Telephone connection> Network TCP/IP Connection Add new socket connection> Lantronix Paul 1 Paul 2 Set as Default Heb Add Properties Delete Connect Cancel	COM8 - ATEN USB to Serial Bridge COM1 - Communications P	ort
PSTN MODEM   Add new Telephone   connection>   Network TCP/IP Connection Add new socket connection> Lantronix Paul 1 Paul 2 Set as Default Clear Default Heb Connect Cancel	COM3 - Siemens Protection Devices Relay	
Add new Telephone connection>   Network TCP/IP Connection   Add new socket connection>   Add new socket connection>   Paul 1   Paul 2   Set as Default   Clear Default   Help	PSTN MODEM	
Network TCP/IP Connection         Image: Connection <td><add new="" telephone<br="">connection&gt;</add></td> <td></td>	<add new="" telephone<br="">connection&gt;</add>	
Add new socket connection>   Paul 1   Paul 2     Set as Default   Clear Default     Heb     Add     Properties     Delete     Connect     Cancel	Network TCP/IP Connection	
Paul 1   Set as Default   Clear Default   Add,   Properties   Delete   Connect   Cancel	Add new socket connection > Lantronix	
Set as Default     Clear Default     Heb       Add     Properties     Delete     Connect     Cancel	Paul 1 Paul 2	Ŧ
Add, Properties Delete Connect Cancel	Set as Default Clear Default	Help
	Add Properties Delete Connect	Cancel



The Connection Manager lists the different connections that are available. These connections are listed in groups. To connect to a device, select a connection from the list and click the **Connect** button. Connection types include connecting to a serial port and a TCP/IP connection.

A connection can be set as the default, shown by the tick mark ( $\checkmark$ ) imposed over the icon, to be automatically opened on starting Reydisp. You can manage the default with the **Set as Default** and **Clear Default** buttons. Certain types of connection can have additional connections added. In this case an (Add new socket connection> icon will be displayed in the group. Selecting it and clicking the **Add** button will display a dialog box where the connection parameters can be entered.

To change the parameters of a connection, select it and press the **Properties** button.

Connections that have been added by the user can be deleted by pressing the **Delete** button.

Hangup



Use this command to close a communications connection previsc\_ReydispEvolution\_OpenWaveformDefaultlcon, 1ously opened by **Connect**.

#### Open



Use to open a file. Files can contain Settings, Waveform Data, Text Data or other data.

#### **Open Waveform with Default Viewer**



Figure 4-11 Open Waveform with Default Viewer Icon

Open a waveform using the default viewer settings for that type of device rather than any viewer settings stored in the file being opened. This option is ignored if you then open a file other than a waveform.
### **Open Waveform with Selected Viewer**



Figure 4-12 Open Waveform with Selected Viewer Icon

Open a waveform using the viewer chosen from the displayed list rather than any viewer settings stored in the file being opened. This option is ignored if you then open a file other than a waveform.

### Save





Save the data of the active window using the present name. If this is data has not previously been saved it performs a **Save As**.

#### Save As



Figure 4-14 Save As Icon

Save the data of the active window using a new name.

The user can also use this command to export data as a different type of file by selecting from the **Save File as Type** list. Depending on which window is active, there are different options in this list for saving or exporting data, described in *Table 4-1*.

#### Table 4-1 Waveform Window

File Type	Extension	Description
Reyrolle format version 2	RDF2	Reyrolle proprietry binary file format version 2
Reyrolle format version 1	DAT	Reyrolle proprietry binary file format version 1
Comtrade 1999	CFG	Comtrade 1999 compatible file set
Comtrade 1991	CFG	Comtrade 1991 compatible file set
Real values	TXT	Text file containing data channel values
DADISP	DAT	DADiSP compatible file

Events, Data Logs and Text files are all saved in ASCII format text (TXT) files.

Data View files are saved as Windows format INI files.

### Close



Figure 4-15 Close Icon

Choosing this command closes the active window.

## **Offline Revise Settings**



Figure 4-16 Offline Revise Settings Icon

This command allows the conversion of a settings file into a file for a different type of relay. Open the settings file to convert and make it the active window. The **Offline Revise Settings** command can then be selected and the user can choose the type of file to convert to from the list or open another file. To use this command the file to be converted to must be in the list or there must be an example of the type.

Relay ID	Cat. No.	Software	I/O	CRC	
OSR210x-1xAxx-0CA0		2435H85008R	9,8	#3ba4	Ļ
7SG1510-2xE30-0xA0	"MicroTAPP, Ad	2792H80002R7	11,5		
7SG1510-2xJ30-JxA0	"MicroTAPP, Ad	2792H80002R7	19,13		
7SG1510-2xK30-0xA0	"MicroTAPP, Ad	2792H80002R7	19,13		
7SR 1101-1xA 12-xCA0	"ARGUS-C, Non	2436H80003R	3,5	#a528	
7SR1101-1xA12-xCA0	"ARGUS-C, Non	2436H80003R	3,5	#a528	
7SR1101-1xA12-xCA0	"ARGUS-C, Non	2436H80003R2-2	3,5	#d47e	
7SR1101-1xA12-xCA0	"ARGUS-C, Non	2436H80003R	3,5	#4fd4	
7SR 1101-1xA12-xCA0	"ARGUS-C. Non	2436H80003R	3.5	#96a8	1
Find					

Figure 4-17 Settings Window

On completion the source file window will be minimized and the new settings file shown opened.

Print



Isc\_ReydispEvolution\_PrintIcon, 1, -\_-]Figure 4-18Print Icon

This option will print the contents of the active window.

# **Print Options**



Figure 4-19 Print Options Icon

Set the user options for Waveform printouts. Information relating to the print is placed in the **Comment** field. Information identifying the origin of the print is placed in the **User** field. Either field can be left blank.

## **Printer Setup**



This option allows the user to set the printers parameters prior to printing.

#### **Recent Files List**



Shows the files recently opened allowing quick selection for reopening. The files have an index number 0 to 9 next to them that can be used as a shortcut key. The most recently opened file is always at the top of the list index 0.

Exit



igure 4-22 Exit Icon

Choosing this option will exit the Reydisp Evolution application.

# 4.2 Edit Menu

The Edit menu can be viewed from the top menu bar and has the following options:

- Undo
- Cut
- Copy
- Paste
- Clear
- Select All
- Select None
- Compare Setting Groups
- Remove Setting Highlights



# NOTE

The functions of the **Edit** menu are dependant on which display window is active. Not all functions are available on all pages.



[sc\_ReydispEvolution\_EditMenu, 1, en\_US] Figure 4-23 Edit Menu

## Undo



Choosing this option will undo the previous edit operation.

Cut



Choosing this option copies the selection to the clipboard and deletes it from it's original window.

## Сору



This option copies the window contents to the clipboard. If the window contains a selection, a dialog box is opened allowing the user to select whether to copy all the contents, or just the selection.

## Paste



This will paste from the clipboard into the active window.

## Clear



This option will clear the present selection from the active window.

## Select All



29 Select All Icon

This option will select all items on the active window.

## Select None



Figure 4-30 Select None Icon

This will remove any selection from the items on the active window.

## **Compare Setting Groups**



Figure 4-31 Compare Setting Groups Icon

ompare	Settings	X
From	Settings Editor (7SR224 - 7SR224x-2xxxx-0CCx.rsf2)	•
То	Settings Editor (7SR224 - 7SR224x-2xxxx-0CAx.rsf2)	•
		Help OK Cancel

Figure 4-32 Compare Settings Window

This function compares 2 settings groups. The settings should be opened in 2 Settings editors. Differences in the settings will be highlighted in different colours. If the settings is new, or significantly different it will be highlighted in the Attention color. If the setting has a different definition, for example, it's range has changed, it will be highlighted in the Range color. Differences in value will be shown in the Changed color. These colors can be set as an option using **Options > Evolution**. If there are differences the windows will be rearranged to show the 2 compared Settings editors tiled in the main window, with the other windows minimized, as shown in *Figure 4-33*. The **Remove Highlights** command can be used to remove the highlights from the active Settings editor. While settings are highlighted after a comparison the **Update Changed Settings** command is unavailable until the highlight is removed. From a comparison window use the **Send All Settings** command to modify the relay settings.

