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Soft-GRAF Studio V.1.10 Software & manual: Create a Colorful HMI in the ISaGRAF WinCE PAC

Soft-GRAF is an HMI (Human Machine Interface) software developed by ICP DAS which allows user to create his colorful HMI application running with the control logic in the same ISaGRAF WinCE series PAC. Using the PAC with the Soft-GRAF support, user can easily edit its HMI screen by Soft-GRAF Studio and design the control logic by ISaGRAF software.

There are three types of HMI Objects in the Soft-GRAF Studio:

"Value", "Button", "Graph"

User can create the HMI object directly by mouse dragging and dropping the Object into the editing screen and set the properties by mouse/keyboard to display the different effect.



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1.1 : Soft-GRAF Studio Version and Installation

Install the Soft-GRAF Studio:

The Soft-GRAF Studio is version **1.10** now. Please get the document (faq146) and demo programs from the following folder of CD-ROM in your PAC package.

CD-ROM: \napdos\soft-graf\

Or download it from the following website. <u>www.icpdas.com</u> > Support > FAQ > ISaGRAF Soft-Logic PAC > 146 <u>http://www.icpdas.com/root/support/faq/isagraf.php</u> > 146

Other related information: ISaGRAF User's Manual <u>http://www.icpdas.com/root/product/solutions/softplc_based_on_pac/isagraf/downl</u> <u>oad.html#manu</u>

Soft-GRAF Studio, the software to edit the Soft-GRAF HMI, can run in the PC with the WinXP, WinVista, Win7 or compatible Operating System, and the .Net Framework V.3.5 or later version (if your PC doesn't install it or installs the old version, please download it at the Microsoft website (<u>http://www.microsoft.com/zh-tw/download/details.aspx?id=22</u>). The execution program is included in the downloaded **FAQ-146** zip file. After unzip the file, please copy the folder **"Soft-GRAF Studio"** into **"D:\"**. The "Soft-GRAF Studio" folder must include the main program file, 6 demo programs and 4 picture folders (as below picture).



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PAC Driver:

The following ISaGRAF driver versions support Soft-GRAF Studio ver.1.10:

PAC Model	ISaGRAF Driver Version
XP-8xx7-CE6	Ver.1.44 or later
XP-8xx7-Atom-CE6	Ver.1.02 or later
WP-8xx7	Ver.1.65 or later
WP-5147	Ver.1.11 or later
VP-2xW7/4xx7	Ver.1.57 or later

If your PAC's ISaGRAF driver version is later than the version listed above, it supports the Soft-GRAF Studio.

However, if its version is older, please visit the following web site to download the latest ISaGRAF driver into your PAC.

http://www.icpdas.com/root/product/solutions/softplc_based_on_pac/isagraf/dow nload/isagraf-link.html

After downloading, update the driver into the correct model of PAC. Please click on "End Driver" button in the ISaGRAF driver window of the PAC's VGA screen to stop the ISaGRAF driver first, and then unzip the downloaded file and copy all files and the sub-directory in the related version-number directory into the following path in your PAC via FTP or USB disk.

ISaGRAF PACs	Driver Directory
XP-8xx7-CE6/8xx7-Atom-CE6 WP-8xx7, VP-2xW7/4xx7	\System_Disk\ISaGRAF\
WP-5147	\Micro_SD\ISaGRAF\

For instance, to update the ISaGRAF driver of XP-8xx7-CE6 to Version 1.27, please click on the "End Driver" button in PAC's ISaGRAF driver window, then unzip the downloaded file "xp-8xx7-ce6-1.27.zip" and copy all files and the sub-directory "sofgrafy" in the "1.27" directory into the "\System_Disk\ISaGRAF\" path of the XP-8xx7-CE6. Then reboot the XP-8xx7-CE6. Now, the PAC driver has updated.

WinPAC-8x47/8x46 Setting Web Abou	/8x37/8x36 ISaGRAF Driver		OK
Configuration Slave Number : Modbus RTU Slave P Baud Rate	1 ort None 200 , N, 8, 1 (Modify)		
Current Application	demo04, ISA11=1384, ISA12=916	Delete	
Elapsed Time	0:0:12:35	End Driver	

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Set PAC's Taskbar as "Always on top" at design time :

When user has download an ISaGRAF program with Soft-GRAF HMI enabled, the HMI screen will occupy the full screen. Then it is not easy to do other Window CE operations (for example, modify IP address, copy files, view files, ...). Recommend to set the Taskbar as "Always on top" at design time, then the designer can operate some other Window CE operation normally. When the development is finished, remember to refer to <u>Section 1.6.6</u> to set it back to full screen (hide the Taskbar) to prevent other operators to shutdown the PAC (or doing something wrong in the PAC).



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Next, restore "faq146_chin	the file "sofg ese_demo.zi aGRAF - Project Ma	prafy.uia" p" into th	that down e "c functio	loaded, ons" of	unziped fro	om the FA GRAF, as t	Q-146 of pelow :
	Edit Project Tools I I I Arc sofgr_00 sofgr_01 Imp	Options <u>H</u> elp hive aries ort IL program	to C function	<u>I</u> ools Op s rations equipments	tions Help		e
Refe Auth Date	rence : SofG or : of creation : 201	R_00 0/8/6	Functions Functions Crunction	locks S	get: get1:XP-	8xx7-CE6	
Elle C fu	SaGRAF - Libraries Edit Took Options Inction: <u>A</u> rchive Standard Tag	: <u>H</u> elp	Archive - C fu	nctions	Archive		×
s_n s_ff s_m s_m s_m s_m	Ini rst sts ICP DAS WIN32 integ	gration	<pre>b S_mb_adi s_mv s_n_r s_n_w s_r_r s_r_w s_r_r s_wd_r s_wd_r s_wd_v set_l_n sms_gets ord </pre>		grafy	Backup Restore Close Help	
			- Archive locatio	in OFGRAFY\		Browse	
And also, rest	CORE "SOft-grf RAF - Project Man Lit Project Tools (Project Tools (Archiv fgr_00 hi_01	xia" into agement Options Help /e ies	the "IO co	AF - Libo RAF - Libo it <u>T</u> ools (lex equipme jurations	equipment	s" of the P	
Refere eile I	GRAF - Libraries	nn <u>H</u> elp	JO board	s complex ee	I-7000 &	& 87K remote	×
Ю cor bus7(bus7(bus7(can75 евис	nple> <u>Archive</u> Standard note DOO ICP DAS WIN32 integr m	format ation	 Workbend bus7000 bus7000c can7530 ebus_m ebus_s ebus_s2 eth_tcp eth_udp i_7188xg i_8017a 	:h	Archive	Backup <u>R</u> estore <u>C</u> lose <u>H</u> elp ▼ Compress	
			D:\CHUN_D\	on SOFT-G~1\		Browse	+

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1.1.1: HMI Objets List

The HMI objects below are supported by Soft-GRAF driver (since **Ver.1.20**):

Value:

1	g_Label	Display a Label
2	g_B_Val	Display a Text to show a Boolean value
3	g_WD_Val g_N_Val	Display a 16-bit (occupy 1 Network addr. number) or 32-bit (occupy 2 Network addr. numbers) integer value
4	g_F_Val	Display a 32-bit Float value (occupy 2 Network addr. numbers)
5	g_M_Val	Display a Message value
6	g_N_Text	Display a text to show an Integer value
7	g_Alarm	Display an alarm list to show the triggered alarm messages and provide FTP upload function.

Button:

1	g_B_inp	Create a button to input a Boolean value
2	g_WD_inp g_N_inp	Create a button to input a 16-bit (Occupy 1 Network addr.) or 32-bit (occupy 2 Network addr. numbers) integer value
3	g_F_inp	Create a button to input a 32-bit Float value (occupy 2 Network addr. numbers)
4	g_Login	Create a Login button with password
5	g_Logout	Create a Logout button
6	g_ToPage	Create a switch-page button
7	g_M_Inp	Create a button to input a Message value
8	g_Logger1	Create a Data Logger button with FTP upload function.

Graph:

1	g_B_Led	Display a LED to show a Boolean value
2	g_B_Pic	Display a picture (JPG, PNG, GIF, BMP) to show a Boolean value
3	g_N_Pic	Display a picture (JPG, PNG, GIF, BMP) to show an Integer value
4	g_Trace2	Display a 2-axes (x , y) or 1-axis $(x : Horizontal)$ or 1-axis $(y : Vertical)$ moving trace map
5	g_Rect	Draw a Rectangle
6	g_Bar	Display one value as a bar-meter
7	g_Trend	Create a real-time trend to display max. 3 curves and may also enable the historical trend function to record them.
8	g_Gauge	Display a Long, Short Integer or a Real value as an angular gauge.

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1.2 : Edit the HMI by the Soft-GRAF Studio software

To test Soft-GRAF Studio demo projects, please refer to the demo04 description in <u>Ch1.7.1</u> and the demo05 "My Sweet Home" in <u>Ch1.7.2</u> and others. To execute the Soft-GRAF Studio, please double click the "D:\ Soft-GRAF Studio\Soft-GRAF Studio.exe", or install it by referring to <u>Ch1.1</u> when the "Soft-GRAF Studio.exe" is not found.

The software operating environment :



One Soft-GRAF project can contain maximum 200 HMI pages (No. $1 \sim 200$). The Soft-GRAF displays page No.1 when PAC powering up. Every Page is displayed as full screen and only one Page is shown on the VGA monitor, so user can set up the VGA resolution when create a new project. (To change the resolution please refer to <u>Ch1.6.8</u>.)

The PAC Resolution that Soft-GRAF supported:

PAC	Supportted VGA Resolution
XP-8xx7-Atom-CE6	640*480, 800*600, 1024*768
XP-8xx7-CE6	640*480, 800*600, 1024*768
WP-8x37	640*480, 800*600, 1024*768
WP-8x47	640*480, 800*600
WP-5147	640*480, 800*600
VP-25W7	640*480
VP-23W7	320*240
VP-4137	640*480, 800*600

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Soft-GRAF Studio offers two ways to use the manual to query the functions. Click the menu bar "Help" > "Dociment" or in a project right-click on the HMI editing area then select "Help".





In the Soft-GRAF Studio editing screen, the axis origin is at the top left of the axis position as follows:

(0,0) X

The horizontal axis of the monitor is called "X axis", while vertical axis is called "Y axis". The original position of (X, Y) is (0, 0) which resides at the most top-left position on the monitor. The value of X coordinate is increasing from left to right direction. The value of Y coordinate is increasing from top to bottom direction. The unit of the (X, Y) coordinate is "Pixel". For example, the default resolution setting of the WP-8847 is 800 x 600, so its X coordinate ranges from 0 to 799, while ranges from 0 to 599 for Y coordinate; The default resolution setting of the VP-25W7 is 640 x 480, so its X coordinate ranges from 0 to 479 for Y coordinate.

1.2.1: Edit a simple Soft-GRAF HMI

The following picture is the VGA Screen view when running demo "Demo01":



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Before editing an HMI page, ISaGRAF must have the following setting. If you are not familiar with ISaGRAF programming, please refer to the Ch1.1, Ch1.2 and Ch2 of "ISaGRAF User's Manual". The manual website is as below: http://www.icpdas.com/root/product/solutions/softplc_based_on_pac/isagraf/downl oad.html#manu

Open your project (or create a new one, ex: demo01), and click on the "I/O Connection" tool icon of the ISaGRAF project window.

File Make Project Tools Debug Options Help

Set "soft_grf" to the "Slot" and the slot number must after "8" in order not to conflict with the real I/O modules using in the slot number 0 to 7 of the PAC.





Then, create a new Ladder program in the project.

File Make Project Tools Debug Options Help	New Program
🕒 🖬 😵 🗓 🕒 🛅 👘 💥 🐼 া 🚥	Name: test
	Comment: for faq146
Create new program	Language: Quick LD : Ladder Diagram
	Style: Begin : Main program 📃
	<u>D</u> K <u>Cancel</u>
	🕒 🖬 😵 🕮 🗅 🖬 🍈 💥 💥 😥
	Begin: me test for faq146

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Add one Boole set its address File Make Project Make Project Make Project Boolean Variable Name: LED_07 Comment: NetW a Attributes Internal Input Output Constant Dim: File Edit Tools O	ean variable s as 11 (key Tools Debug Or C C C C C C C C C C C C C C C C C C C	"LED_01" into the in the Hex. num ptions Help ▲ • ● ■ • ● ■ • ● ■ • ● ● ● ● ● ● ● ● ● ●	ne Dictional hber: "B").	ry of the IS	aGRAF pro	Hex. hat is
Name	Auno. Au	ar. comment //				
LED_01	[internal] 000	B NetWaddr. = 11				

After programming the ISaGRAF SoftLogic, You must compile and download the ISaGRAF project into your PAC (Refer to Ch.2 of the ISaGRAF User's manual for the steps.), then after edit the HMI project.

Run Soft-GRAF Studio to edit the HMI. First, create a project (*.sof) as below. Click **"File" > "New"** of menu bar or click **"Create New File"** tool icon.