Reydisp Evolution	
<u>File Edit View Relay Options Window H</u> elp	
``````````````````````````````````````	🗎 🛃 🐼 🛃 🗿 😳 😬
Image: Settings Coning Settings Input Matrix: Output Matrix LED Matrix Simplified Proteins         Settings         Formation         Convertige         Converation         Co	Settings Editor (75f224 - 75f224x - 2000-0CALrsf2)      System Notes Config Settings     Input Matrix Output Matrix LED Matrix Simplified Prote (*)-     Settings     CONFIG     CURRENT PROTN     SUPERVISION     CONTROL & LOGIC     DATA STORAGE     COMMUNICATIONS     COMMUNICATIONS     CONTROL & LOGIC     General Alarm Aler     (DisabledEnabled)     Setting Parameter (7f.60)     E/F Curr Set Display     (Mom.Secondary)     (Disabled.Secondary)     (Mom.Secondary)     (Disabled.Secondary)     (Disabled.Secondary)     (Disabled.Secondary)     (Disabled.Secondary)     (Disabled.Secondary)     (Di
SYSTEM CONFIG This menu contains system configuration settings which effect the b	SYSTEM CONFIG This menu contains system configuration settings which effect the b
Address 1 @ COM3:57600,n	

Figure 4-33 Comparing Settings

# **Remove Setting Highlights**



Figure 4-34 Remove Setting Highlights Icon

Remove the Attention highlights from a Settings editor, for example, after a compare setting groups function.

# 4.3 View Menu

The **View** menu can be viewed from the top menu bar and has the following options:

- Properties
- Zoom In
- Zoom Out
- Show Full
- Vertical Zoom In
- Vertical Zoom Out
- Highlight Samples
- Select cursor
- Relative Scaling
- Auto Save Views As Device Default
- Save Views As Device Default Now!
- Save Views As ? Now!



Figure 4-35 View Menu

### Properties



Figure 4-36 Properties Icon

The Properties dialog configures the active Waveform data display window.

/iews	Signals	Miscellaneous
-------	---------	---------------

Figure 4-37 Properties Tabs

It consists of a number of tabbed pages, as illustrated in Figure 4-37.

# Views Tab

	Signals	
All Signals	{HV Line Ia,HV Line Ib,HV Line Ic}{HV Line Ia}{HV Line Ib}{HV Li	
<ul> <li>✓ Analogues</li> <li>✓ Digitals</li> </ul>	{HV Line Ia,HV Line Ib,HV Line Ic}{HV Line Ia}{HV Line Ib}{HV Li {SI 1}{SI 2}{SI 3}{SI 4}{SI 5}{SI 6}{SI 7}{SI 8}{SI 9}{SI 10}{	1
< [		



The Views tab lists the data configuration for each signals tab on the data display window.

Use the **New**, **Edit**, and **Delete** buttons to manage views. To order them the up  $\uparrow$  and down  $\downarrow$  buttons can be used. Pressing either the **New** or **Edit** buttons will open the Configure View dialog box.

Title All Signals				
Signal	#	-	Signal(s)	*
HV EF	4		HV Line Ia,HV Line Ib,HV Line Ic	
HV Line Ia	1		HV Line Ia	
HV Line Ib	2	-	HV Line Ib	-
HV Line Ic	3		HV Line Ic	
HV Relay Ia	9		HV EF	
HV Relay Ib	10		LV Line Ia,LV Line Ib,LV Line Ic	
HV Relay Ic	11		LV Line Ia	
Inrush Ia	21		LV Line Ib	
Inrush Ib	22	*	1V Line ic	-

Figure 4-39 Configure View

The Configure View dialog box allows the user to change the items displayed on a tab in the data window. The name of the display tab can be changed in the Title editor.

The left list contains a list of all available signals. Select a signal and use the  $\rightarrow$  to move it to the right hand definitions list. To put multiple signals on one graph axis select several items before clicking the button. To remove signals from the tab select the definition in the right hand list and press the  $\leftarrow$  button.

The order of the definitions can be changed by using the  $\uparrow$  and  $\downarrow$  buttons.

The display tabs are only shown when the checkbox next to their definition is checked.

## **Signals Tab**

/iews Signals Misce	llaneous	
Signals	#	<u>^</u>
HV Line Ia	1	
HV Line Ib	2	
HV Line Ic	3	E
HV EF	4	
LV Line Ia	5	
LV Line Ib	6	
LV Line Ic	7	
LV EF	8	
HV Relay Ia	9	
HV Relay Ib	10	
HV Relay Ic	11	-
Edit Delete	Create New Signal	7
$\sim$		Help OK Cance

The Signals tab displays a list of the available Analogue signals.

To create a new function click Create New Signal and follow the on screen wizard.

You can edit the properties of a signal by selecting it in the left list and pressing the **Edit** button, the Edit Analogue Channel dialog box is displayed.

Figure 4-40 Signals Tab

4.3 View Menu

Properties										
Name	HV Line Ia									
Phase	a									
Circuit										
Units	xIn									
A	0.001667 0.000000									
В										
Skew	0.000000									
Min	-888									
Max	850									
Pri:Sec	1.000000 : 1.000000 P - Colour									
User	Display Min/Max 1.000000 1.000000									

[sc\_ReydispEvolution\_EditAnalogueChannel, 1, en\_US]

Figure 4-41 Edit Analogue Channel

This dialog box allows changing of the Analogue channel parameters.

The text values for **Name**, **Phase**, **Circuit**, and **Units** can be changed in the respective editors. This will affect the labels displayed.

The numeric factors A, B, and Skew can be changed in their editors, this will affect display of the signal.

The **Pri:Sec** boxes define the Primary to Secondary ratio whether the record is recorded in primary (P) or secondary (S) values.

The color the signal is drawn in can be changed with the **Colour** button.

The **User Display Min/Max** control and checkbox allow the user to override the max and min values for a signal by setting their own and therefore keep the range displayed constant. This feature is turned on and off using the checkbox.

Signals can be deleted by selecting them and pressing the **Delete** button.



# NOTE

Signals created will be saved in the file when the data record is saved. Deleted signals are completely removed and that data lost.

## **Miscellaneous Tab**

ews signals macchaneous	7
Styles	Colour Scheme
Analogue Waveform Borders	Grey/Green 🔻
<ul> <li>Analogue Pad Shading</li> <li>Digital Signal Borders</li> </ul>	Border
<ul> <li>Digital Pad Shading</li> <li>Digital Item Shading</li> </ul>	Dark Shade
<ul> <li>Print Analogue Waveform Borders</li> <li>Print Waveforms In Monochrome</li> </ul>	Light Shade
	Digital Shade
$\sim$	Help OK C



The Miscellaneous tab holds settings which configure the look of the waveform display. They include color schemes and various display and print styles.

Styles

• Analogue Waveform Borders – This setting toggles the border effect of an Analogue waveform. This will also remove the shading effect. As illustrated in .

B 3646.9		-5.455A Max 4153.094A Min -4153.094A
<b>B</b> 3646.9		-5.455A Max 4153.094A Min -4153.094A
[sc_ReydispEvolution_A Figure 4-43	nalogueWaveformBorders, 1,] Analogue Waveform Borders	

• Analogue Pad Shading – This setting toggles the shading background effect of an Analogue waveform. As illustrated in *Figure 4-44*.

B	3646.912A		1		1		1	1	1	Ma	-5.455A ax 4153.094A
				I						1911	II -4155.094A

B 3646.912A	TAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	-5.455A Max 4153.094A
		Min -4153.094A

Figure 4-44 Analogue Pad Shading

• Digital Signal Borders – This setting toggles the border effect of a Digital waveform. This will also remove the shading effect. As illustrated in *Figure 4-45*.

OUTPUT1	1	——————————————————————————————————————
OUTPUT1	1	0
Figure 4-45	Digital Signal Borders	

• Digital Pad Shading – This setting toggles the shading background effect of a Digital waveform. As illustrated in *Figure 4-46*.





• Digital Item Shading – This setting toggles the item shading effect of a Digital waveform. As illustrated in *Figure 4-47*.



Figure 4-47 Digital Item Shading

• Print Analogue Waveform Borders – This setting toggles the printing of Analogue waveform borders and shading on printouts. As illustrated in *Figure 4-48*.



Figure 4-48 Print Analogue Waveform Borders

• Print Waveforms in Monochrome – This setting toggles printing the Waveforms in Monochrome. As illustrated in *Figure 4-49*.



Figure 4-49 Print Waveforms in Monochrome

Color Scheme

• Color Selection – These settings allow selection of color schemes for drawing waveform displays, either from a selection of predefined schemes, a comparison of which is shown in *Figure 4-50*, or selected by the user.



Figure 4-50 Color Scheme Example

- Border The Border value defines the color of the item border.
- Dark Shade The Dark Shade value defines the darkest color of the item shading.
- Light Shade The Light Shade value defines the lightest color of the item shading.
- Digital Shade The Digital Shade value defines the basic shading color of a digital item.

## Zoom In



Figure 4-51 Zoom In Icon

This option will expand the region on the display between the cursors.

#### Zoom Out



Figure 4-52 Zoom Out Icon

Choosing this option slightly reduces the zoom.

Show Full



Figure 4-53 Show Full Icon

This option removes the zoom and shows all the data.

## Vertical Zoom In



Figure 4-54 Vertical Zoom In Icon

This option vertically expands the waveform display area.

This function increases the vertical resolution of the signals by reducing the number of signals drawn in the view area, thus giving more space to the remainder. The signals removed can be scrolled back into view using the scroll bar on the right of the window.

🖌 Data Header W	indow (Un	titled)						×
System Config	INF	Notes	All Signals	Analogues	Digitals			
HV Line Ia HV Line Ib HV Line Ic	0.002xIn 0.003xIn 0.000xIn						0.002xIn -0.002xIn - 0.002xIn	
HV Line Ia	0.002xIn						0.002xIn Max 1.417xIn - Min -1.480xIn	
HV Line Ib	0.003xIn						-0.002xIn Max 1.419xIn - Min -1.417xIn	
HV Line Ic	0.000xIn						0.002xIn Max 1.474xIn - Min -1.409xIn	]_
4					1.0		Þ	
-100.000 mS			800.000 mS		700	.000 mS		

ReydispEvolution\_DataHeaderWindow, 1, en\_US]

Figure 4-55 Data Header Window Not Zoomed

System       Config       INF       Notes       All Signals       Analogues       Digitals         HV Line Ia       0.002xIn       0.002xIn       0.002xIn       0.002xIn       0.002xIn         HV Line Ic       0.000xIn       0.002xIn       0.002xIn       0.002xIn         HV Line Ia       0.002xIn       0.002xIn       0.002xIn         HV Line Ia       0.002xIn       0.002xIn       0.002xIn         HV Line Ia       0.002xIn       0.002xIn       Max 1.417xIn         Min -1.480xIn       Min -1.480xIn       Min -1.480xIn       Min -1.480xIn	🖌 Data Header V	/indow (Ur	titled)					- • •
HV Line Ia         0.002xIn           HV Line Ib         0.000xIn           HV Line Ic         0.000xIn           HV Line Ia         0.000xIn           HV Line Ia         0.002xIn           Min -1.480xIn           HV Line Ia         0.002xIn	System Config	INF	Notes	All Signals	Analogues	Digitals		
HV Line Ia         0.002xIn           Max         1.417xIn           Min         -1.480xIn	HV Line Ia HV Line Ib HV Line Ic	0.002xIn 0.003xIn 0.000xIn						0.002xIn -0.002xIn 0.002xIn ₽
	HV Line Ia	0.002xIn						0.002xIn Max 1.417xIn Min -1.480xIn
	100.000			900 000 m C		70	3	

c\_ReydispEvolution\_VerticalZoomIn, 1, en\_US]

Figure 4-56 Data Header Window with Vertical Zoom

# Vertical Zoom Out



Figure 4-57 Vertical Zoom Out Icon

This option vertically reduces the waveform display area.

## **Highlight Samples**



Figure 4-58 Highlight Samples Icon

This option allows the user to toggle the waveforms to display highlighted sample points.

HV Line Ic -0.797×In	~		$\sum$	$\wedge$	$\wedge$		$\sum$	-1.153xIn / Max 1.474xIn / Min 1.409xIn
	1	$\bigvee$	V	/ \	$\bigvee$	$\bigvee$		/ Mill -1.409XIII

	10/			Delinte
FIGURE 4-59	waveform	WITHOUT	Highlighted	POINTS
inguic i bb	<b>Waveronni</b>	without	ingingineea	1 011103



Figure 4-60 Waveform with Highlighted Points

## Select Cursor



Selects which cursor is moved by the keyboard  $\leftarrow$  and  $\rightarrow$  keys. The presently selected cursor is shown with a small arrow at its top.

#### **Relative Scaling**



Figure 4-62 Relative Scaling Icon

When this option is turned on, Analogue signals in a Waveform Display tab are scaled with respect to signals of the same type, for example, all voltages are drawn using the same range. When this option is off the signals are scaled only with respect to themselves.

In the following example relative scaling is turned on.



Figure 4-63 Relative Scaling On

The following example shows the same data with relative scaling turned off. Channels with small values are shown as noise.



 <sup>[</sup>sc\_ReydispEvolution\_RelativeScalingOff, 1, en\_US]

 Figure 4-64
 Relative Scaling Off

### Auto Save Views As Device Default



Figure 4-65 Auto Save Views As Device Default Icon

With this option on, when a waveform display window is closed, the present waveform view configuration is automatically saved as the new default for this type of device. It is the automatic equivalent of using the **Save Views As Device Default Now!** command.

## Save Views As Device Default Now!



Figure 4-66 Save Views As Device Default Now! Icon

This command immediately saves the present view configuration as the new default for this type of device. This configuration will be used the next time a waveform record is downloaded from a device, or if a file without a configuration is opened, or with the **Open Waveform with Default Viewer** command.

#### Save Views As ? Now!



This command immediately saves the present view configuration under a user supplied name. The saved configuration can be used with the **Open Waveform with Selected Viewer** command.

# 4.4 Relay Menu

The **Relay** menu can be viewed from the top menu bar and has the following options:

- Set Address
  - Address
  - Device Map
  - Device Map Limit
  - Line Selector
- Login
  - Login
  - Logout
- Settings
  - Get Settings
  - Update Changed Settings
  - Send All Settings
  - Get Active Setting Group Number
  - Set Active Setting Group Number
  - List Settings Group
  - Compare Setting Groups
  - Remove Setting Highlights
- Events
  - Get Events
  - Reset Events
  - Events Time Difference
  - Clear Spontaneous Messages Window
- Waveform
  - Get Waveform Record
  - Trigger Waveform Record
  - Reset Waveform Records
  - Get Data Directory
- Data Records
  - Get Data Fault Record
  - Get Data Log Record
  - Reset Data Log Record
  - Get Data Report File
  - Reset Data Report Files
  - View Data Log As Comtrade

- Information
  - Monitor Instruments
  - Monitor Waveforms
  - Get System Information
  - Start General Interrogation
  - OnLine Help
- Control
  - Auto Poll
  - Reset Flags
  - Close Output Relay
  - Set Time and Date
  - TeleType
  - General Command
  - Relay File Manager
- Archive Functions
  - Get All Data
  - Send Archived Settings
- Communications
  - Clear
  - Synchronise



# Figure 4-68 Relay Menu

## Set Address