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Give a pro	niect nar	ne and f	file location				
			ne location.				
	New File Sett	ing		×			
	Project	Name		_	Project n	ame	
	ProjectO						
	Locatio	n			Project fi		n
	C:\Docum	ents and Settings	sluser\My Documents\Visual Sti	udio oibi			11
	XPAC Se	lect	1024 * 768		PAC & VO	GA resolu	tion
					Refer to	Ch1.6.8 t	0
			Create	Cancel	reset the	resolutio	on if
To open a	a existing	i file: Cli	ick "File" > "O	pen".	PAC or re this step	esolution	after
🎏 Soft GR	RAF HMI E	litor					
File Pro	ject Help						
New		🎏 Soft	GRAF HMI Editor				
Open		File	Project Help				
Save		: 9		e in R			
Exit]			~ 1 ~ ~	-		
Change th	ne direct	ory to fi	nd the project (*.sof) in th	ne Open File	Dialog.	
開啓				?	X		
查詢①:	Demo1		· · · · · · · · · · · · · · · · · · ·	• 🛄 🏷			
	Demol.sof						
戎最近的文件							
桌面							
1							
我的文件							
我的雷腦							
網路上的芳鄰	檔名(N):	Demo1.sof			I I		
	檔案類型(I):	SoftGraf files	(*.sof)	✓ 取消			

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Now create a HMI page. The following HMI is the same as the Demo01, please set all the Network address in this project as "11" (the address is the same as the Boolean variable "LED_01" in the ISaGRAF program).

First, create a "g_Label" object. Drag & drop "g_Label" object into the editing area.



Mouse right key click on the object and select the "Setting" (or just mouse double click on the object).



Click "Font size" to set up as "9,Bold" (or the size you want).

Common			
NetWork Address		Size W 75 H 25	
Font size Fore Color),Regular	Location X 116 Y 115	
Back Color		Text Align Center 💌	
Using bool address to hid	le	Title Label	
		Ok Cancel	

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Set up the Object Size as W:300 and H:60.

[Common.]	
NetWork Address	Size W 75 H 25
Font size 9,Regular	
Fore Color	Location X 116 Y 115
Back Color	Text Align Center 🗸
Using bool address to hide	
	Title Label

Or, using the mouse left key to change the Object size.



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Next, set up t click on the "" button to clos Common NetWork Addre	the title of "g Title" text bo se the windov	Label" object for t x and key in "Soft-C w, and click "ok" to Size W 75 H 25 Location X 116 Y 115	he text GRAF Do end the	displayed o emo 01", th e setup.	n the obje en click "A	ct. Double ccept"
Fore Color Back Color	address to hide	Text Align Center		Double c	lick on the	box
EditMassStringFrm						
Soft-GRAF Demo01		Key in "S	Soft-GR	AF Demo 01]
		Accept	•			
g_Label Common NetWork Address Font size Fore Color Back Color Using bool add	s 9,Regular dress to hide	Size W 75 H 25 Location X 116 Y 115 Text Align Center V Title Label				

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Next, create a "g_B_Led" object. Drag & drop a "g_B_Led" object to the editing area, mouse right key click on the object and select "setting" (or just mouse double click on the object) to configure the following setting, such as, Network address: 11, Size W: 40, Size H: 40, Font: 10,Bold, Shape: Circle.



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Drag & drop a "g_B_Pic" object to the editing area.



Right key click and select the "setting" (or just mouse double click on the object).



Set up the picture of "True File" for situation "True". The picture can be ".gif" which fits the Soft-GRAF dynamic image format. Please get the demo pictures from the "\Soft-GRAF Studio\gif\" directory of the demo file "faq146_chinese_demo.zip". More HMI pictures are provided in "\Soft-GRAF Studio\button\", "\Soft-GRAF Studio\Led\" and "\Soft-GRAF Studio\more_pic\" directories. (Refer to Ch1.5 for more information about the Soft-GRAF dynamic image format)

Net Work Address 0 Using bool address to hide
Size W 128 H 128
Location X 158 Y 115
True File No_Pic
False File No_Pic
Ok Cancel

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Select "Fan03-m-(041).gif" file and click Open(O).



Set "False File" as "Fan03-m-(040).gif". Then, set "Net Work Address" as 11, and click "ok" to exit.

Net Work Addr	ess 0	Using bool address to hide	
Size W	128 ^H 128		
Location X	127 ^Y 110		
True File	Fan03-m-(041).gif	ļ	
False File	No_Pic	ļ	
		`	

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成 我最近的文件	\$	****	● 縮圖(H) 並排③ 圖示(H) 清單(L) 詳細容(H)	4(0)
桌面	Fan03-m-(040)	gi Fan03-m-(041).gif	Fan03-s-(040).gif	
我的電腦	\$\$\$	8	2020202020202	
	Fan03-s-(041).	gif Fan04-m-(060).gif	Fan04-m-(061).gif	V
C 100				
網路上的芳鄰	檔名(N): 檔案類型(I):	FanO3-m-(O4O).gif All Image Formats(*.bmp;*.jj	♥ pg;*.gif;*.png) ♥ 取	
網路上的芳鄉 Pic Setting Net Work I Size	檔名(11): 檔案類型(1): Address 11 W 64 H f	Fan03-m-(040).gif All Image Formats(*.bmp;*.jj Using bo	♥ pg;*.gif;*.png) ♥ 取 pol address to hide	
網路上的芳鄉 Pic Setting Net Work I Size Location	檔名(M): 檔案類型(T): Address 11 W 64 H (X 150 Y 9	Fan03-m-(040).gif All Image Formats(*.bmp;*.jj Using bo j4	♥ pg;*.gif;*.png) ♥ 取 pol address to hide	
網路上的芳鄉 Pic Setting Net Work A Size Location True File	檔名(11): 檔案類型(1): Address 11 W 64 H (X 150 Y 9 Fan03-m-(04	Fan03-m-(040).gif All Image Formats(*.bmp;*.jj Using bo 54 1).gif	♥ pg;*.gif;*.png) ♥ 取 pol address to hide	

Next, create two "g_B_Inp" objects. Drag & drop a "g_B_Inp" object into the editing area.



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Mouse right k Size" as "9,Bo	ey click and old" and set to <u>Setting</u> Delete Cut Copy Paste	select "Setting", f	then set "I color" for T	Net Work A	Address" alse.	as 11, "Font
g_B_Inp [common] I NetWork J Font size Input T/F of Switch to the string", and of	nput Setting Address 11 9,Bold True color Color	Size W 75 H 2 Location X 52 Y False	5 178 'ON/OFF" i	in the Text	box of "S	show as
g_B_Inp common I Show a Show a Show a Boolean Fe Boolean T: Title of Dia	nput Setting s picture s string ON / OFF s value alse off rue on alog	Mode Select Norms Switching Time Level 0 Ask before operatio Identify Password Using bool address	al and a sec . man			

Ok 🔍

Cancel

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Then create one another "g_Inp" object. Right click and select "Setting" to set the "Net work address" as 11, "Font Size" as "9,Bold" and set the same "Input color" for True and False.



Switch to the "Input Setting" page, key in "ON \rightarrow 5 sec \rightarrow OFF" in the Textbox of "Show as string", select "False \rightarrow True" for "Mode Select", set "Switching Time" as "5 Sec. ", and then click "Ok".

 Show as string ->. 	5 sec> OF	Switching Time 5 sec.
 Show as value 		Level 🛛 🗸
Boolean False off		Ask before operation
Boolean True on		📃 Identify Password
Title of Dialog		Using bool address to hide

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Mouse right clicks on the object and select "Setting" (or just mouse double click on the object).



Set "Size W" as 100, "Size H" as 25, "Font size" as "9,Bold", "Fore Color" as the below picture, "To Which Page" as 2 and "Title" as "Goto Page 2".

Size W 100 H 25	🔲 Ask before operatio	n
Location X 52 Y 238	Ask message	
Font size 9,Bold	Deny message	Access Deny.
Level 0 🗸	To Which Page	2
Show as picture	Title	Foto Page 2
Using bool address to hide]	
	Ok	Cancel

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1.2.2 Features of the Image gallery

For easy to use, the Soft-GRAF Studio V.1.10 provides an image gallery function by adding two objects in the tool bar (refer to Section 1.6.13 for details). Now, we will create one "g_B_Inp Lib" and one "g_B_Pic Lib" objects in the demo project.

First, Drag & drop a "g_B_Inp Lib" into the editing area.



Mouse double click on this object to open the image gallery, and then select a image. Users can click on the "0" or "1" button to view the changing of the image status (On/Off). If you want to change the image size, choose the "Small size/ Medium size / Normal size / Large size" options. Then, click "Setting" button.

Image view	
OFF	
0 1 O Small size O Medium size	👚 🗲 🤳 🛁 帐 🂓 🤐
Normal size Setting	Accept Cancel

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Next, create a	a "g_B_Pic Li [x = 354, y = Page 1 - Page	b" from t 88, Layer = 0, g_B	the "Graph'	' area.			
		Off ON / OFF	OF ON> 5 sec	F	OFF		
By the same withen select an	way, mouse n image and	double cl click "Set	ick on this ting" butto	object	to open the	e image ga	allery, and
0 1							
○ Small size ③ Medium ○ Normal size ○ Large siz Setting	size ze			Accept	Cancel		
Fill in the Net the image self Pic Setting NetWork Adda	work Address ection windo	s field as w.	"11" and t	hen clic	k "OK". Fin	ally, click	"Accept" in

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Mouse right clicks "Demo1.sof" in the Project structure tree. Then select "New Page" to create the page 2. The "Page Setting" can be left blank, just click "Create".



Click "Page 2" to switch to the page 2.



Drag & drop a "g_ToPage" into the page 2 for return the page 1.



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Set "Size" as W:155 & H:25, "Fore Color" as the below picture, "To Which Page" as 1, "Title" as "Go To Page 1", and then click "Ok".

ToPage Setting	
Size W 155 H 25	🔲 Ask before operation
Location X 23 Y 30	Ask message
Font size 9,Bold Fore Color	Deny message Are you sure '
Show as picture	Title Go To Page 1
Using bool address to hide	

Next, set up the download IP configuration. Click "Project" \rightarrow "IP Setting", enter the IP address of PAC, and then click "Setting".

3	Sof	t-GR	AF S	tudio) - (Demo	01.	sof,	
F	ile	Proje	ect	Help					
1	9 (IP S	etting	×			1	
	Proj		Proj	ect Se	ttin;	s /			
			Pass	Word					
IP S	Setti	ing							
II	P A d	dress	19	92		168].	1	. [

Click the download tool icon, click " \underline{Y} es" to answer the "save project? " question, then the download process begins.

Setting

	File	Project	Help			
1	9 (i 🗖	N 🔊	5 🔾	Ê	17
	Proj	ect View	Down	load		

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After downloading, the result shows up automatically on the PAC's VGA as the picture below if the HMI creation succeeds.

	Soft-GRAF D	emo01	
off	5	ON	OFF
ON / OF	ON	> 5 sec> OF	F

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1.3 : HMI Ob 1.3.1 : g_La Hello Wo	ojects Desci bel: Display ord	[,] a Label				
	g_Label				X	
$(1) \leftarrow (2) \leftarrow (3) \leftarrow (4) \leftarrow (5) $	Common NetWork I Font size Fore Color Back Colo	Address 9,Regular c 9) r 9) Dool address to hide	Size Locatio Text A Title	W 75 H 25 m X 94 Y 32 lign Center Label	(6))))
Options : (1)Net work A useless fo (2)Font size: (3)Fore color: (4)Back color (5)Using bool Boolean v Ex: There option True, a (6)Size: set t	Address: set r the g_Labe set the font : : the fore col : the back gr address to f alue: True, h is one ISaGI "Using bool and show the he size of the	the ISaGRAF Mod l object here. style and size of the or of the label round color of the nide: Use a Boolea ide object; False, RAF variable "Hide address to hide" t e object if "Hide" is e label. "W" for Wi	bus NetW he text, u label in Addres display o " with Ne o 10. It v 5 False. dth, "H"	/ork Addres useless in ot ss to switch bject. etwork addr will hide the for height.	s for the v ther font s hiding obj ess as 10. object if "	ariable; etting ect or not. Set the Hide" is

- (7)Location: the X,Y starting position of the HMI object (refer to the Ch1.2 for its definition of the X-axis and Y-axis)
- (8)Text Align: left, center and right align for the text
- (9)Title: set the text on the label. (Double click the Textbox to enter the long text.)