```
Figure 4-69 Set Address Menu
```

## Address



Figure 4-70 Address Icon

This option allows the user to set the address to use for communicating with the device. This should be the same as the address which has been set via the device's front panel.

#### **Device Map**



Figure 4-71 Device Map Icon

This option will poll addresses looking for devices that may be present. The addresses polled are from 1 to the limit set by the **Device Map Limit** command. It produces a list of any device found. The address is set either by selecting the device and pressing **OK**, or double clicking on the item in the list.

Device	Address	Description
75R1706-xxA1x-xCA0	1	7SR17
75R210x-1xAxx-0CA0	2	ARGUS-M 7SR21
75R224x-2xxxx-0CAx	4	75R224
٠ []		•
Re-Build Map	Help	OK Cance





# NOTE

The device map function is not available with certain communications drivers.

## **Device Map Limit**





This option sets the upper limit for the **Device Map** command to poll. This command saves polling all addresses when there are only a few devices in the network.

#### Line Selector



Figure 4-74 Line Selector Icon

Used with some communications drivers and allows setting of the line selector value. This value is dependant on the system.

# Login



Figure 4-75 Login Menu

Login



Figure 4-76 Login Icon

Reydisp has to be logged into the device before it can perform functions which will alter the device, for example, **Close an Output Relay** or **Changing Settings**.

To retrieve information from the device there is no need to be logged in. Enter the device's user ID/password into the field (shown in *Figure 4-77*), the user ID/password will be shown as \*\*\*\* and not be echoed on the screen, then click **Login**.

a		
Passv	vord	
Save A	As New De	efault
	Help	Cancel

Figure 4-77 Login Dialog Box

Reydisp Evolution stores a default password which it tries to use to login to the device. If this password is valid it will automatically login when required. If the automatic login fails the Login Dialog Box (shown in *Figure 4-77*) will be displayed and the correct user ID/password should be entered. If this password should be saved as the new default for automatic logins check the **Save as New Default** box before clicking **Login**.



# NOTE

Some Reyrolle devices refer to a user password. On these devices and in Reydisp Evolution, the setting password is a confirmation mechanism to prevent unauthorized access from the front fascia or over the rear serial communication channel(s).

The Control password is a confirmation mechanism to prevent the unauthorized operation of control operations and commands from the **Control** menu on the relay fascia.

## Logout



This option is used to logout Reydisp from a device. This command is complementary to the **Login** command.

### Settings

File Edit View	Relay Options Window	He	lp	
👪 🌈 筐	Set Address Login	+	Ø	₽ ₽ ₽ <b>₽</b> ₽ ₽
	Settings	•		Get Settings
	Events	×	-	Update Changed Settings
	Waveform	•	-	Send All Settings
	Data Records	•		Get Active Setting Group Number
	Information			Set Active Setting Group Number
	Control			List Settings Group
	Archive Functions	÷		Compare Setting Groups
	Communications			Remove Setting Highlights

eydispEvolution\_SettingsMenu, 1, en\_US]

Figure 4-79 Settings Menu

#### **Get Settings**



Figure 4-80 Get Settings Icon

This option allows the user to read one group of settings from the device into a Settings Editor window. The user will be prompted to enter the group required.

4.4 Relay Menu

-		_			_
1	2 3	4	56	Z	8
			<b></b>		-

sc\_ReydispEvolution\_ActivateSettingsGroupDialog, 1, en\_US]

Figure 4-81 Activate Settings Group Dialog Box

## **Update Changed Settings**



Figure 4-82 Update Changed Settings Icon

This updates the setting(s) that have changed since the last upload or download to the original group in the device.

#### Send All Settings



Figure 4-83 Send All Settings Icon

This sends the complete settings from a Settings Editor window to a group specified by the user.



## NOTE

To upload settings to the device the user needs to make sure the Settings Editor window containing the settings is active (topmost). If a window other than a Settings Editor is active the **Update Changed Settings** and **Send All Settings** commands are disabled.

When uploading settings to the device Reydisp Evolution checks that the settings are compatible with the designated device. If they are incompatible the settings are not uploaded and a conversion process takes place.

During the conversion process an additional settings window is opened containing settings for the destination device with the compatible values from the original settings copied to it.

Incompatible settings are highlighted in the attention color; see Evolution Options. The user should check these settings. If the destination device had fewer settings than the source device, but all its settings were compatible the difference will be flagged, however, no settings will be highlighted for attention. When the user is satisfied the settings in the new window are correct choose **Send All Settings** to begin the upload with the converted settings.

## Get Active Setting Group Number



Figure 4-84 Get Active Setting Group Number Icon

This gets the setting group in the device which is presently active.



[sc\_ReydispEvolution\_GetActiveSettingGroupNumberDialog, 1, --\_--]

Figure 4-85 Get Active Setting Group Number Dialog Box

## Set Active Setting Group Number



Figure 4-86 Set Active Setting Group Number Icon

This sets a setting group in the device to be active. The user is asked for the group to activate in *Figure 4-87*.



[sc\_ReydispEvolution\_SetActiveSettingGroupDialog, 2, en\_L

Figure 4-87 Set Active Setting Group Number Dialog

#### **List Settings Group**



Figure 4-88 List Settings Group Icon

This option allows the user to get a listing of a setting group in English.

Relay Settings Group 1 (Uni		
Relay Type Software Revision Boot Block Revision Configuration User Information Circuit Identifier Serial Number DOC ID Firmware Revision	: 7SR224x-2xxxx-0CAx : 2435H80011R4h-4e#cc54 : TC1775.002.000 : 10w-8g-13i-14o : 7SR224 : : : RM051 : FFFFFFF23FFFFF1DD823F707001914 : 2435S82309R4i	[
Settings listing for gr	oup 1	
******* SYSTEM CONFIG	******	
Language Setting Active Group System Frequency Jiew/Edit Group Setting Dependencies Favourite Meters Timer Backlight timer Date Date Curr Set Display E/F Curr Set Display	<pre>- English - 1 - 50Hz - 1 - Enabled - 60min - 5min - 23/ 8/2013 - 09:39:08 - xNom - xNom</pre>	
Export Power/Lag VAr Select Grp Mode Dperating Mode Setting Password Control Password Frip Alert General Alarm Alert Relay Identifier	<pre>+ tve/+ve Edge triggered Minutes Local Or Remote NOT ACTIVE NOT ACTIVE Enabled Enabled 7SR224</pre>	

Figure 4-89 List Settings Group Dialog

#### Events



Figure 4-90

1-90 Events Menu

#### **Get Events**



Figure 4-91 Get Events Icon

This tool gets a list of the historical events from the device into an Events window.

## **Reset Events**



Figure 4-92 Reset Events Icon

This tool resets the internal historical event store of the device.

#### **Events Time Difference**



ReydispEvolution\_Events limeDifferenceIcon, 1, --\_-]

Figure 4-93 Events Time Difference Icon

This option displays the time difference between 2 events in the events list. Before selecting this function the user must have only 2 events selected in the list.

When the user has only 2 events selected the time difference is automatically displayed in the status bar at the bottom of the Event window.

The format of the time difference is **n Days**, **Hours** : **Minutes** : **Seconds** e.g. 2 Days, 10:35:12.345 is 2 days, 10 hours, 35 minutes, 12.345 seconds between events. If the user selects an event which does not have a time stamp or a blank line, its time is taken as the previous time stamp in the list.



Figure 4-94 Events Time Difference Dialog

## **Clear Spontaneous Messages Window**



Figure 4-95 Clear Spontaneous Messages Window Icon

This clears the information from the Spontaneous Messages window . This function does not affect the device.

### Waveform



sc\_ReydispEvolution\_WaveformMenu, 1, en\_US

Figure 4-96 Waveform Menu

## Get Waveform Record



Figure 4-97 Get Waveform Record Icon

This option gets the wave form record, specified by the user, from the device into the Data Header window. A list of available records will be displayed with their timestamp; the most recent record is always number one.



[sc\_ReydispEvolution\_GetWaveformRecordDialog, 1, --

Figure 4-98 Get Waveform Record Dialog Box

For some newer devices additional information about the type or record is given, as shown in *Figure 4-99* and *Figure 4-100*.

170000 / 1		
1/0000 ( (	0) - MotorS	tart
795000 ( 0	) - MotorS	tart
025000 ( 0	0) - MotorS	tart
840000 ( (	J) - Motors	tart
	795000 ( ( 025000 ( ( 840000 ( (	795000 ( 0) - MotorS 025000 ( 0) - MotorS 840000 ( 0) - MotorS

Figure 4-99 Get Waveform Record Dialog Box Newer Device Example 1

1. 2000-01-02 0 2. 2000-01-02 0	7:52:28.245000 ( 0) - MotorStart 7:47:19.170000 ( 0) - MotorStart
3. 2000-01-02 0	7:42:09.795000 ( 0) - MotorStart
4. 2000-01-02 0	7:37:01.025000 ( 0) - MotorStart
5. 2000-01-02 0	7:31:51.840000 ( 0) - MotorStart

Figure 4-100 Get Waveform Record Dialog Box Newer Device Example 2

# **Trigger Waveform Record**



Figure 4-101 Trigger Waveform Record Icon

This triggers the device to immediately record a waveform record. This can then be retrieved be the **Get Waveform Record** function. The record will replace the oldest record in the device.

## **Reset Waveform Records**



Figure 4-102 Reset Waveform Records Icon

This option will reset the device's waveform record store. This command will permanently delete the records.

## Get Data Directory



Figure 4-103 Get Data Directory Icon

This allows the user to read the Data Directory listing from the device. This shows the times at which the records were stored.



Figure 4-104 Get Data Directory Dialog Box

#### Data Records

File cuit view [	relay options window	пер	
	Set Address Login	: Ø	P= P= № 🍑 🚼 🖇
	Settings Events Waveform	) )	
	Data Records	• 😰	Get Data Fault Record
	Irformation Control Archive Functions	→ ×	Get Data Log Record Reset Data Log Record
	Communications	<u> </u>	Get Data Report File Reset Data Report Files
			View Data Log As Comtrade



#### Get Data Fault Record



Figure 4-106 Get Data Fault Record Icon

This option reads the list of data records from the device into an Edit window. This was formally the get faults command. The format of the record is as follows:

<Description Number><Date dd/mm/yy><Time><1st Phase Details>to<nth Phase Details> For example:

FAULT1 15/01/96 02:06:05.0500 G1 PHASE A <:S> IA=1.01xIn PHASE B <LS> IB=1.01xIn PHASE C IC=0.00xIn EARTH FAULT IE=0.00xIn

### Get Data Log Record



Figure 4-107 Get Data Log Record Icon

This command retrieves a Data Log record from a device. On starting this command the dialog box shown in *Figure 4-108* will open.

elect	Data Logs
Sele	ct Data Log Range To Download
OA	l
<b>o</b> s	elected
	From (1 = Newest)
	1 2013/08/23 08:12:00
	To (7285 = Oldest)
	7285 2000/01/01 00:05:00
	Refresh Cate/Time
8	Help OK Cancel

Figure 4-108 Get Data Log Record Dialog Box

The user may either download all data records, or a selection between 2 times. Select the **All** or **Selected** control as required. When in **Selected** mode the **From** and **To** controls are available. Use these to specify a range of samples to download. The newest and oldest points are shown next to the **From** and **To** titles. While this dialog is open the device is still recording. The user can use the **Refresh Date/Time** button to update the available sample point information.

## **Reset Data Log Record**



Figure 4-109 Reset Data Log Record Icon

This command resets the internal Data Log of the device.

## Get Data Report File



 [sc\_ReydispEvolution\_GetDataReportFileIcon, 1, -\_-]

 Figure 4-110
 Get Data Report File Icon
This command retrieves a Data record from a device. On starting this command the dialog box shown in *Figure 4-111* will open listing any records available.

2. 2000-01-02 07	:47:10.475000 (	0) - MotorStart
4. 2000-01-02 07	:36:52.320000 ( :26:34.570000 (	0) - MotorStart 0) - MotorStart
5. 2000-01-02 07	:11:58.640000 (	0) - MotorStart

Figure 4-111 Get Data Report File Dialog Box

Select a record from the list and click **OK**. Once retrieved the record is displayed as shown in *Figure 4-112*.

System Data Rep	ort		
Motor Start Report			
Start Date	2000-01-02		
Start Time	07:57:28.230		
Report Trigger	Start Failed		
Number of Starts	0		
Motor Start Duration	0	5	
TC Last Start	0.00	%	
TC Used	0.00	%	
Max Start Current	1.999	A	
Min Start Voltage	0.00	V	

Figure 4-112 Get Data Report File Dialog Box Retrieved

# **Reset Data Report Files**



Figure 4-113 Reset Data Report Files Icon

This command resets the internal Data Report store of the device.

### View Data Log As Comtrade



Figure 4-114 View Data Log As Comtrade Icon

This command converts an open Data Log into a graphical Comtrade view. This view can be manipulated as with any signals window.

DATE TIP		1/ DTD1 DTD3
2000/01/31 04	📈 Data Header Window (Untitled)	
000/01/31 04	System Config INF Notes Analogues	
000/01/31 02	Q (3p) 0.000	0.000
2000/01/31 02		Max 1505.000
2000/01/31 02		E
2000/01/31 02		
2000/01/31 02		0.000
2000/01/31 02	Ic 0.000	- 0.000
2000/01/31 02		
2000/01/31 01		
2000/01/31 01	Ia 0.000	0.000 Max 1881.000
2000/01/31 01		- Min 0.000
2000/01/31 01		
2000/01/31 01	(Th. 0.000   1	0.000
2000/01/31 01	10 0.000	Max 1880.000
2000/01/31 01		- Min 0.000
2000/01/31 01		+
2000/01/31 01		
2000/01/31 01		
2000/01/31 01	5809:11:21 (H:M:S) 46473:30:53 (H:M:S) 52282:42:14 (H	H:M:S)
2000/01/31 01	4:24 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.00	0 0.000

Figure 4-115 View Data Log As Comtrade Example

#### Information

Reydisp Evolution			
File Edit View Re	alay Options Window	/ Help	
🗟 🌈 🖆	Set Address Login		R R & S S S
	Settings Events Waveform Data Records	) ) )	
	Information Control Archive Functions Communications	+ 🔣 + 🖄 + 🖄	Monitor Instruments Monitor Waveforms Get System Information Start General Interrogation



#### **Monitor Instruments**





This option connects to the device and displays instruments in the Instrument window.

The Instrument window contains a list of instruments available in the device. Each has a checkbox next to it. Instruments will only be polled if the box is checked. The more instruments that are activated the slower the polling cycle.

The device address polled is that set when the command is executed. Instrument windows can be open simultaneously. To poll other addresses change the address using **Address** or **Device Map** and select this command again.

#### **Monitor Waveforms**





This command monitors a device for new waveform fault records. Any that occur are automatically downloaded and saved in the Monitor folder of the Application Settings folder. The files saved can be opened in Reydisp in the usual manner. While monitoring devices no other actions can be performed in Reydisp. An example of the monitor waveforms dialog box is shown in *Figure 4-119*. Click **Stop** to end the monitoring session.

Writing To Directory	C:\Users\john.sprague\AppData\Roa
Last File Written	00000003.dat
When	Fri Aug 23 10:47:20 2013
Written This Session	3
Status	Waiting

Figure 4-119 Monitor Waveforms Example

# **Get System Information**



Figure 4-120 Get System Information Icon

This option gets the System Information from the device. An example is shown in *Figure 4-121*.

Address	=	1	-
Function Type	:	160	
IEC Compatibility Level	2	2	
Manufacturer	5	REYROLLE	
Supplementary	:	0 0 3 0	
Relay Type	2	7SR224x-2xxxx-0CAx	=
Software Revision	=	2435H80011R4h-4e#cc54	-
Boot Block Revision	=	TC1775.002.000	
Configuration	-	10w-8g-13i-14o	
User Information	2	7SR224	
Circuit Identifier	:		
Serial Number	:	RM051	
DOC ID	-	FFFFFFFF23FFFFF1DD823F707001914	
Firmware Revision	8	2435S82309R4i	+
•			_

[sc\_ReydispEvolution\_GetSystemInformationExample, 1, en\_US]

Figure 4-121 Get System Information Example

### Start General Interrogation



Figure 4-122 Start General Interrogation Icon

This initiates a General Interrogation sequence in the device. The Results are displayed in the Spontaneous Messages window with a cause of transmission GI.

# OnLine Help



[sc\_ReydispEvolution\_OnLineHelpIcon, 1, --\_--]

Figure 4-123 OnLine Help Icon

This allows the user to get the inbuilt (Online) help from a protection device into an Edit window. Only certain devices support this feature.

# Command Reference

4.4 Relay Menu