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1.3.2 : g_B_ Description: Displayed fig	_Val: display	y a text to show Value= True Working	y a Boolea Value= Fal Stop	an value. se		
 (1) + (2) (3) (4) (5) Options: (1)Net Work (2)Font size: (3)Using boo Boolean v Ex: There option 	g_B_Val Common NetWork Font size Using Fore Colo Back Colo Back Colo Back Colo Back Colo Just Common Interview Interview Colo Back Colo Back Colo Back Colo Interview Interview	setting Address 1 9,Regular bool address to hide False Tr r or int or int style and size of hide: Use a Boole hide: Use a Boole hide: Use a Boole hide object; False RAF variable "Hid address to hide"	dbus Netw the text, u an Addres , display o e" with Network	W 75 H 25 n X 198 Y 3 ign Center k Canc k Canc seless in o iss to switch bject. etwork addi vill hide the	ss for the vertices as 10 as object if	 →(6) →(7) →(8) ✓(8) ✓(9) <l< td=""></l<>
True, a (4)Fore color True: disp False: dis (5)Back color True: disp False: dis (6)Size: set t (7)Location: definition (8)Text Align	and show the the fore col- play this fore play this fore the back group play this back play this back play this back play this back the size of the the X,Y start of the X-axis : left, center	e object if "Hide" or of the object. color when the I e color when the I round color of the color when the k color when the e object. "W" for ing position of the and Y-axis) and right align fo	is False. SaGRAF va SaGRAF v object ISaGRAF v ISaGRAF v Width, "H e HMI obje or the text	alue is "Tru value is "Fal value is "Tru value is "Fa " for height ect (refer to	e". lse". alse". o the <u>Ch1.</u>	<u>2</u> for its

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g_B_Val Common setting Left Text Blink Message false Message true	No Blink V	<pre></pre>	Cancel				
(9)Left Text: s Ex: If set the ISaG (10)Blink: Set No Blink: Blink whe All Blink: (11), (12): se	set up the te the "Left Te RAF Boolean the object t text not to h en true: blink en false: blin blink when t t the messag	xt displayed on t xt" as "Status: ", value is "True". ext to blink. olink, when the value k when the value the value is True ge to display whe	he left side , the object is true, e is False, or False. en the valu	e of the obj ct will show	ect value. "Status: T	rue" when	

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1.3.3 : g_WD_val ,g_N_val, g_F_val : Display a 16-bit Integer, 32-bit Integer or 32-bit Float value



Options :

- (1)Net Work Address: set the ISaGRAF Modbus Network Address for the variable (32-bit Long integer and 32-bit REAL variables defined in the ISaGRAF must occupy two network addresses. Refer to chapter 4.2 of the "User Manual of ISaGRAF PAC".)
- (2)Font size: set the font style and size of the text, useless in other font setting (3)Fore color: set the fore color of the object.
- (4)Back color: set the back color of the object
- (5)Using bool address to hide: Use a Boolean Address to switch hiding object or not. Boolean value: True, hide object; False, display object.
 - Ex: There is one ISaGRAF variable "Hide" with Network address as 10. Set the option "Using bool address to hide" to 10. It will hide the object if "Hide" is True, and show the object if "Hide" is False.
- (6)Value Type: set the value type to 16-bit Word or 32-bit Long (%32-bit Long will occupy 2 Network Addresses.). **g_F_Val doesn't have this option.**
- (7)Size: set the size of the object. "W" for Width, "H" for height.
- (8)Location: the X,Y starting position of the HMI object (refer to the Ch1.2 for its definition of the X-axis and Y-axis)
- (9)Text Align: left, center and right align for the text

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(10)← (11) ←	g_WD_Val Common Conve Original Value afte	Setting-1 Se rsioni Value 32767 r 10	tting-2	Dot] Fixed dig Left Text Right Text	0 💙 it amount 2		→(12) →(13) →(14) →(15)
 (10)Conversion the "g_F_ "g_WD_Va (11)Original va Value afte 0~32767 from rang 500.) (12)Dot: defin conversion "32767" v (13)Fixed digit g_N_Val). displayed (14)Left Text: (15)Right Text 	n: check if o val" can inp al" and "g_N alue: the value and the "Va e of 0~3270 e the numbo n or not to u vill be displa : amount: di EX, Set it a as 062 the text dis : the text di	convert the ut the flo N_Val" sh lue range a range a lue after 67 to ran er of digi use the c yed as " isplay the as 3: if the played of splayed of splayed	he value (the pating value of the value of the pating value of the pating of the patin	he "orig integer nally (E sion(Ex 0, that 00, suc d after (Ex: Set git num 6, displ 's left s le's righ	inal value" original val value) x:0~32767 means to c ch as, 1638 the "." , for t "Dot" as 3 ober (only f ayed as 00 ide t side	and "val lue" of th 7,0~655 iginal va onvert th 34 is conv r the nur 3, the ori 6; if the	lue after" of ne 35) lue" is ne value verted to be mber after iginal value 0_Val and value is 62,

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 (16) ← (17) ← (18) ← (19) ← 	g_WD_Yal Common Denable Up-Limit Low-Lim Blink	Setting-1 Setting-2 le limit detection t 1000 hit -1000 Io Blink	 ✓ Up-Limit Me ✓ Low-Limit Up-Limit Color Low-Limit Colo 	r Conversion		►(20) ►(21) ►(22) ►(23)
			0	k Cance	1	
 (16)Enable lin (17)Up-limit: (18)Low-limit (19)Blink: sel (20)Up-Limit will show (21)Low-Limit will show (22)Up-limit-(backgrout (23)Low-limit backgrout) 	mit detection the upper lin the lowest lect to or not Message: wh up if the va t Message: w up if the va Color: when und color will color: when und color will	a: check to enal mit value limit value to blink when hen the "Enable lue is larger tha when the "Enable lue is lower tha the "Enable lim show up if the show up if the	the value is the value is limit detect on the Up-Li le limit detect in the Low-L nit detection' value is larg mit detection value is low	inside/outs inside/outs ion" is cheo mit. ction" is cheo imit. ' is checkeo ger than the n" is checkeo rer than the	ection ide the li cked, the ecked, th d, the tex e Up-Lim ed, the te e Low-Lin	imit range. e message ne message at color and it. ext color and nit.

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1.3.4 : g_M_ Description: Displayed fig	val : Displa stu Sh ure:	oy a Message va ndio: ow Message g_M_Val	alue PAC : Show Ma Messag	essage e		
$(1) \leftarrow (2) \leftarrow (3) \leftarrow (4) \leftarrow (5) $	Context_men Message Set Net Work Font size Fore Color Back Color Using 1	n ting Address 1 9,Regular r r pool address to hide	Size W 7 Location X Text Align Language enc	²⁵ H 25 91 ¥ 307 Center ▼ oding UTF-8	★(6) ★(7) ★(8) ↓(9)	
Options : (1)Net Work A Value rang (2)Font size: (3)Fore color (4)Back color (5)Using bool Boolean V Ex: There option True, a (6)Size: set t (7)Location: t definition (8)Text Align (9)Language Simplified	Address: set ge: 1~1024 set the font : set the for : set the ba address to h alue: True, h is one ISaG "Using bool and show the he size of the the X,Y start of the X-axis : left, center encoding: U	the ISaGRAF Mo style and size of e color of the ob ck color of the ob ide: Use a Boole ide object; False RAF variable "Hide" address to hide" e object if "Hide" e object. "W" for ng position of th and Y-axis) and right align f IF-8: English; bi her: user inputs	odbus Netw the text, u ject text bject ean Addres e, display o de" with Net to 10. It v is False. Width, "H ie HMI obje for the text g5: Traditio other lang	vork Addres useless in o ss to switch bject. etwork addr vill hide the " for height ect (refer to onal Chines uage encod	ss for the v ther font s hiding obj ress as 10. o the Ch1.2 o the Ch1.2 se; gb2312 ling.	variable etting ject or not. Set the 'Hide" is 2 for its

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Options :

- (1)Net Work Address: set the ISaGRAF Modbus Network Address for the variable
- (2)Font size: set the font style and size of the text, useless in other font setting
- (3)Size: set the size of the object. "W" for Width, "H" for height.
- (4)Location: the X,Y starting position of the HMI object (refer to the Ch1.2 for its definition of the X-axis and Y-axis)
- (5)Forecolor : set the fore color of the object text
- (6)Backcolor : set the back color of the object
- (7)Align : left, center and right align for the text
- (8)Left Text : the text displayed on the left side of the object value.
- (9)Right Text : the text displayed on the right side of the object value.
- (10)Using bool address to hide: Use a Boolean Address to switch hiding object or not. Boolean value: True, hide object; False, display object.
 - Ex: There is one ISaGRAF variable "Hide" with Network address as 10. Set the option "Using bool address to hide" to 10. It will hide the object if "Hide" is True, and show the object if "Hide" is False.

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	g_N_Text common se *	tting Setting	ForeColor	Bac	kColor New Edit Delet		(11) (12) (13)		
(10)New : cre (11)Edit : edi (12)Delete :	eate a new te it the text delete the se	ext lected text							
*Setting desc	cription:								
New Click the "New (a) (b) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	New Click the "New" button to see the following setting window $\begin{array}{c} \hline g \ \hline I \ ext \\ \hline wumber \ \hline window \\ \hline (b) \hline ForeColor \ \hline window \\ \hline (c) \hline BackColor \ \hline window \\ \hline (c) \hline window \\ \hline (c) \hline (c) \hline \hline (c) \hline \hline (c) \hline (c) \hline \hline (c) \hline (c) \hline (c) \hline \hline (c) $								
(e)Text: the t (f)Add: click	ext to displa to add this so	y etting							
Edit Select the ite click "Edit" to window. After save it. If for it will open th Delete	m want to ed open the se r edit, click ", get to select ne first item's	dit, then tting Add" to any item, window.	common sett	ing Setting	ForeColor 000000	BackColor FFFFFF	New Edit Delete		
Select the ite then click "De forget to sele delete the firs	m want to de elete" to dele ct any item, st item	elete, te it. If it will	common set	ing Setting	ForeColor 000000	BackColor FFFFFF	New Edit Deleter		

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1.3.6 : g_B_Inp : create a button, when user press it, it display a keyboard to input a Boolean value to the ISaGRAF Boolean varible. Show as string Show as value Show as picture **Description:** Start Set ON True **Displayed figure:** g B Inp common Input Setting (1) + NetWork Address Size ₩ 75 H 25 1 →(4) Font size (2) + 9,Regular Location X 102 Y 306 →(5) True False Input T/F color (3) + Ok Cancel

Options :

- (1)Net Work Address: set the ISaGRAF Modbus Network Address for the variable
- (2)Font size: set the font style and size of the text, useless in other font setting
- (3)Input T/F Color: the color of True displays the fore color of the value when ISaGRAF read it "True". The color of False displays the fore color of the value

when ISaGRAF read it "False".

- (4)Size: set the size of the object. "W" for Width, "H" for height.
- (5)Location: the X,Y starting position of the HMI object (refer to the Ch1.2 for its definition of the X-axis and Y-axis)

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1.3.7 : g_WD_Inp, g_N_Inp, g_F_Inp : create a button , when user press it, it display a keyboard to input a 16-bit signed integer, 32-bit signed integer or 32-bit float to the variable. Show as picture **Description:** Show as title Show as value **Displayed figure:** Set WD val 2 common Setting NetWork Address **(**1) ← 1 Show as picture (7) (2) ← Font size 9,Regular (8)) Show as title (3) ← Fore Color (9) 💿 Show as Value (4) 🗲 Size H 25 ₩ 75 (10) Fixed digit amount Location X 56 (5) + Y 138 Value Type Word (6) ┥ ~

Options:

- (1)Net Work Address: set the ISaGRAF Modbus Network Address for the variable (32-bit Long integer and 32-bit REAL variables defined in the ISaGRAF must occupy two network addresses. Refer to chapter 4.2 of the "User Manual of ISaGRAF PAC".)
- (2)Font size: set the font style and size of the text, useless in other font setting (3)Fore color : set the fore color of the object text
- (4)Size: set the size of the object. "W" for Width, "H" for height.
- (5)Location: the X,Y starting position of the HMI object (refer to the Ch1.2 for its definition of the X-axis and Y-axis)
- (6)Value Type: set the value type to 16-bit Word or 32-bit Long (%32-bit Long will occupy 2 Network Addresses.). **g_F_Val doesn't have this option.**
- (7)Show as picture : the button is showed as a picture. The picture format can be JPG, GIF, PNG, BMP(Recommend not to use the BMP format because it consumes larger memory size.).
- (8)Show as Title: show the button as the setting text
- (9)Show as value: show the value that ISaGRAF read
- (10)Fixed digit amount: display the setting digit number (only for g_WD_Inp and g_N_Inp). EX, Set it as 3: if the value is 6, displayed as 006; if the value is 62, displayed as 062...

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(11)Limit setting: set the up/low limit of the input value

(12)Alarm string: a pop-up window text when user input a value beyound the limit Low-limit: the text showed when the input value is lower than the Low-limit Up-limit: the text showed when the input value is higher than the Up-limit

(13) Title of Dialog: the text showed on the title bar of the pop-up dialog window.

- (14)Level: set the permission level, used when the HMI has the permission setting (refer to the section 1.4).
- (15)Ask before operation: to ask again before operation

(16)Identify Password: ask to re-input the password of that level

- (17)Using bool address to hide: Use a Boolean Address to switch hiding object or not. Boolean value: True, hide object; False, display object.
 - Ex: There is one ISaGRAF variable "Hide" with Network address as 10. Set the option "Using bool address to hide" to 10. It will hide the object if "Hide" is True, and show the object if "Hide" is False.

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1.3.8 : g_Login : Create a Login button

This object creates a Login button. When users press it, a keyboard will display and request the user to key-in a password. There are maximum 12 characters in a password (only number 0 to 9). This g_Login object can only put on the Page No. 1 and only one g_Login allowed. When user presses the g_Login button, the Soft-GRAF driver in the PAC will read a password file to check if this is a valid user who has a permission level $(1 \sim 10)$, and the larger number has the higher authority. (Refer to Ch1.4 for the permission setting.)



Options:

- (1)Font size: set the font style and size of the text, useless in other font setting
- (2)Fore Color: set the fore color of the object text
- (3)Size: set the size of the object. "W" for width, "H" for height.
- (4)Location: the X,Y starting position of the HMI object (refer to the Ch1.2 for its definition of the X-axis and Y-axis)
- (5)Title: the text displayed on the button
- (6)Switch page: the number of page want to switch to when login successfully
- (7)Deny message: the message want to display when the login fail.
- (8)Wait time: the period of time to auto-Logout. The unit is second. The value can be 0 and 10 ~ 3600; 0 means do not enable the auto-logout (Need to press the g_Logout button to logout.). Ex: set the "wait time" as "60", Soft-GRAF will auto-logout and switch to the first page if user has not any operation over 60 seconds after login the HMI.

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1.3.9 : g_Logout : Create a Logout button

This object can create a Logout button. When user presses the button, it pops up a confirmation dialog. If user answers "Yes", the Soft-GRAF will logout and switch to the first Page (Page 1). (Refer to Ch1.4 for the permission setting.)