```
📝 Relay Help (Untitled)
```

```
Relay Type
                      : DCD3P+E
 Software Revision
                      : S2434H8023R9a
 Boot Block Revision : B2434H80017R1
 Configuration
                      : 5w-8g-1i-7o
 User Information
                      : ARGUS 1
SI
     - Send relay Identifier
DD
    - Data Directory of waveform records
SDn - Send waveform record Data: n = 1..5, 1-newest, 5-oldest
IE
     - Information about Events
SE
   - Send Events
SF
   - Send Fault information
ST
    - Send relay Time
TM
    - Information about Measurands
SMn - Send Measurand: n = measurand number attained from IM
    - Send active setting Group number
SG
PSn - Print Settings in english: n = 1..8 (No. of setting group)
IS
     - Information about Settings
SSn - Send Settings in internal format: n = 1..8 (No. of setting group)
IG
     - Information about General commands
    - LogOut from access to protected commands (*)
LO
PWxxxx - enter PassWord for access to protected commands (*)
*RS - Reset Storage of waveform records
*TS - Trigger Storage of new waveform record
*RE - Reset Event storage
*RF - Reset Flags
*ATddmmyyhhmi - Adjust Time: dd-day,mm-month,yy-year,hh-hour,mi-min
*CGn - Choose the active setting Group: n = 1..8 (No. of setting group)
*USn - Upload Settings in internal format: n = 1..8 (No. of setting group)
*COn - Close Output relay: n = 1..7[11] (No. of the output relay)
*SOn - Select Output relay: n = 1..7[11] (No. of the output relay)
HELP [xx] - print the above table (default) or detailed info about commands
```

Figure 4-124 OnLine Help Example

# Control

File Edit View	Relay Options Window	Help	
👪 🌾 🖻	Set Address Login	; Ø	₽₽ <u>₽</u> <b>?</b> ()
	Settings Events Waveform Data Records Information	> > > >	
	Control Archive Functions Communications	, , , ©	Auto Poll Reset Flags Close Output Relay Set Time and Date
			TeleType General Command Relay File Manager



# Auto Poll



This tool toggles background Auto Polling of the device on or off. Auto polling continuously polls for spontaneous events from the device. Reydisp will poll the active nodes returned by the device map.

### **Reset Flags**



Igure 4-127 Reset hags icon

This resets the device's Flag Indication LED lights.

#### **Close Output Relay**



Figure 4-128 Close Output Relay Icon

This tool closes an Output Relay of the protection device. The Relay pulses closed for a minimum operate time that is either a predefined or user defined time (depending on the type of device). The number of the Relay to close will be requested from the user, as shown in *Figure 4-129*. To close select the correspondingly numbered button. If the user wishes to test several output Relays, checking the **Keep Visible** box in the dialog box shown in *Figure 4-129* will keep the box open after a Relay has been selected, otherwise it will close.

1 2	34	5	6	Z	8
9 10	11 12	13	14	15	16

Figure 4-129 Close Output Relay Dialog Box

### Set Time and Date



Figure 4-130 Set Time and Date Icon

Set the time by using the Hour and Minute editors and Scroll Bars, or move the hands on the clock. Set the Date in a similar manner with the Date controls and calendar. The time displayed in this dialogue is initially that of the computers clock.

Field	Description
Address	Sets the address of the device whose clock to set
Get Relay Time	Gets the time from the device at address
Set Relay Time	Sets the time of the device at address
Get Computer Time	Gets the time of the computers clock
Synchronise	Performs synchronise time function for the devices on a network. When the box is checked the <b>address</b> control and <b>Get Relay Time</b> button are disabled.
Synch to PC	Synchronises to the time of the PC when the <b>Set</b> <b>Relay Time</b> button is pressed, rather than that of the time control.
DST (Summer Time)	Used in conjunction with <b>Synchronise</b> to set the summer time flag on or off during time synchronisa-tion.

	Time and Date	Address
<b>Y</b>	11:45:19 Friday Aug 23, 13	-
Get	Computer Time	Synchronise He
C.C.	t Palay Time Set Palay Time	Synch to PC



### TeleType



Figure 4-132 TeleType Icon

This opens a TeleType window for direct communications with a device.

### **General Command**



Figure 4-133 General Command Icon

This opens the General Command window.

#### **Relay File Manager**



Figure 4-134 Relay File Manager Icon

This opens the File Manager window.

### **Archive Functions**

File Edit View	Relay Options Window	v Help
😫 🌈 🞽	Set Address Login	; 🛛 🗣 🗣 🐜 🅥 🚼
	Settings	•
	Events	•
	Waveform	•
	Data Records	•
	Information	•
	Control	•
	Archive Functions	🕨 😰 Get All Data
	Communications	Send Archived Settings

Figure 4-135 Archive Functions Menu

### Get All Data



Figure 4-136 Get All Data Icon

This reads all the information from the device and stores it to disk. Reydisp will save all the data into a directory in individual files. After a download the user can open the files to examine them in the same way as manually saved files. The files are named as follows:

File Type	Description
ActiveGrp.txt	File containing which is the active group
DataRecd.txt	File containing the Data records, includes Fault
	records
Events.txt	File containing the events
Log.txt	Log file stating result of the get all command, which data was available etc
SetGrpXX.set	File containing the settings, where XX is the number of the setting group
RecordXX.dat	File containing the waveform record, where XX is the number of the record, lowest number is the newest
SysInfo.txt	File containing the system information
USER\aaaa	A sub-folder containing any user files found in the device, named as they are in the device

A dialog box is displayed for the user to choose a directory to save the files. The current path is shown at the top of the box. Underneath is a control to select the target disk drive, then a list of the directories available on that drive. Double click on a name in the list to enter a sub-directory. If necessary you can create a directory by typing a name into the control in the **Create Directory** area and pressing **Create**.

⊳	JArchive	
	🔉 退 Hebburn	
	🍌 AG1-321	
D	ArchiveS	II
	📙 ccmcache	
	📙 Data	
	DOTS_SWP	
⊳	📕 Eric	
	📙 flexim	
⊳	📙 Hitex	
⊳	IBM	
•		

Figure 4-137 Get All Data Dialog Box

# Send Archived Settings



Figure 4-138 Send Archived Settings Icon

This command is used to send settings files obtained using the **Get All Data** command back to a device. Select the folder containing the files, the dialog box shown in *Figure 4-139* is displayed.

Group	File	Result	
1	SelGrp01.sel		
2	SetGrp02.set		
/ 3	SetGrp03.set		
☑ 4	SetGrp04.set		None
			<u>H</u> elp
			<u>S</u> end
			Close

Figure 4-139 Send Archived Settings Dialog

You can use the up  $\uparrow$  and down  $\downarrow$  buttons to move files to different groups. Check the settings groups to send. For convenience **All** and **None** buttons are provided. Then press **Send** to send the files. A message will be shown to confirm each has been sent correctly.

Communications

File Edit View	Relay Options Window	Help	0	
💀 🌈 🚄	Set Address	+	4	P. P. P.
	Settings	-	Γ	
	Events	+		
	Waveform	э÷		
	Data Records	•		
	Information	•		
	Control	÷		
	Archive Functions	•		
	Communications	•	×	Clear
-				Synchronise

[sc\_ReydispEvolution\_CommunicationsMenu, 1, en\_US]

Figure 4-140 Communications Menu

Clear



Figure 4-141 Clear Icon

This clears the Communications Interface between the device and Reydisp Evolution. Any pending data held in the device will be lost.

#### Synchronise



Figure 4-142 Synchronise Icon

This synchronises communications between the device and Reydisp Evolution. Any pending data held in the device will be preserved after synchronisation.

# 4.5 Options Menu

The **Options** menu can be viewed from the top menu bar and has the following options:

- Button Bar
- Evolution
- Open Application Settings Folder



Figure 4-143 Options Menu

#### **Button Bar**



Figure 4-144 Button Bar Icon

This dialogue is used to configure the button bar which runs beneath the menu in the main window. Any menu command can be added to the button bar, limited only by the width of the screen. The **Current toolbar buttons** list shows the present configuration of the button bar, including those buttons unassigned. The **Available toolbar buttons** list shows the commands which can be added.

To set a button, select an unassigned button, or a button you wish to replace in the **Current toolbar buttons** list, then select a new command from the **Available toolbar buttons** list and click **Set**.

To remove a button without assigning an alternate command, select it in the **Current toolbar buttons** list and then click **Clear**.

vailable toolbar button	s:	Current <u>t</u> oolbar buttons:	Close
Separator	<b>^</b>	Get System Information	Reset
Kangup		dd -> 💽 Auto Poll	
Close File	<- <u>B</u>	emove Close Output Relay	Movella
Save As	-	Separator	Move Dow
•	•	۰ III. ۲	



# Evolution



This dialogue sets the general options of Reydisp Evolution.

Confirmation Confirmation Relay State Change Relay Requests Actions Completed Save Data Save Settings	Settings Colours          Normal       Changed         Field       Attention         Range	Options  Coptions  Single Line Wheel Scroll  Setting Relationships  Print Settings In Monochrome Auto Sort Spontaneous Events  Show Setting Ranges
<ul> <li>Save Information</li> <li>Remove View</li> <li>Lose Changes</li> <li>Clear Spont. Events</li> <li>Exit Reydisp</li> </ul>	Back Drop	Tiled Help OK Cancel

Figure 4-147 Evolution Dialog Box

• Confirmation – The confirmation options allow the user to confirm actions before they take place. The **Relay State Change** option is always set for security, therefore that an act which changes the state of the device, for example, changing settings or setting group, or closing an output relay will always be confirmed.

The first three options are used when communicating with a device, the next three when handling data downloaded from a device, and the last four are for ease of use of the Reydisp Evolution application. When set the confirmation is active.

Field	Description
Relay State Change	Confirm actions which change the state of the device.
Relay Requests	Confirm command actions to the device, e.g. trigger storage
Actions Completed Devices confirm the success of a comman	
Save Data	Confirm save waveform data before closing the window
Save Settings	Confirm save settings data before closing the Settings editor
Save Information	Confirm save other information, e.g. events
Remote View	Confirm before removing a waveform data view
Lose CHanges	Confirm before cancelling (or closing) a dialogue box
Clear Spont. Events	Confirm before clearing the spontaneous events window
Exit Reydisp	Confirm before exiting Reydisp Evolution

# Table 4-2 Confirmation Options

Table 4-3 Options

Field	Description
Single Line Wheel Scroll	This option only applies when viewing the signals display. With this option turned on, using the mouse wheel to scroll will only scroll one line rather than the number of lines set in Windows for the mouse wheel.
Setting Relationships	Reydisp Evolution displays settings based on their relationship to one another. For example, changing a setting to <b>OFF</b> would hide the settings with a rela- tionship to this one, switching it <b>ON</b> would again reveal these settings. This only applies to devices which define settings relationships. When this option is cleared all settings are always shown.
Print Settings In Monochrome	When this option is turned on the settings tree printout is in monchrome rather than color.
Auto Sort Spontaneous Events	Sorts the spontaneous events window list by time. Toggling this option off and the list is sorted by arrival, which is faster. Note, this option only takes effect on opening a new window. Changing it will not affect a window already open.

• Settings Colours – These colors are used by the settings editor when displaying settings, for example:



Figure 4-148 Settings Colours Example



Color	Description
Black	The color in which the settings are normally displayed.
Green	The color in which the filed of the setting is displayed.
Blue	The color in which settings which have been changed are displayed.
Red	The color in which settings are marked for the user's attention.
Orange	The color in which changes in a setting's range are marked for the user's attention.

• Back Drop – There is a dropdown list and a checkbox that can be changed as explained in *Table 4-5*.

# Table 4-5Backdrop Options

Field	Description
Dropdown list	This list enables the user to choose the background
	image displayed on the main window.
Tiled	How the backdrop image is displayed, tiled or not.

# **Open Application Settings Folder**



Figure 4-149 Open Application Settings Folder Icon

Open the folder containing the Application settings. This folder also contains the folder where waveforms saved during monitoring sessions are saved. The location of the folder will be of one of 2 following forms: C:\Documents and Settings\Your User Name\Application Data\ReyEvo32 C:\Program Files\Reyrolle Protection\Reydisp Evolution 32

# 4.6 Window Menu

The **Window** menu can be viewed from the top menu bar and has the following options:

- Cascade
- Tile Horizontal
- Tile Vertical
- Arrange Icons

File Edit View Relay Options	Window Help	14
🗟 🚰 🚰 🥹 (	Cascade Cascade Tile Horizontal Tile Vertical Arrange Icons	
	2 SE = 8 (Untitled) 3 Data Header Window (Untitled)	

Figure 4-150 Window Menu

All open child windows of the main display are listed at the end of this menu, an example can be seen in *Figure 4-150*.

#### Cascade



Figure 4-151 Cascade Icon

This option performs the standard windows Cascade function.

#### **Tile Horizontal**



Figure 4-152 Tile Horizontal Icon

This option performs the standard windows Tile Horizontal function.

# Command Reference

4.6 Window Menu

# **Tile Vertical**



Figure 4-153 Tile Vertical Icon

This option performs the standard windows Tile Vertical function.

# Arrange Icons



Figure 4-154 Arrange lcons lcon

This option performs the standard windows Arrange Icons function.

# 4.7 Help Menu

The **Help** menu can be viewed from the top menu bar and has the following options:

- Contents
- How To Use Help
- Help For Active Window
- Reyrolle On The Web
- Support (email)
- Open Relay LED Template
- Open Version History
- About
- Disclaimer

Reydisp Evolution		
File Edit View Relay Options Window	Help	
🗟 🌈 🚰 🔚 😂 🖒 🗙	0	Contents How To Use Help
		Help For Active Window
		Tutorial
		Reyrolle On The Web Support (email)
		Open Relay LED Template
		Open Version History
	0	About Disclaimer

Figure 4-155 Help Menu

# Contents



This option opens the help menu at the contents page.

### How To Use Help



Figure 4-157 How To Use Help Icon

This selection opens the How to use the Windows help system tutorial.

#### Help For Active Window



Selecting this will open help for the active window, for example the Settings editor or Events windows. This help can also be obtained by pressing the F1 key.

#### **Reyrolle On The Web**



Figure 4-159 Reyrolle On The Web Icon

Selecting this will open the Reyrolle website in your browser.

#### Support (email)



[sc\_ReydispEvolution\_SupportIcon, 1, --\_--]

Figure 4-160 Support (email) Icon

This will open a blank email to request technical support.

#### Open Relay LED Template



Figure 4-161 Open Relay LED Template Icon

This opens a sub menu containing templates to create slip in labels for device fascias. Requires Microsoft Word (not supplied).

Open Relay LED Template 🔸	Open MODULAR_II_Relay LED Template
Open Version History	Open RM Relay LED Template

Figure 4-162 Open Relay LED Template Example

### **Open Version History**



Figure 4-163 Open Version History Icon

Choosing this will open **Reydisp Evolution's Version History** file. Requires Adobe Acrobat Reader (Not Supplied).

### About



This will display the version information of Reydisp Evolution. Press the **Info** button to display a list of information about the PC and operating system running Reydisp.

#### Disclaimer





This displays the software Disclaimer.

# 5 Miscellaneous

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# 5.1 System Information

Applicat	10/1			
Archit	ecture: x86			
Hardware				
Page s	ecture: int	еı		
Minimu	m application	on addres	s: 10000	
Maximu	m applicati	on addres	s: 7ffeffi	EE
Active	processor :	mask: 15		
Number	of process	ors: 4		

Figure 5-1 System Information Dialog Box

This displays useful System Information about your computer and Reydisp Evolution.