Logout	
$(1) \leftarrow (2) \leftarrow (3) \leftarrow (4) $	g_Logout Loging Set Font size 9,Regular Title Logout (5) Size 75 H 25 Location X 193 Y 224 Ok Cancel
Options: (1)Font size: se (2)Fore Color: s (3)Size: set the (4)Location: the definition of (5)Title: the tex	t the font style and size of the text, useless in other font setting set the fore color of the object text size of the object. "W" for width, "H" for height. A X,Y starting position of the HMI object (refer to the Ch1.2 for its the X-axis and Y-axis) at displayed on the button

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1.3.10 : g_T	oPage : Cre	ate a swit	ch-page	butto	n		
Description:	Sh	ow as text	Show	w as pi	cture		
Displayed figu	ıre:	Goto Page2		Back			
g.	ToPage						
ſ	ToPage Setting						
(1)	Size W 75	H 25	🔲 Ask before	operation		→(7)
(2)	Location X 133	¥ 303	Ask message			→ (8)
(3)	Font size	9,Regular	Deny message	A	cess Denv.	→(9)
(4)	Fore Color		To Which Pag	e 0			(10)
(5)			Title				
	Show as picture		Tille	To	o Page		(11)
(6)	Using bool add	less to hide					
				Ok	Cancel		

Options :

- (1)Size: set the size of the object. "W" for width, "H" for height.
- (2)Location: the X,Y starting position of the HMI object (refer to the Ch1.2 for its definition of the X-axis and Y-axis)
- (3)Font size: set the font style and size of the text, useless in other font setting
- (4)Fore Color: set the fore color of the object text
- (5)Level: set the permission level, used when the HMI has the permission setting (refer to the section 1.4). When user's login permission level is higher than this level, the user can access the function.
- (6)Appearance: show the object by a picture. The picture format can be JPG, GIF, PNG, BMP(Recommend not to use the BMP format because it consumes larger memory size.).
- (7)Ask before operation: to ask again by a pop-up window before operation
- (8)Ask message: the text in the pop-up window of "Ask before operation"
- (9)Deny message: the message will show when the user Level is too low to access the switch page. Its default message is "Access denied !" if left it blank.
- (10)To Which Page: the page want to switch to. Can be 1 to 200, or -1, or 201. ***Note**: When write "-1" to "To Which Page", it goes back to the previous page. If input value "201" to it, it calls the ISaGRAF Schedule-Control screen. (refer to <u>1.6.12</u>).
- (11)Title: the text displayed on the object

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1.3.11 : g_M_Inp : Create a button, when user press it, it display a keyboard to input a Message to the variable.

Description: Displayed figure	Show a read message	Show a fixed message String Input	Show as picture
 (1) ← (2) ← (3) ← (4) ← (5) ← 	context_menu g_M_Inp Setting Net Work Address Fort size 9,Regular Fore Color Size W Size W 164 Y 277	 Show as picture Show as title Show as Value Using bool address to Language encoding 	(7) (8) (9) hide (10) UTF-8 (11)
(6) ←	Title of dialog	Level 0 V	Cancel

Options:

(1)Net Work Address: set the ISaGRAF Modbus Network Address for the variable Value range: 1~1024

- (2)Font size: set the font style and size of the text, useless in other font setting (3)Fore color : set the fore color of the object text
- (4)Size: set the size of the object. "W" for Width, "H" for height.
- (5)Location: the X,Y starting position of the HMI object (refer to the Ch1.2 for its definition of the X-axis and Y-axis)
- (6)Title of Dialog: the text showed on the title bar of the pop-up dialog window.
- (7)Show as picture : the button is showed as a picture. The picture format can be JPG, GIF, PNG, BMP(Recommend not to use the BMP format because it consumes larger memory size.).
- (8)Show as Title: show the button as the setting text
- (9)Show as value: show the value that ISaGRAF read
- (10)Using bool address to hide: Use a Boolean Address to switch hiding object or not. Boolean value: True, hide object; False, display object.
 - Ex: There is one ISaGRAF variable "Hide" with Network address as 10. Set the option "Using bool address to hide" to 10. It will hide the object if "Hide" is True, and show the object if "Hide" is False.
- (11)Language encoding: UTF-8: English; big5: Traditional Chinese; gb2312: Simplified Chinese; Other: user inputs other language encoding.
- (12)Level: set the permission level, used when the HMI has the permission setting (refer to the section 1.4).

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1.3.12 : g_B	_Led : can o	display a	a LED pic	ture to	show a Bo	oolean v	alue.
 (1) ← (2) ← (3) ← (4) ← 	g_B_Led Led setting Net Work Input T/F Size Location	Address 1 True color W 70 1 X 102	False M False M I 70 Fo Y 304	Iessage when f Iessage when f hape ont Using bool s	ialse Off Irue On Rectangle 💌 12,Bold address to hide		5) (6) 7) (8) (9)

Options:

- (1)Net Work Address: set the ISaGRAF Modbus Network Address for the variable
- (2)Input T/F Color : the color of True displays the fore color of the value when ISaGRAF read it "True". The color of False displays the fore color of the value when ISaGRAF read it "False".
- (3)Size: set the size of the object. "W" for Width, "H" for height.
- (4)Location: the X,Y starting position of the HMI object (refer to the Ch1.2 for its definition of the X-axis and Y-axis)
- (5)Message when False: set the text showed on the object when read a False value
- (6)Message when True: set the text showed on the object when read a True value
- (7)shape: set the Led shape, can be rectangle or ellipse
- (8)Font size: set the font style and size of the text, useless in other font setting
- (9)Using bool address to hide: Use a Boolean Address to switch hiding object or not. Boolean value: True, hide object; False, display object.
 - Ex: There is one ISaGRAF variable "Hide" with Network address as 10. Set the option "Using bool address to hide" to 10. It will hide the object if "Hide" is True, and show the object if "Hide" is False.

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1.3.13 : g_B_Pic : Display a picture to show a Boolean value.

The picture format can be JPG, PNG, GIF or BMP (Recommemd not to use the BMP format because it consumes larger memory size.).



	g_B_Pic	
	[Pic Setting]	
(1) ←	Net Work Address 0 Using bool address to hide	→(6)
(2) ←	Size W 128 H 128	
(3) ←	Location X 203 Y 280	
(4) ←	True File No_Pic	
(5) ←	False File No_Pic	
	Ok Cancel	

Options:

- (1)Net Work Address: set the ISaGRAF Modbus Network Address for the variable (2)Size: set the size of the object. "W" for Width, "H" for height.
- (3)Location: the X,Y starting position of the HMI object (refer to the <u>Ch1.2</u> for its definition of the X-axis and Y-axis)
- (4)True File: the picture showed when read a True value (Refer to <u>Ch.1.5</u> for more about the dynamic image format).
- (5)False File: the text showed when read a False value (Refer to <u>Ch.1.5</u> for more about the dynamic image format).
- (6)Using bool address to hide: Use a Boolean Address to switch hiding object or not. Boolean value: True, hide object; False, display object.

Ex: There is one ISaGRAF variable "Hide" with Network address as 10. Set the option "Using bool address to hide" to 10. It will hide the object if "Hide" is True, and show the object if "Hide" is False.



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g_N_Pic 🔀	
R Fice common Setting Number Picture R Edit Common Setting Number Picture R Edit Ok Cancel	
 (5)New: open a setting window to add a new picture (6)Edit: edit a picture setting (7)Delete: delete a picture 	
* Setting description:	
New Click the "New" button to see the setting window (a)Number: if read this integer value, the object will display this setting picture. Max. 50 numbers from 0~49. (b)Picture: the picture file to display (c)Add: click to add this setting	:)
Edit Select the item want to edit, then click "Edit" to open the setting window. After edit, click "Add" to save it. If forget to select any item, it will open the first item's window.	
Delete Select the item want to delete, then click "Delete" to delete it. If forget to celect	2014

Select the item want to delete, then click "Delete" to delete it. If forget to select any item, it will delete the first item

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two network addresses. Refer to chapter 4.2 of the "User Manual of ISaGRAF PAC".)
(3)Action Address: the Network addr. of ISaGRAF 16-bit Integer variable.
0: no drawing (type 0: stop) ; 1: drawing both of trace curve and the current point (type 1: drawing both) ; 2: drawing only the current point. ; Not within 1 ~ 8191: the same as type 2, drawing only the current point.
(4)Clear Address: a ISaGRAF Boolean variable. Its network address can be 1 ~ 8191. If the Boolean is True, the trace curve is cleared once, and then Soft-GRAF will change the Boolean to False automatically. In ISaGRAF software, user can

- manually set the Boolean to True to clear the trace curve. If its network address is not within $1 \sim 8191$, the clearing function will not enable.
- (5)Size: set the size of the object. "W" for Width, "H" for height.
- (6)Location: the X,Y starting position of the HMI object (refer to the <u>Ch1.2</u> for its definition of the X-axis and Y-axis)
- (7)Left Limit: set the left limit of the X-axis in the trace map
- (8)Right Limit: set the right limit of the X-axis in the trace map
- (9)Lower Limit: set the bottom limit of the Y-axis in the trace map
- (10)Upper Limit: set the upper limit of the Y-axis in the trace map



- (11) show scale: check box to show the border of the axis and its scale
- (12)X Division: if "show scale" is checked, it means displaying the current position value at the bottom and divide the X-axis by this integer value.
- (13)Y Division: if "show scale" is checked, it means displaying the current position value at the bottom and divide the *-axis by this integer value.
- (14)Font: set the font style and size of the text, useless in other font setting. The maximum size (for the scale and value of the X/Y axis coordinates) is 10 and the minimum is 6 for this object.
- (15)Back Color: the backcolor of the trace map
- (16)Trace Color: the color of the trace curve
- (17)Board Color: the color of mesh and border
- (18)Point Color: the color of the current point

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Options:

- (1)Bar Type Select: select the direction of the bar, such as left, right, up and down.
- (2)Net Work Address: set the ISaGRAF Modbus Network Address for the variable
 (32-bit Long integer and 32-bit REAL variables defined in the ISaGRAF must occupy two network addresses. Refer to chapter 4.2 of the "User Manual of ISaGRAF PAC".)
 (2)Size: set the size of the abject "W" for Width "U" for beinght
- (3)Size: set the size of the object. "W" for Width, "H" for height.
- (4)Location: the X,Y starting position of the HMI object (refer to the Ch1.2 for its definition of the X-axis and Y-axis)
- (5)Fore Color: set the fore color of the Bar-meter
- (6)Back Color: set the back color of the Bar-meter
- (7)Scale Color: set the color of the scale
- (8)Data Type: select the value type. "long" (32-bit sign intger), "word" (16-bit signed integer) or "real" (32-bit float).
- (9)Bipolar: check to display the bar as two-direction. The Bar's base-position is at the middle value of the "Bar Range". for example, if the Bar Range is $-1000 \sim$



- (13)Conversion: the unit convert function. Check to convert the value according to the range of Bar Range. Ex: Bar Range = $0.0 \sim 1000.0$, means the minimun value is 0.0, the maximum is 1000.0; set Unit Transfer = $0 \sim 32767$, it will tranfer ($0 \sim 32767$) to ($0.0 \sim 1000.0$)
- (14)Bar Range: the maximum and minimum limit of the Bar range
- (15)Dot: define the digital number after the dot, can be 0 \sim 6.
- (16)Using bool address to hide: Use a Boolean Address to switch hiding object or not. Boolean value: True, hide object; False, display object.
- Ex: There is one ISaGRAF variable "Hide" with Network address as 10. Set the option "Using bool address to hide" to 10. It will hide the object if "Hide" is True, and show the object if "Hide" is False.
- (17) Using Alarm: Check to enable Alarm function
- (18)Up-Alarm value: set the Up-limit of the Alarm
- (19)Up-Alarm Color: set the color if the value ;arger than the Up-Alarm value
- (20)Low-Alarm: set the Low-limit of the Alarm
- (21)Low-Alarm Color: set the color if the value smaller than the Low-Alarm value
- (22)Alarm Blink: set the alarm blinking options when the value is larger/smaller than the Up-Alarm or Low-Alarm value. There are 4 options:(a)No Blink: no blink
 - (b)Up-Alarm: blink if larger than the Up-Alarm value
 - (c)Low-Alarm: blink if smaller than the Low-Alarm value
 - (d)All Blink: blink both when larger and smaller

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1.3.17 : g_R	ect : Draw	a rectangle	2		X	
(1) (2) (3) (4)	Common Size W Location Edge Wi Rect Col	7 50 H 50 X 193 Y 386 Ath 2		Ok Cance	21	
(1)Size: set tl (2)Location: t definition (3)Edge Widtl (4)Rect Color	he size of the che X,Y start of the X-axis n : set the b : set the bo	e object. "W ing position and Y-axis) order line's v rder color of	" for Width, "H of the HMI obj width, 1~10. the rectangle	l" for height ject (refer to	o the Ch1.2	2 for its

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1.3.18 : g_Trend : Create a real-time trend to display max. 3 curves and may also enable the historical trend function to record them.



XP-8xx7-CE6/8xx7-Atom-CE6 : Max. 100 g_Trend objects are available. WP-8xx7, WP-5147, VP-2xW7/4xx7 : Max. 30 g_Trend objects are available.



- (1)Curve : set the address, curve title and color; max. 3 curves in a trend map. Address : the ISaGRAF Modbus NetWork Address of the variable for the curve Title : the title of the curve
 - Color : the color of the curve
- (2)Fore Color : set the color of the scale and the text
- (3)Back Color : set the color of the background
- (4)Grid Color: set the color of the grid

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retaining 1 day, about 15MB for 1 month, and about max. 45MB for 3 months. Set "Sample Time"= 1 second: if enable 3 curves, it consume about 1.44MB for retaining 1 day, about 45MB for 1 month, and about max. 135MB for 3 months. Set "Sample Time"= 2 seconds: if enable 1 curve, it consume about 0.24MB for retaining 1 day, about 7.5MB for 1 month, and about max. 45MB for 6 months. Set "Sample Time" = 2 secs.: if enable 3 curves, it consume about 0.72MB for retaining 1 day, about 22.5MB for 1 month, and about max. 135MB for 6 months. Set "Sample Time"= **3 secs.**: if enable **1 curve**, it consume about **0.16MB** for retaining 1 day, about 5MB for 1 month, and about max. 45MB for 9 months. Set "Sample Time" = 3 secs.: if enable 3 curves, it consume about 0.48MB for retaining 1 day, about 15MB for 1 month, and about max. 135MB for 9 months. The rest are the same... For example, if enable 10 g Trend historical functions, 3 curves for each, and set "Sample Time" = 1 second, retain time = 3 months, the max. memory consumption is about $135M \times 10 = 1.35G$ byte. (11)Low Limit : set the minimum value of the Y-axis in the trend map. (12)Up Limit : set the maximum value of the Y-axis in the trend map. (13)Conversion : check if convert the value. Original value: the value range read originally (Ex:0~32767,0~65535...) Value after: the value range after conversion(Ex: if the "Original value" is 0~32767 and the "Value after" is 0~1000, that means to convert the value from range of 0~32767 to range of 0~1000, such as, 16384 is converted to be 500.) Trend Setting-1 Trend Setting-2 Trend Setting-3 Unit (14) 🕈 Title Trend Curve (15) 🕇 (14)Unit : input the unit for y-axis value in the trend, such as "mA", "degrees C". (15)Title : the title of the trend map

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- (6)Pointer Color : set the pointer color of the gauge
- (7)Sections : select the sections and colors to show the gauge. Max. 3 sections to show 3 colors.
- (8)Min Value : set the min. value of the gauge range.

Note: (Max Value - Min Value) must be divisible by 10.

Ex: If "Max Value" = 100, "Min Value" = 0, it is ok. If "Max Value" = 95,

"Min_Value"=0, it is not ok because (95-0) is not divisible by 10.

- (9)Mid Value 1 : set the middle value of the gauge range (when "sections" is 2 or 3)
- (10)Mid Value 2 : set the middle value of the gauge range (when "sections" is 3)
- (11)Max Value : set the max. value of the gauge range.

Note: (Max Value - Min Value) must be divisible by 10.

Ex: If "Max Value" = 100, "Min Value" = 0, it is ok. If "Max Value" = 95,

"Min_Value"=0, it is not ok because (95-0) is not divisible by 10.

(12)Section Color: set the color for the gauge

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Author	Janice Hong Version 1.10	Date Oct. 2013	Page 59 / 123
1.3.20 : g_A messages ar	larm : Display an alarm li nd provide FTP upload fur	st to show the triggenction.	ered alarm
	Alarm History		
Search Alarm amount : 0 ,	Ack For Ack(more) Ack(more) Ack: 0 No Ack: 0	demo example and ste GRAF program to triggo se refer to <u>Ch.1.7.4</u> . C g_Alarm object only.	ps about how the er an Alarm message, one PAC can enable
r	Setting - 1 Setting - 2 Setting - 3 S	Setting - 4 Setting - 5	
(1) ←	Bool NetWork Address 17	Ack Text Ack	(8)
(2) ←	Size W 548 H 352	Alert Text Alert	(9)
(3)◀───	Location 0 Y 0	Export Text Export	→(10)
(4)←	Fore Color	Alarm amount Text Alarm ar	$nount \rightarrow (11)$
(5) ←	Back Color	NoAck Text No Ack	→(12)
(6)←	Title Alarm History	Ack More text Ack(more)	→(13)
(7)←	Confirmation when click ack butto	M Alarm alive 1 mo:	nths→(14)

- (1)Bool NetWork Address: set the NetWork Address for ISaGRAF Boolean variable. When use "MSGARY_W(-9,msg1)" to trigger the Alarm, the Boolean variable will be set to True until user clicks the "Ack" or "Close" of the Alert window that will reset it to False. If set Address= 0, means to disable the Boolean variable.
- (2)Size: set the size of the object. "W" for Width, "H" for height
- (3)Location: the X,Y starting position of the HMI object (refer to the <u>Ch1.2</u> for its definition of the X-axis and Y-axis)
- (4)Fore Color : set the color of the text and the scale
- (5)Back Color : set the color of the background
- (6)Title: the text displayed on the title of the Alarm window
- (7)Confirmation when click ack button: click to pop up a confiremation box or not.
- (8)Ack Text: the text "ACK" in your local language; Ex: for English "ACK".
- (9)Alert: the text "Alert" in your local language; Ex: for English "Alert".
- (10)Export Text: the text "Export" in your local language; Ex: for English "Export".
- (11)Alarm amount Text: the text "Alarm amount" in your local language; Ex: for English "Alarm amount".

(12)NoAck Text: the text "No Ack" in your local language; Ex: for English "No Ack".
(13)Ack More Text: the text "Ack more" in your local language; Ex: for English "Ack more".
(14)Alarm live: set the Alarm record retention period; period: 1 ~ 12 months.

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(15)Close Text: the text "Close" in your local language; Ex: for English "Close".

- (16)Search Text: the text "Search" in your local language; Ex: for English "Search". (17)Keyword Text: the text "Keyword" in your local language; Ex: for English "Keyword".
- (18)Clear Text: the text "Clear" in your local language; Ex: for English "Clear".
- (19)Encoding: Set the text encoding for the Alarm message in the ISaGRAF program; UTF-8: English; big5: Traditional Chinese; gb2312: Simplified Chinese; other: enter your own encoding of other languages.
- (20)Date format: set the date format of the alarm record
- (21)Alarm Beep: set the PAC beep times when alarm event is triggered. (Only the VP-25W7/23W7 support this function.)
- (22)Stop Beep Text: the text prompted to stop the beep; Ex:"Stop Beep".
- (23)Export Warning Message: the warning message on the window when export the record. Ex: "Are you sure to export the alarm history to the USB pen driver (Overwrite the existing files)?"

%For how the ISaGRAF program triggers an Alarm and its demo, refer to Ch.1.7.4.

%Allow max. 3000 alarm messages each day, and does not record the overflowed messages.

%If want to delete g_Alarm records for testing purpose, users must stop the ISaGRAF driver first, delete below g_Alarm record file, and then reboot the PAC.

WP-5147, WP-8xx7, VP-2xW7 :

- The g_Alarm record file is in the directory "\Micro_SD\Soft-GRAF\g_Alarm\", Ex: "\2012\07\g_alarm_2012_07_17.txt" .
- The g_Alarm record file is in the directory "\Email_ETH\g_Alarm\", Ex: "g_alarm_2012_07_17.txt" .

XP-8xx7-CE6 :

The g_Alarm record file is in the directory "\System_Disk2\Soft-GRAF\g_Alarm\", Ex: "\2012\07\g_alarm_2012_07_17.txt".

The g_Alarm record file is in the directory "\Email_ETH\g_Alarm\", Ex: "g_alarm_2012_07_17.txt" .

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- (32)Enable Ftp 2 : check to enable the 2nd FTP. (Alarm data will be send to the 2nd PC/FTP Server)
- (33) FTP Server IP : the IP address of the FTP server (Ex: 192.168.11.1)
- (34)Port NO. : the port number to connect the FTP server, normally is 21.
- (35)User name & Password: the user name & password to log in the FTP Server.
- (36)FTP Directory : the directory of the server that the file to be upload to. Default is the root directory "\".

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- (37)Enable Manual FTP setting : check to enable the manual FTP function and to set up the related Network Addresses in this page. Refer to the <u>ch.1.7.5</u> or FAQ-158 (<u>http://www.icpdas.com/root/support/faq/isagraf.php</u> > 158) for detail information.
- (38)Year Address : assign the Network Address of the variable for year. It can set the file's year in the manual FTP function.
- (39)Month Address : assign the Network Address of the variable for month. It can set the file's month in the manual FTP function.
- (40)Day Address : assign the Network Address of the variable for day. It can set the file's month-day in the manual FTP function.
- (41)Command Address : assign the Network Address of the variable to send the FTP upload command. It can enable the manual FTP function.
- (42)Result Address : assign the Network Address of the variable to read the result of the FTP function. (0: no upload action; 1: FTP is uploading file; 21: upload succeed; 101: upload fail, that date file doesn't exist; 102: fail to upload to the FTP Server; 103: the Soft-GRAF doesn't enable FTP)
- (43)Progress Address : assign the Network Address of the variable to read the FTP upload status. It can get the progress status in the manual FTP function.





(a)File title : the first row displayed in the Logger file
(b)Time format : the time format to display in the Logger file
(c)Title of 1st column : the title text of the 1st column in the Logger file
(d)Date format : the date format of the Logger file

31-12-2012

(d)←

Date format



(e)New : to create a new data to record in order. The Options: Column title: the title name of the data

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Data Address: the Network Address record by the data Value Type: the data type to read. There are word, long and float 3 types. Dot: display the decimal point. Give a dot to the read value (eg: if set Dot as "3", the read value "32767" will be displayed as "32.767".) (f)Insert : to insert a new data to record between two data (g)Edit : edit one current data (h)Delete : delete one current data



- (11)Enable Ftp : check box to enable the FTP function. The PAC will send the logger file record by g_Logger1 to a FTP Server via FTP in the specified time.
- (12)Transmission Type: select Ethernet, 2G, 3G or wireless transmission type. If enable the 2G/3G type to upload data to a ftp server, please refer to <u>http://www.icpdas.com/root/support/faq/isagraf.php</u> > FAQ-143 to set up the hardware & software for the 2G/3G wireless transmission.
- (13) FTP Server IP : the IP of the FTP Server (Ex:192.168.11.1)
- (14)Port NO.: the communication port of the FTP Server, normally is 21.
- (15)User name & Password: the user name & password to login the FTP Server. If not check the "User name", user can login by "anonymous" and do not need the "User Name" & "Password".
- (16)Ftp Directory: to upload the file to the directory of the FTP Server. Default is the root directory "\". (ex: to specify the folder "dir2", key in "\dir2".)
- (17)Hour to Send: the specified upload time every day. There are 3 time zones to set up. The file will be sent at the 05th minute of that time zone, for instant, if the specified time is 00:00, the file will be upload to the ftp server at 00:05.
 (% "Hour1": upload the data of the previous day and 00:00~Hour1 of today. "Hour2" or "Hour3": upload today's data since 00:00 to "Hour2" or "Hour3".)

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- (18)Enable Ftp 2 : check to enable the 2nd FTP. (Logger file will be send to the 2nd PC/FTP Server)
- (19) FTP Server IP : the IP address of the FTP server (Ex: 192.168.11.1)
- (20)Port NO. : the port number to connect the FTP server, normally is 21.
- (21)User name & Password: the user name & password to log in the FTP Server.
- (22)FTP Directory : the directory of the server that the file to be upload to. Default is the root directory "\".

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	Setting - 1 Setting - 2 Setting - 3 Sett	ing - 4 Setting - 5
(23)← (24)←	Vear Address	Progress Address 0 (29)
(25)←	Month Address 0 Day Address 0	
(27)←	Command Address	
(28)←		

- (23)Enable Manual FTP setting : check to enable the manual FTP function and to set up the related Network Addresses in this page. Refer to the <u>ch.1.7.5</u> or FAQ-158 (<u>http://www.icpdas.com/root/support/faq/isagraf.php</u> > 158) for detail information.
- (24)Year Address : assign the Network Address of the variable for year. It can set the file's year in the manual FTP function.
- (25)Month Address : assign the Network Address of the variable for month. It can set the file's month in the manual FTP function.
- (26)Day Address : assign the Network Address of the variable for day. It can set the file's month-day in the manual FTP function.
- (27)Command Address : assign the Network Address of the variable to send the FTP upload command. It can enable the manual FTP function.
- (28)Result Address : assign the Network Address of the variable to read the result of the FTP function. (0: no upload action; 1: FTP is uploading file; 21: upload succeed; 101: upload fail, that date file doesn't exist; 102: fail to upload to the FTP Server; 103: the Soft-GRAF doesn't enable FTP)
- (29)Progress Address : assign the Network Address of the variable to read the FTP upload status. It can get the progress status in the manual FTP function.

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1.4 : How to set up the access permission of HMI

The Soft-GRAF provides an HMI password security. The HMI password security is accomplished by the menu of "Project" > "password" and two HMI objects "g_Login" and "g_logout". (refer to the demo "LogicDemo")

The Setting Steps:

(1) Open a project of the Sort-GRAF Studio and lick the "Project" \rightarrow "Password"



(2) Set the password and level



1~10. The larger number has the higher authority. Click the button

to see the password settings for all levels. "NULL" means that level does not set password.

All Pa	ssword		×
	Level	Password	^
•	Level 1	123456	
	Level 2	123456	
	Level 3	NULL	
	Level 4	NULL	
	Level 5	NULL	
	Level 6	NULL	
	Level 7	NULL	
	Level 8	NULL	
	Level 9	NULL	~

- (b)Password: the password of the selected level.
- (3) Create a new password: first, select a Level. If this level has no password yet, it is blank. Then, key in a password and click "Create".



(4) Change/Delete password: select the Level that wants to change. The "password" column will show the current password. Key in the new password and click "Create" to replace the password. If user wants to delete the password, please click "Delete".

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(5) In the HMI editing area, drag the g_Login object into the "Page 1"



(6) Right key click on "Login" button, select "Setting", and then enter the page number that want to switch to for the Login button. Enter page number "2" for this demo.