# 5.2 Action On Dialogue



Figure 5-2 Action On Dialogue Dialog Box

This dialogue selects what you wish to perform the action (e.g. Copy or Save) on.

# Table 5-1Action On Dialogue Options

Option	Description
Selected Text Only	Perform the action on the selected text only
Complete Document	Perform the action on all the text

# 5.3 Save Real Values Dialogue

ave Keal Data		
Options		
<ul> <li>Include Titles</li> <li>Include Sample No.</li> <li>Include Time</li> <li>Include Analogues</li> <li>Include Digitals</li> </ul>		

[sc\_keydispevolution\_savekearvalue

Figure 5-3 Save Real Values Dialogue Dialog Box

When saving the Data Values as ASCII text this dialogue lets you chose which items to include.

### Table 5-2 Data Values

Data	Description
Include Titles	Include a title line as first line of the file
Include Sample No.	Include the sample number for each sample
Include Time	Include the time stamp for each sample
Include Analogues	Include the Analogue Data Channels
Include Digitals	Include the Digital Data Channels

# 5.4 Select Setting List

Item		
BI1		
BI2		
BI3		
🔲 V1		
V2		
V3		
🗖 V4		
V5		
🔲 V6		
V7		
V8		

[sc\_ReydispEvolution\_SelectSettingList, 1, en\_US]

Figure 5-4 Select Setting List Dialog Box

When a setting is a bit mask this list displays the options that can be changed. Check or clear the box next to each option to change the state.



# NOTE

In some cases some states may be greyed out signifying they can't be changed.

When finished click **OK** to keep the changes or otherwise **Cancel**.

# 5.5 Select Which Item



Figure 5-5 Select Which Item Dialog Box

This is a dialog box displayed when the user needs to select an item. Click the number of the item or **Cancel**. An example of this box is shown in *Figure 5-5*.

# 5.6 Rename



Figure 5-6 Rename Dialog Box

This is a dialog box used to rename a file in the File Manager window.

# 5.7 Select Viewer

Viewer			
7SR1206-4xA12-xI	A0 2436H80004R2	b-2b#f3	
7SR1706-xxA1x-x0	A0 2436H80012R2	c-la‡ce	
7SR1706-xxA1x-x0	A0 2436H80012R2	c-la‡ce	
DUOBIAS-M-210-2W	2661H80025R5 5	w 4g 19	
DUOBIAS-M-210-2W	2661H80025R5 5	w 4g 19	
OHMEGA-311-50 20	15H80026R8 10w	8g 19i	
~		Help OK	Cano

Figure 5-7 Select Viewer Example

This dialog box is used to select a waveform viewer to use to display a waveform record loaded from a file. This viewer will be used instead of the any view settings stored in the file or the default settings for the type of record. After selecting a viewer the standard file open dialog box is displayed. If the user chooses a file other than a waveform record the viewer settings will have no effect.

# 5.8 Select Record

1. 2013-08-23 09:	15:29.849000		
2. 2013-08-22 09:	30:45.589000		
	0 <u>0</u> 00	Contraction of the second	1122

Figure 5-8 Select Record Example

When the user selects the **Get Waveform Record** command this dialog box is used to select a waveform to download.

# 5.9 RS232 Cable Wiring

*Table 5-3* shows the wiring connections for a 9 pin female to 25 pin male RS232 cable. This type of cable is used to connect the 9 way RS232 port on a computer (PC) to the 25 way port of an interface device or older Reyrolle device.

Table 5-3	Wiring Connections
-----------	--------------------

9 Pin D Type Female	25 Pin D Type Male
1	8
2	3
3	2
4	20
5	7
6	6
7	4
8	5
9	22

# 5.10 Command Line Parameters

The following parameters are used to configure Reydisp from the command line. These would usually be used when Reydisp is being used in conjunction with a control system.

### Hide Settings change commands /H

Optionally hide the commands that allow the user to change settings in a device, preventing the settings from being changed.

Options	Description
0	Hide commands
1	Show commands

Example: /H:0

#### Set Address /A

Set the initial device address.

Options	Description
1 to 254	Device address

Example: /A:5

#### **Open File**

Open the named file on start-up.

Options	Description
<filename></filename>	Name of file to open on start-up

Example: DCD1PS.DAT

### Protocol Library to load on start-up /L

Specify which protocol library to load on start-up, overriding any default set in the application.

Options	Description
Rey200_32.dll	Sat 200 driver
Reylec32.dll	Serial Port driver
ReySock32.dll	TCP/IP driver

Example: /L:Rey200\_32.dll

### Communication Parameter /P (Dependant on driver loaded with /L)

Specify options for the protocol loaded with /L.

• Rey200 32.dll

Format: /P:<Host Address 1,Host Address 2:Port,Line Selector> or

/P:<Host Address:Port,Line Selector>

Options	Description
Host Address	An IP address in the standard form 1.2.3.4
Port	The socket port number being used e.g. 2000
Line Selector	The line selector, in the range 0 to 255

Examples: /P:10.5.5.255,10.1.1.32:2402,1 /P:10.5.5.255:2402,1

# • Reylec32.dll

Format: /P:<Com Port:Baud Rate,Parity,Data Bits,StopBits>

Options	Description
Com Port	Any valid com port fitted to the PC, e.g. COM3
Baud Rate	Any Valid Baud Rate e.g. 38400
Parity	Parity where e=even, o=odd, n=none
Data Bits	7 or 8
Stop Bits	1 or 2

Example: /P:COM1:19200,n,8,1

ReySock32.dll

Format: /P:<Host Address:Port,Connection Mode>

Options	Description
Host Address	An IP address in the standard form 1.2.3.4
Port	The socket port number being used e.g. 2000
Connection Mode	UDP or TCP. Options #u = UDP, #t = TCP.

Example: /P:10.5.5.255:50000,#u
### 5.11 Comtrade Export Dialogue

Revision	1991	•
Data Format	ASCII	•

Figure 5-9 Comtrade Export Dialogue Example

The box is displayed when the user chooses to save a waveform record as a Comtrade file set. The revision year of the Comtrade standard and the format of the data file can be selected.

# 5.12 Create Signals Wizard

#### Introduction

Introduction	x
	Create Signals Wizard
f(x)	This wizard will guide you through creating a new signal.
	Click Next To Continue
	< Back Next > Cancel

[sc\_ReydispEvolution\_CreateSignalsWizardIntroduction, 1, en\_US]

Figure 5-10 Create Signals Wizard Introduction

This page is just the title page of the wizard, click **Next** to continue.

#### **Select Function**

		<u></u>
Functions		DFT RMS 1st Harmonic
ABS DFT ANGLE 1st Harmonic DFT ANGLE 2nd Harmonic DFT ANGLE 3rd Harmonic DFT BMS 1st Harmonic	II	Calculates RMS using a 1 cycle DFT.
DFT RMS 2nd Harmonic Divide Signals (A/B) Divide Signals (B/A) Hall		
Hall Abs Sum 2nd Harmonic	+	

Figure 5-11 Create Signals Wizard Select Function

The user should select the function they wish to apply from the list on the left, click **Next** to continue.

#### Select Signal(s)

To select multiple sig	lais noid the curkey when selecting	51.
Signals	#	4
HV Line Ia	1	
HV Line Ib	2	
HV Line Ic	3	E
HVEF	4	
LV Line Ia	5	
LV Line Ib	6	
LV Line Ic	7	
LV EF	8	
HV Relay Ia	9	
HV Relay Ib	10	
HV Relay Ic	11	-

Figure 5-12 Create Signals Wizard Select Signal(s)

The user can then select the signal(s) they wish to apply the function to from the list, click **Next** to continue.

#### Name Signal

p 3 cf 4	X
Name Signal Enter a name for the new signal	f(x
DFT LV A	
The name must be unique before you can click Next.	
< Back Next >	Cancel

[sc\_ReydispEvolution\_CreateSignalsWizardNameSignal, 1, en\_US]

Figure 5-13 Create Signals Wizard Name Signal

Enter a name for the new signal, click **Next** to continue.

#### Confirm

	X
	f(x)
arameters, or <u>N</u> ext to create the signal. the following signal	
Harmonic(LV Line Ia)	1
	arameters, or <u>N</u> ext to create the signal. the following signal <i>Tarmonic (LV Line Iq)</i>

Figure 5-14 Create Signals Wizard Confirm

Confirm creation of the signal. Press **Back** to change any parameters, or click **Next** to continue.



Step 4 cf 4	×
$\mathcal{C}(\mathbf{A})$	Remember: You must add the newly created signal to a view. Do this from the views tab.
<i>f(x)</i>	
	< <u>B</u> ack <b>Finish</b> Cancel

Figure 5-15 Create Signals Wizard Finish

Click **Finish** to exit the wizard.

## 5.13 Save Settings As XML



[sc\_ReydispEvolution\_SaveSettingsAsXML, 1, --\_--]

Figure 5-16 Save Settings As XML Dialog Box

The box is displayed when the user chooses to save settings as an XML file.

Options are available to include a style sheet reference and name it. The **Include Full Range** option expands the short description equation into a full range list.