Login	Setting	
	Delete	
	Cut	
	Сору	
	Paste	

20,20,20,000				
Font size		9,Regular	Title	Login
Fore Colo	r		Switch page	2
Size	₩ 75	H 25	Deny Message	Access denied
Location	X 48	¥ 65	Wait Time	5 sec.
			Ok	Cancel

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(7) Switch this p	h to Page 2, an age is protecte oginDemo.sof Page 1 Page 2	nd drag the "g_Lo ed by the passwor	gout" obje d security	ect into the	editing ar	ea. Now
Value g_J g_W g_J g_J g_J	Button Graph B_Inp g_Logou ID_Inp N_Inp M_Inp M_Inp CoPage Login	t Page 2 -				
(8) Down can lo	load the projector	ct to the PAC. Clic roject. Click Logou	k the "Log it button	gin" button can exit the	and enter HMI proje	password

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1.5 : How does the Soft-GRAF driver distinguish the picture animate or not?

NOTE: Only the objects **g_B_Pic** and **g_N_Pic** can use the animate picture that support by **Soft-GRAF.**

The animate picture file should be named as *(ABC).gif (or .jpg or .png). The ABC is three number of $0 \sim 9$. If the picture format is correct and the file name is correct, the Soft-GRAF driver will display it as animate picture. The AB defines the amount of pictures to be animate. The C defines the time-period to switch pictures, can be 0 to 9. If C is 0, it means the picture is not animate. The unit of C is about 0.125 seconds for XP-8xx7-CE6 PAC, while is about 0.25 seconds for WP-8xx7 and VP-2xW7 PAC.

For ex., '\gif\Fan04-s-(061).gif' means the file is an animate picture. It contains 6 pictures. The switching time is about 0.125 seconds for the XP-8xx7-CE6 PAC (about 0.25 seconds if running in the WP-8xx7 and VP-2xW7PAC).

For ex., '\gif\Fan04-s-(062).gif' means the file is an animate picture. It contains 6 pictures. The switching time is about $2 \times 0.125 = 0.25$ seconds for the XP-8xx7-CE6 PAC (about 0.5 seconds if running in the WP-8xx7 and VP-2xW7PAC).

For ex., '\gif\Fan04-s-(060).gif' is not an animate picture because the switching time is 0. The following picture is the content in the \gif\Fan03-s-(041).gif . It consists of 4 small pictures to become a big picture (from left to right). The Soft-GRAF driver will display it as animated picture.



User can find the default burned-in pictures in the following CD-ROM or web site.

WP-8xx7 CD:\napdos\isagraf\wp-8xx7\driver\wp-8x47\1.39\sofgrafy\ XP-8xx7 CD :\napdos\isagraf\xp-8xx7-ce6\driver\1.21\sofgrafy\ VP-2xW7 CD:\napdos\isagraf\vp-25w7-23w7\driver\1.31\sofgrafy\ or <u>www.icpdas.com</u> > Support > FAQ > ISaGRAF Soft-Logic PAC > FAQ-146 in the downloaded ZIP file.
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1.6 : Other Features introduction

The Soft-GRAF Studio provides the Clipboard and the function of arranging the object layer order.

1.6.1 : Copy the HMI Object via the Clipboard

The clipboard provides three stardard commands: Cut, Copy & Paste

(1) Using the hot key :

Ctrl+X : Cut the object

Ctrl+C : Copy the object

Ctrl+V : Paste and replace the object after the Cut or Copy

Operation Example:



(2) Using the tool icon :

Use the clipboard icons in the toolbox.

Operation Example:

Mouse click on the object, then on the icon "Cut" or "Copy", and then on the icon "Paste".



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(3) Using the mouse right key :

Mouse right key click on the object, then select the "Cut" or "Copy" from the popup menu. Then, mouse right key click on the blank editing area and select the "Paste".



1.6.2 : Paste the Text into HMI Object via the Clipboard

After copying the text, mouse left clicks on the box of "Title" in the HMI, then mouse right click and select the "Paste".

		122	<u></u>
Font size	12,Regul	Location X 507	7 ¥ 229
Fore Color		Text Align Ce	nter 💌
Back Color		Title	
	20 - 22		
		Ok Cancel	
			貼上企
			冊(除(D)
			全選(A)

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1.6.3 : Adjust the Objects order

Soft-GRAF Studio offers the function to adjust the layer order of the objects. The first created object in the Soft-GRAF Studio default has the highest level Layer. The higher Layer object is above the lower Layer object when the objects overlap with others. User can change the Layer level to use the overlapped object. When you click an object, its layer level and position will show on the left-up corner of the HMI editing area, the larger number Layer with the higher level.

[x = 276, y = 85, Layer = 5, g_WD_Val] Page 1

Operation Example:

There are two overlapped objects, g_Label (Label button) and g_B_Inp. The object g_Label has the higher Layer than the g_B_Inp, and covers on it.



Select the Label and click on the tool icon "Sent to Back", then can see g_B_{Inp} .



When the HMI page needs a background picture, please add it via g_B_Pic object. (Recommand user to add it at the last step for the convenience.) First, drag a g_B_Pic object.





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Mouse right-click on the object, select "Setting" and set the "False File". Select a background picture for the "False File" and then click "Ok". If the picture is covering other objects, please select it and click the "Sent to Back" until all other objects showing up.



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1.6.4 : Switch the Soft-GRAF HMI page by ISaGRAF program

User can declare the below two ISaGRAF integer variables to switch the page of the Soft-GRAF HMI and to read the current page number. (Note: Only the Soft-GRAF driver version 1.06 and later version supports this function.)

The integer variable which with the network address number 8191 (Hex is 1FFF) is for switching the Soft-GRAF page. Please must declare it as "internal" and assign an initial value 65535. For example, see the "To_Page" in the below table. If setting it as 1, the Soft-GRAF HMI will switch to the Page 1 and then this "To_page" will be reset as 65535 by HMI automatically. If setting it as 2, the Soft-GRAF HMI will switch to the Page 2 and then the Soft-GRAF HMI will reset "To_Page" as 65535 automatically. If setting it as a non-existing page number, the Soft-GRAF HMI will not switch the page.

The integer variable which with the network address number 8190 (hex is 1FFE) is for reading the current Soft-GRAF HMI page number. The value can be 1, 2, 3...

Name	Туре	Attribution	Network Addr.	Description
To_Page	Integer	Internal	8191 (Hex = 1FFF)	Must set an initial value 65535. for switching HMI page
Current_Page	Integer	Internal	8190 (Hex = 1FFE)	For reading the current page number.

Name: To_Page	Network Address:	1FFF
Comment: set initial v	alue to 65535, NetWork addr. is 8191 (Hex=1FFF)	
Jnit:	Conversion: (none)	
Attributes Internal Input Dutput Const <u>a</u> nt Dim:	Format Integer (standard) Real Retain	<u>S</u> tore <u>C</u> ancel <u>N</u> ext <u>Previous</u> <u>Ex</u> tended

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The VP-25W7/23W7 supports to switch the Soft-GRAF HMI screen from the background back to show on the fore-ground by pressing some Function keys "F1" to "F6" on the VP-2xW7. (Note: This function is supported since the VP-2xW7 ISaGRAF driver version 1.21.)

In the ISaGRAF project, declare the "F1_btn"~"F6_btn" to be the Boolean/Internal variables, used to read the F1~F6 states of the VP-2xW7.

F1_btn	(internal)	0000
F2_btn	(internal)	0000
F3_btn	(internal)	0000
F4_btn	(internal)	0000
F5_btn	(internal)	0000
F6_btn	(internal)	0000

Declare two Integer/Internal variables and assign them the following NetWork Addresses:

To_Page: set NetWork address as "8191" (Hexadecimal: 1FFF).

Current_Page: set NetWork address as "8190" (Hexadecimal: 1FFE).

To_Page	(internal,integer)	1FFF
Current_Page	[internal,integer]	1FFE

Then add the following ST code, so that the F6 key can switch the Soft-GRAF HMI screen back to show on the fore-ground if it is hidden by some other windows (i.e. the windows explorer).

(Note: the variable "Current_Page" can be changed to other integer value to switch the HMI page to other page number, such as "To_Page := 2 ;" .)

F1_btn := EEP_B_R(16#A00F1);

 $F2_btn := EEP_B_R(16#A00F2);$

 $F3_btn := EEP_B_R(16#A00F3);$

 $F4_btn := EEP_B_R(16#A00F4);$

F5_btn := EEP_B_R(16#A00F5);

F6_btn := EEP_B_R(16#A00F6);

```
if F6_btn = TRUE then (* F6 button is pressed *)
```

To_Page := Current_Page ;

(* switch Soft-GRAF Page to the "current page. This will make the Soft-GRAF to show on the Top *) end_if ;

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1.6.5 : Check/Upgrade the Soft-GRAF driver version

Check the current Soft-GRAF driver version: click the left-top corner of "Page 1".

This is Page 1
Welcome to the Soft-GRAF Demo 01. Please visit www.icpdas.com > FAQ > Software > ISaGRAF > FAQ-131
ON Soft-GRAF driver version 1.01, Sep.21,2010
Goto Page 2
Upgrade the Soft-GRAF driver:
1. Stop the running ISaGRAF driver
XP-3xx7-CE6 ISaGRAF Driver CK Setting Web About Configuration Slave Number : I Nodbus RTU Slave Port COM2 Baud Rate 19200 N. 6, 1 Project Current Application wp_vb03, ISA! 1=1956, ISA 12=376 Elapsed Time 0:0:32:15 End Driver
2. Download FAQ-146 (<u>http://www.icpdas.com/root/support/faq/isagraf.php</u> > 146), and copy the file "Soft-GRAF.exe" in the "faq146_demo_chinese.zip" to the directory of \system_disk\isagraf\ in the PAC via ftp or USB disk method (replace the old file "Soft-GRAF.exe").

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1.6.6 : To display the Soft-GRAF HMI with real FULL SCREEN

When complete all design and testing of the control logic and Soft-GRAF HMI, user may do the following setting to display the Soft-GRAF HMI with real full screen. This prevents anyone to mis-operate the PAC's OS.

How to stop the real full screen ?

When the PAC is setting as "Toolbar Auto hide", the Soft-GRAF HMI will occupy the full screen. Then it is not possible to do any operation for the PAC's OS. There is two possible ways to solve this problem.

1. (Recommend using this way) : PC running ISaGRAF to connect to the PAC and then click "Stop application" .

🔍 ISaGRAF - SOFGR_02 - Debugger		
<u>File Control Tools Options H</u> elp		
<u>⊚(</u>)) ≥		
RUN allowed=0 current=3	maximum=120	overflow=0
14 Stop application plication stopped		

2. (Not recommend using this way) : Power OFF the PAC and turn the PAC's Rotaryswitch to 1: Safe mode, Power it up with "Safe Mode".

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1.6.7 : File management for user edited pictures

Picture files in the PAC:

All user used pictures in the project after download into the PAC will be stored in the following directory:

XP-8xx7-CE6: \System_Disk\ISaGRAF\sofgrafy\user\ WP-8xx7, VP-2xW7/4xx7, WP-5147: \Micro_SD\Soft-GRAF\user\

If there are too many pictures and you want to manage them, you can delete all the pictures files under that picture directory (But do not delete the folder "user".) and download pictures again via Soft-GRAF Studio.

Address \System_Disk\ISAGRA	F\sofgrafy\user		Or WP-8xx7, VP-2xW7/4xx7, WP- 5147: \Micro_SD\Soft-GRAF\user\
Name	Size	Туре	
🛋 07.jpg	14.1KB	JPEG Im	
🛋 08.jpg	13KB	JPEG Im	age
🔊 air-(021).gif	9.75KB	GIF Imag	je
🔊 air-1.jpg	8.29KB	JPEG Im	age
🔊 back.jpg	4.14KB	JPEG Im	age
🔊 back-b.jpg	4.16KB	JPEG Im	age

For saving the download time, Soft-GRAF checks the file name and size when download the project to the PAC to decide overwrite that file or not. If the file size is the same, it will not download that file. So, when the picture of HMI screen is not update, please delete the non-updated files in the picture directory of the PAC (as above), and then download the project again via Soft-GRAF Studio.

Picture files in the PC / Soft-GRAF Studio:

Normally, the Soft-GRAF Studio will copy all user edited picture files to the D:\Soft-GRAF Studio\ <project-name> \pic\ directory when using them. If user wants to modify the picture file, please close the Soft-GRAF Studio first, then edit the picture file in the D:\Soft-GRAF Studio\ <project-name> \pic\ directory.

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1.6.8 : Change the Project Resolution

User can change the programmed project resolution according the using PAC by the menu function "Project" -- \rightarrow "Project Setting".

There are four resolution selections now. Please choose the resolution that suitable for your PAC.

The PAC Resolution:

PAC	Supportted VGA Resolution
XP-8xx7-Atom-CE6	640*480, 800*600, 1024*768
XP-8xx7-CE6	640*480, 800*600, 1024*768
WP-8x37	640*480, 800*600, 1024*768
WP-8x47	640*480, 800*600
WP-5147	640*480, 800*600
VP-25W7	640*480
VP-23W7	320*240
VP-4137	640*480, 800*600

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1.6.9 : Select multi-objects to move, copy and delete

The functions in this section have supported since Soft-GRAF Studio Version 1.03.

- 1. Select multiple HMI objects
 - There are two ways to select:
 - (a) Using mouse dragging: The mouse left key click on the blank space and drag out a selection box to include all objects you want to select, as below.

(b) Using mouse and keyboard: After select one object, press the Ctrl key of the keyboard, and then mouse left key click on the second or more objects to select all HMIs you want to select, as below.

- 2. Multi-object clipboard functions: Provide cut, copy and paste multiple objects. The operation is the same. Please refer to the 1.6.1.
- 3. When select one or more HMI objects, user can press the direction key (▲ ►) of the keyboard to adjust the position, and press once to move 1 pixel.
- 4. Add a new function about the object layer older: sent the object to the front/back or forward/backward one layer. User can use this function to hide or display the HMI objects. Please refer to <u>1.6.3</u> for the operation.

As the order of the tool icon:

- a. Sent to Front
- b. Sent to back
- c. Forward one
- d. Backward One

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Classification Author 1.6.10 : View Soft-GRAF Stu How to Switch Click menu [V File Project Project View Value Bu	ISaGRAF FAQ-146 : S Janice Hong Version v the Fashion mode udio provides two vie the View Mode: 'iew] <u>View Help</u> Fashion Old style	e or Old Sty ew modes of [x = 75, y = 1] Page 1 - Page	dio Manua Date 0 Ie mode tool box	elect Fashion" fo Old Style" f	Page o switch. r graphic m or text mod	85 / 123 ode, or e.

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1.6.11 : Display Multi-line text on the Button

The Soft-GRAF usually displays the text on the button in single line. When the text is long, such as "Set-Motion-Mode", it will not display all of the text if the button length is not long enough. Please set the space character " " between the words to display the text in two or more lines, such as "Set Motion Mode".

The Soft-GRAF supports the space characters " " in the "Title" or "Show as title" options of the Button Objects: g_B_Inp, g_N_Inp, g_F_Inp, g_M_Inp, g_ToPage, g_Login, g_Logout and g_Logger1 to display the multi-line text.

Example:

Using the following "g_B_Inp" as an example, double click the button or rightmouse click the button then select the "Setting" option to open the setting box. Enter a long text in the option "Show as string", e.g. "按下此鍵設定為 on", then click "OK". The text is too long so that it cannot display the entire contents as below.

common Input Setting		
O Show as picture	Mode Select Normal 🗸	
Show as string 按下此鍵設定 按下 按 武 按 武 和 武 和 武 和 武 和 武 和 武 和 武 和 和 和 和 和 和 和	Switching Time sec.	
🚫 Show as value	Level 0 🗸	
Boolean False Off	📃 Ask before operation	
Boolean True On	📃 Identify Password	
Title of Dialog	Using bool addr to hide	
		按下此鍵設 🗖
		_
	Ok Cancel	L

Recall the setting box to insert a space " " in the text of the "Show as string", e.g. " 按下此鍵 設定為 on". After clicking "OK", the button text is displayed in two lines as below.

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L.6.12 : Ho Schedule-C The Soft-GR/ Schedule-Co http://www.i	w to use ontrol Ut AF support ntrol Utilit icpdas.con	g_Topage to ba ility ts to go back to t y since V.1.26. R n/root/support/fa	t ck to the pr the previous p tefer to FAQ1 aq/isagraf.php	page and ca 66 for the 9 2 > FAQ166	ge or cal all the ISa Schedule- 5	l l the aGRAF Control:
ToPage Setting Size W 75 Location X 96 Font size (Fore Color (Level 0 •	e the func age" option H 25 V 54 Ask 12,Regul Der To Tith	Ask before operation armessage Mun Page Access Deny. To Page	the Previous ge" window ir	Page", plea	ase enter GRAF Stuc	" -1 " to the
Using bool addr to ToPage Setting Size W 75 Location X 97 Font size Fore Color Level 0 • Show as picture Using bool addr to h	hide ant to call hich Page H 25 A Y 54 Ask 1 12,Regul Deny To W Title	I the function of t " option of the "g sk before operation message r message r message hich Page To Page	he ISaGARF	Schedule-C ndow.	control, er	nter " 201 "
Using bool addr to ToPage Setting Size W 75 Location X 97 Font size Fore Color	hide	I the function of t " option of the "g sk before operation message r message Access Deny. Thich Page 201 To Page Schedule-Control Utilit Save and implement. Title : Title	the ISaGARF	Schedule-C	Control, er	nter " 201 " Exit
Using bool addr to If the user we to the "To W ToPage Setting Size W 75 Location X 97 Font size Fore Color Level O V Show as picture Using bool addr to h	hide ant to call hich Page H 25 A Y 54 Ask 1 12,Regul Deny To W ide	the function of t option of the "g sk before operation message	the ISaGARF ToPage" wir	Schedule-C ndow.	Control, er	nter " 201 " Exit
Using bool addr to ToPage Setting Size W 75 Location X 97 Font size Fore Color Level 0 • Show as picture Using bool addr to b	hide ant to call hich Page Y 54 Askı 12,Regul Deny To W Title	the function of t option of the "g sk before operation message Access Deny. Thich Page 201 To Page Checkle-Control Utilit Save and implement Title : Title Target 1 Target 4	the ISaGARF _ToPage" win Targe	Schedule-C ndow.	Control, er	nter " 201 " et 3 et 6
If the user we to the "To W ToPage Setting Size W 75 Location X 97 Font size Fore Color Level 0 Show as picture Using bool addr to F	hide	the function of the "g sk before operation message Access Deny. Thich Page 201 To Page Checkule-Control Utilit Save and implement. Title : Title Target 1 Target 4 Target 7	the ISaGARF ToPage" win Targe	Schedule-C ndow. et 2 et 5 et 8	Control, er	nter " 201 " et 3 et 6 et 9

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1.6.13 Using the Image gallery

The Soft-GRAF Studio v1.10 provides an image gallery. User can create this object by using the new icons in the toolbox. Then, select an image that has two states (On/Off) and four sizes selectable. User can see the changing of selected image in the preview window. The usages for this object and image gallery are described as follows.

Create the image object :

For the purpose of easy-to-use, the Soft-GRAF Studio add two "g_B_Inp_Lib" and "g_B_Pic_Lib" objects in the toolbox for supporting the image gallery. Users can choose any of the images in the image gallery, and the setting page is more simpler.

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The settings for the object are described as follows:

1. When users drag & drop a "Button - g_B_Inp_Lib" object to the editing area, it will display the default image.

2. Double click on this object to open the image gallery, and then select required image, then click "Accept" to complete the setting.

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3. The details of this configuration page are described as follows. In addition, if you want to configure the original setting (e.g., Network Address) for the "g_B_Inp" or "g_B_Pic", simply click "Setting" to call the setting menu. Refer to Section 1.3 for details of the setting menu.

- (a).Image view : it will display the selected image.
- (b).Switching status : press "0" or "1" button to view the changing between "on" and "off" images.
- (c).Image Size : four image size selectable, e.g., "Small size", "Medium size", "Normal size" and "Large size".
- (d).Setting : Set the "Address" and related functions of the object.
- (e). Image Gallery : click on any of the images in the gallery, it will display in the "Image view" window.
- (f).Accept/Cancel : press "Accept" button to apply the settings or press "Cancel" without saving any settings.

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1.6.14 Creating a Template

The Soft-GRAF Studio v1.10 provide a template feature for users to copy the HMI page and add it to other projects. Follow the procedure indicated in the figure below:

Save as Template :

1. Mouse right-click any of the HMI pages (e.g., Page1) in the Project area.

2. Select "Save as Template" and assign the location you want to archive. After doing this procedure, it will create a folder that includes one xml file and one image folder.

Save TemplateFrm	
Template Name	
Page1	
Location	
C:\Documents and Settings\user\My Doc	cuments\Visual Studio
	Save Cancel
Pic Page3.xml	1 KB

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Import Template

1. Click the project name (e.g., tstgbinp.sof) in the Project area.

2. Select "Import Template" and choose an xml file (e.g., Page3.xml, refer to the previous page), then fill in the page number you want to add.

開啓					? 🛛
查詢(]):	🚞 Page3		~	3 🕫 🖻 🛄-	
1000 日本 我最近的文件	Pic Page 3 xml				
 反正		\mathbf{N}			
》 我的文件					
我的電腦					
網路上的芳鄰	檔名的	Page 3 xml			国際の
	檔案類型(I):			~	取消

% The page number cannot be repeated (i.e., it cannot be an existing project page), otherwise it will not be imported.

To which page number 5
OK
·

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1.7 : The description of some Soft-GRAF Studio demo projects

1.7.1 Demo04: display the Objects and the HMI access

This demo displays all HMI Objects and basic operation. First, restore "demo04.pia" and download it to the PAC.

Edit Project Sofgr_08 Sofgr_09 m sofgr_01 Inport IL program If to wwww.icpdas.com Inport IL program If the watcher inport inpor	🕺 ISaGRAF - I	roject Ma	nageme	5Ш1				
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Use Soft-GRAF Studio software to open "demo04.sof". It shows as below. (Refer to Ch.1.2 for the steps.) Set up the download IP and then download the project. 🐨 Soft-ORAF Studio - Demo04.nof , 850x6600 , 192-168-1.162 File Project Help 9 - H + X - P 5 5 5 5 [1-47,3-48] Project View Page I. Value Evition Ocenh Soft-GRAF Demo04. Please visit www.icpdas.com > Faq>ISaGRAF> FAQ146 Time = ##: 9_ 0_ g_label a N Text g_B_Vel Stop #_HD_Val 0 g_WD_Val SHOFF Off 1000.0 s.F.Val Off Set WD_val SHOW 900.0 2,8,74 800.0 E.H., Yal 0.WW ON/OFF ON-+ 5 sec -+ OFF g.M_Test 700.0 100 Goto Page 2 600.0 g F Valkp 500.0 25000 6888 Set F_Val ≥ Demo04.set Jage 1 Jage 2 Jage 3 400.0 0500 52500 300.0 200.0 0 100.0 Login 10 Clear 4000 0 000.0 🌇 Soft-GRAF Studio - Demo01.sof **IP Setting** File Project Help IP Setting i 9 1 192 168 165 IP Address Project Setting Proj Setting PassWord 🌇 Soft-GRAF Studio - Demo01 File Project Help 9 🚞 N 🗙 🗋 岸 Project View Download

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The HMI screen of PAC is as the following picture. "Demo04" contains three HMI pages: Page1 displays all objects, and Page2 & Page3 display the security function and the using ways.

Page1:

Description and testing:

- (1) Use a Boolean variable to test g_B_val, g_B_Inp, g_B_Led, g_B_Pic. Set the g_B_Inp as different input type to switch the Boolean variable, such as, press the button "ON \rightarrow 5 sec \rightarrow OFF" can set the Boolean to "True" for 5 seconds and then set it to "False".
- (2) Switch to Page2.
- (3) Display the Trace function draw the curve according to the read value. Setting the "Action Address" can select the way to draw, and setting the "Clear Address" can clear the curve by manual. In the HMI Page2, user can press the button "Clear" to clear the trace curve.
- (4) Display a Bar-meter.
- (5) A g_N_Text object: display the specific text according to the read value.
- (6) The buttons set a Word, Integer or Float value from up to down.
- (7) Press the login button can go to Page2.

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Page2: (1)	Goto Page1	g_ToPage() : level 2 (with level2 secu or Higrt user to o Goto Page3	rity, pls login as operate it	→ (5)		
	g_F_inpwith level2 sect user (3) ↓	urity, pls login as l to operate it 1.057 curity, pls login as r to operate it 1.057	level 2 or Higher	, ,			
 (1) Press th (2) Log out. this butt (3) This is a login wit Studio d please g then the button to (4) The function 	e button to go If login from t on can return g_F_Inp object th the Level 2 (esigning step, o to Page1, pro- system will go o change its van ction is the sam	to the Pa the "Logi to Page1 ct with th or upper user can ess the b to Page alue. ne as (3)	age1 n" butto and log ne level Level) not inpu outton "L 2 autom). For tes	n of Page out. 2 authorit password it this Floa ogin" and natically, a	1 and login y protection that setup at value. Fo enter the p and then us o Page1 an	successfu n. If user of in the Soft r test this bassword ' er can pre d enter th	lly, press does not t-GRAF button, "012345", ess this e password
of Level (5) Switch t to Page3	1 or Level 2. to Page3. This 3 only when us	button, t er logins	he same in with	e with the the passw	authority p ord of Leve	rotection, el 2 or upp	switches er level.
Page3:	to the Page2.	 (1)					

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1.7.2 Demo05: My Sweet Home Demo Description

This demo shows how to design an interactive and dynamic HMI page. Restore "demo05.pia" and download to the PAC.

🔯 ISaG	🧏 ISaGRAF - Project Management								
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- ISaGRAF - DEMO05 - Programs
<u>File Make Project Tools Debug Options H</u> elp
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Current Application demo05, ISA11=1516, ISA12=1132
Elapsed Time 1:3:55:37 End Driver

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This demo default without use I/O card. If need the I/O card, user can install an I-8056W in the Slot 1 of the PAC, change the i_8056 of the IO Connection setting in ISaGRAF project to "Real board", re-compile project and download it into the PAC. The DO control points in this demo will output to the I-8056W card.

Use the Soft-GRAF Studio software to open the "Demo05.sof" as below. (Refer to Chap. 1.2 for the steps.) Set up the Soft-GRAF Studio download IP and download the project. (Refer to Chap.1.7.1 for the steps.)

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1.7.3 Demo06 : Display the trend curve and the angular gauge

This demo shows how to create the trend and gauge. Restore "demo06.pia" and download to the PAC.

Le Edit Project 1000 Options Help Sofgr_08 Libraries Common data nsofgr_09 Import IL program F to wwww lepdes con Chive - Projects Workbench Archive reation demo01 demo02 demo03 emo03 emo04 emo03 emo05 emo04 Elope emo05 Elope emo06 Elope Uot kbench Archive reation Elope IsaGRAF - DEMO06 - Programs ide Make Project Tools Debug Options Help Image Intervention Still StaGRAF - DEMO06 - Programs ide Make Project Tools Debug Options Help Still ************************************	SagRAF - Project Management	
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IsaGRAF - DEMO06 - Programs	sofar 01	
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P-8xx7-CE6 ISaGRAF Driver OK Setting Web About Configuration		
P-8xx7-CE6 ISaGRAF Driver OK Setting Web About Configuration Save Number : 1 Slave Number : 1 Modbus RTU Slave Port COM2 Baud Rate 19200 , N, 8, 1 Project		
Setting Web About Configuration Slave Number : 1 Modbus RTU Slave Port COM2 Baud Rate 19200, N, 8, 1 Modify Project Current Application demo06, ISA11=1668, ISA12=1008 Elapsed Time 0:0:14:31 End Driver	P-8xx7-CE6 ISaGRAF Driver	OK
Configuration Slave Number : 1 Modbus RTU Slave Port COM2 Baud Rate 19200 , N, 8, 1 Project	Setting Web About	
Slave Number : 1 Modbus RTU Slave Port COM2 Baud Rate 19200 , N, 8, 1 Project	Configuration	
Modbus RTU Slave Port COM2 Baud Rate 19200 , N, 8, 1 Project	Slave Number : 1	
Baud Rate 19200 , N, 8, 1 Modify Project	Modbus RTU Slave Port COM2	
Project	Baud Rate 19200 , N, 8, 1 Modify	
Current Application demo06, ISA11=1668, ISA12=1008 Delete Elapsed Time 0:0:14:31 End Driver	Project	
Elapsed Time 0:0:14:31	Current Application demo06, ISA11=1668, ISA12=1008	
	Elapsed Time 0:0:14:31 End Driver	

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Use Soft-GRAF Studio software to open "demo06.sof". It shows as below. (Refer to <u>Chap.1.2</u> for the steps.) Set up the download IP and then download the project. (Refer to <u>Chap.1.7.2</u> for the download steps.)

The HMI screen on the PAC is as below. There is one page for the Demo06, the trend map on the upper side, the 3 gauges on the lower side. Click the "History" can show the history record of the trend curve.

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1.7.4 Demo07 : Using alarm message and alarm records

% Welcome to refer to another g_Alarm demo example in FAQ-160

(<u>http://www.icpdas.com/root/support/faq/isagraf.php</u> > 160). Besides displaying the Alarm message, it can trigger the PAC to send message to user's mobil phone.

This Demo07a shows how to use g_Alarm object. First restore "demo07a.pia" to the PC/ISaGRAF, and then download it to an ISaGRAF WinCE PAC.

※ Demo07a triggers the English Alarm messages; Demo07b triggers the Traditional Chinese messages. If your PAC OS Language is different, change the "Encoding" option of g_Alarm object and the value of the Message variable in the ISaGRAF project. (Ex: for Simplified Chinese, set Encoding to "gb2312" and change the message of msg1 variable in the ISaGRAF project to Simplified Chinese text.)

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NOTE:

When using the ISaGRAF code MSGARY_W(-9, msg), MSGARY_W(-8, msg), MSGARY_W(-7, msg) and MSGARY_W(-6, msg) to send one Alarm message to the Soft-GRAF, the alarm message cannot include the CR character (Carriage Return: Enter, ASCII code 13) and LF character (Line Feed: change line, ASCII code 10). These two special characters will automatically be replaced by a Space character (ASCII code 32).

How to trigger the alarm message :

g_Alarm object must use the "MSGARY_W" function in the ISaGRAF project to trigger and record alarm message. The setup method is described by the following ISaGRAF project Demo07.

g_Alarm using the following methods to trigger the alarm message :

(1) In the function "MSGARY_W", set parameter "ADDR_" as "-9" and assign the alarm description to parameter "Msg". When the Alarm is triggered, it will pop up an ALERT message window and record this message in the g_Alarm list.

EX:

When "K1" is triggered, the g_Alarm will pop up a message window and display the content of the "msg1" variable. Then, remember to **reset the "K1"** to False to avoid multiple triggering.

HMI Screen Side :

When k1=TRUE, the alarm message in the main Alarm window is as below.

7 / 5 /2012 💌	確認 00 - 01 - 月	産出	
搜尋	石窟記多筆		
*0001:2012年07月05日	00:54:57,	A	
K1 is triggered !	21K		
	*0001: 2012年07月05日 00:54:57,		
	K1 is triggered !		
	停止警察 研究		
	19931-0.7		
		-	
		Þ	
警報總數:1,確認:0,	未確認: 1		
	7 / 5 /2012 東爾 *0001: 2012年07月05日 K1 is triggered ! 當報總數: 1, 確認: 0,	7 / 5 /2012 ● 確認 ○○ ○1 ● 現弱 確認多筆 ● <th>7 / 5 /2012 ● 確認 00 ● 01 ● 匯出 按示 確認多筆 ● ● *0001: 2012年07月05日 00:54:57, K1 is triggered ! ● *0001: 2012年07月05日 00:54:57, K1 is triggered ! ● ● ● ●</th>	7 / 5 /2012 ● 確認 00 ● 01 ● 匯出 按示 確認多筆 ● ● *0001: 2012年07月05日 00:54:57, K1 is triggered ! ● *0001: 2012年07月05日 00:54:57, K1 is triggered ! ● ● ● ●

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(2) In the function "MSGARY_W", set parameter "ADDR_" as "-8" and assign the alarm description to parameter "Msg". When the Alarm is triggered, it only records message in the g_Alarm list, the ALERT window will not pop up.

EX:

When "K2" is triggered, the g_Alarm will display the content of the "msg2" variable only. After the K2 is triggered, remember to **reset the "K2"** to False to avoid multiple triggering.

HMI Screen Side :

When k2=TRUE, the alarm message in the main Alarm window is as below.

警報歷史紀錄 (2012年07月05日 Thursday)						
7 / 5 /2012 💌	確認	00 🗸 02 🗸	匯出			
搜尋	確認多筆					
*0002: 2012年07月05日	01:54:38,	>	<u> </u>			
Alert without pop-	up 1 00 54:57					
K1 is triggered !	1 00:0 1:07,					
•			▼			
 警報總數:2,確認:0,	未確認: 2					
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---	--	--	--	---	---	---
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(3) In the f alarm d up an A and rec	unction "MSC lescription to LERT messag ord this mess	GARY_W", set para parameter "Msg" ge window (show sage in the g_Ala	ameter "/ . When th all unack m list.	ADDR_" as ne Alarm is nowledged	"-7" and a triggered Alarm me	assign the , it will pop essages)
EX :	K3 -7_ADI nsg3_Msg K3 CFC	MSGARY_W Q_ DR_ J_	In this Messa Please "—(R)—	s example, t ge, K3 is int set K3 to F -" to avoid r	he type of ernal Book alse in the nultiple tri	msg3 is ean. 2nd line ggering.
HMI Screen S When k3=TR	ide: UE, the alarm	n message in the	main Alar	m window	is as belo	w.
*0011, 21/ *0011, 21/11/2012 12: Alarm1 *0010, 21/11/2012 12: Alarm1 *0009, 21/11/2012 12: K1 is triggered !	/11/2012 12:09:45, Alarm1 09:45, 09:35, 01:46,					
Stop Beep	Ack Ack Close	(ALL)				

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(4) In the fi specified messag	unction "MSC d text to para e in the ISaC	GARY_W", set par ameter "Msg", the GRAF program.	ameter "/ en user ca	ADDR_" as an acknowle	"-6" and a edge the A	ssign the larm
EX :						
When fill in "L if ACk ACK1 TMP end_if ;	.AST", means <1 then l := FALSE ; := MSGARY_	s to acknowledge _W(-6 ('LAST');	the last o	one of the A	Alarm mess	sages.
When fill in "A if ACK2 ACK2 : TMP := end_if ;	LL", means 2 then = FALSE ; = MSGARY_W	to acknowledge a /(-6, 'ALL');	ll the Alaı	rm message	es.	
When fill in ar function "MSG integer numbe if ACK ACK TMP : end_if ;	1 Integer val 3"), means to er. 3 then 3 := False ; = MSGARY_Y	ue (ex: number, a b acknowledge the W(-6 ,MSG(NO1	and then e Alarm n	need to cor nessage tha	nvert it to s	String via y the



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How to use the search function :

Click the "Search" in the Alarm main window.

Alarm	History (01/01/200)0 Saturday)	
2000/ 1/ 1	Ack	00 💌 08 💌	Export
Search 🔪	Ack(more)		
*0008, 2000年01月01日 DI 3備發 ON - > C *0007, 2000年01月01日 DI 3備發 OFF - > *0006, 2000年01月01日 DI 2 備發ON - > C *0005, 2000年01月01日 Val 1> 1000 *0004, 2000年01月01日 DI 1 備發OFF-ON *0003, 2000年01月01日 Alert without pop- *0002, 2000年01月01日 Alert without pop- *0001, 2000年01月01日	00:00:00, 0FF 3 sec 00:00:00, ON 3 sec 00:00:00, 00:00:00, 00:00:00, 00:00:00, up 00:00:00, up 00:00:00,		<
Alarm amount: 8 , Ack: 0 ,	No Ack: 8		

In the popup Search window, key in the keyword and click "Search" to search data. For this example, key in "DI".



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1.7.5 Demo08: How to use g_Logger1

This Demo08 shows how to use g_Logger1 object. First restore "demo08.pia" to the PC/ISaGRAF, and then download it to an ISaGRAF WinCE PAC.



Then download this program to the ISaGRAF WinCE PAC . User may refer to the section 1.1 , 1.2 and section 2.1 of the "ISaGRAF User's manual" if not familiar with the ISaGRAF software. The manual resides at

<u>http://www.icpdas.com/root/product/solutions/softplc_based_on_pac/isagraf/downl</u> <u>oad.html#manu</u> (about 11MB) .



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1. Project Structure:

There is one Ladder and one ST program in the "Demo08" project.

- ISaGRAF - FAQ158 - Programs	- 🗆 🗵
<u>File Make Project Tools Debug Options Help</u>	
🖹 🖬 😔 🕮 🗅 🖪 🍈 🐥 👗 🜬 💷 🤅	8 4 🙎 (
Begin: ID1 IST1	
Begin: ST1 (Structured Text)	

Global variables :

Name	Туре	Attribute	Description
INIT	Boolean	Internal	set initial value as TRUE.
Year1	Integer	Internal	PAC 's year, i.e. 2012
Month1	Integer	Internal	PAC 's month, i.e. 11 (November)
Day1	Integer	Internal	PAC 's month-day, i.e. 15 (can be 1 to 31)
Week1	Integer	Internal	PAC 's week-day, i.e. 2 (Tuesday)
Hour1	Integer	Internal	PAC 's hour, i.e. 15
Minute1	Integer	Internal	PAC 's minute, i.e. 46
Second1	Integer	Internal	PAC 's second, i.e. 18
V1	Real	Internal	The first data, set NetWork addr as 1
V2	Real	Internal	The second data, set NetWork addr as 3
V3	Real	Internal	The third data, set NetWork addr as 5
CNT1	Integer	Internal	To simulate Sin and Cos curve value
Cycle1	Integer	Internal	To simulate Sin and Cos curve value
e1	Real	Internal	To simulate Sin and Cos curve value

LD1 program :

(* To get the current date and time of the PAC *)



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ST1 program:							
(* To simulate v1 := REAL(s	e the value of V second1) ;	/1 and s	simulate Sin a	and Cos	value for V2	and V3 var	iables *)
INIT := Fa INIT := Fa CNT1 := 0 T1 := T#0 Interval1 cycle1 := e1 := REA tStart(T1) T1_Next : end_if ;	llse ;) ; s; := T#250ms ; 480 ; AL(2.0 * 3.141 ; = T1 +Interval	5926 / RE 11 ;	EAL(cycle1));			
<pre>if T1 >= T1_ if T1 >= T1 := T# end_if; T1_Next : CNT1 := C if CNT1 CNT1 := end_if; v2 := 50.0 v3 := 50.0 end_if;</pre>	_NEXT then T#6h then #0s ; = T1 +Interval CNT1 + 1 ; >= cycle1 th = 0 ; • * sin(REAL(0)	11 ; hen CNT1)*e1 CNT1)*e	│)+ 50.0; 1)+50.0;				

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2. File format of the "g_Logger1" data :

The "g_Logger1" records data in a file every day. If choosing CSV format, for example, the file name is "g_Logger1_2012_11_13.csv" on the date of Nov.13th, 2012.

Data files are saved in the following directory if it is November 2012.

WP-8xx7, VP-2xW7, WP-5xx7:

\Micro_SD\Soft-GRAF\g_Logger1\2012\11\

XP-8xx7-CE6 and XP-8xx7-ATOM-CE6

\System_Disk2\Soft-GRAF\g_Logger1\2012\11\

The first row lists the "File Title". The second row lists some "Column Title". The max. amount of the "Column title" is 51. The 1st "Column title" is Date Time. The 2nd to 51th are the "Column title" of each data. The other rows starting from the 3th row are the data of each sampling. All title can be displayed as your local language.

The following example shows the "File Title" as "g_Logger1 Demo". The first column-title in the second row is "Date Time". The 2nd to 4th column-title are "Curve1", "Curve2" and "Curve3" respectively.

g_Loger1 Demo (NOV-13-2012 Tuesday) Date Time,Curve1,Curve2,Curve3 NOV-13-2012 17:15:06,6.0,5.4,27.3 NOV-13-2012 17:15:10,10.0,1.8,36.4 NOV-13-2012 17:15:15,15.0,0.0,49.3 NOV-13-2012 17:15:20,20.0,1.5,62.3 ...

If open the above data file by the Excel, it may show as the following figure.

	A	В	С	D	E
1	g_Loger1 Demo (NOV-13-2012 Tuesday)				
2	Date Time	Curve1	Curve2	Curve3	
3	NOV-13-2012 17:15:06	6	5.4	27.3	
4	NOV-13-2012 17:15:10	10	1.8	36.4	
5	NOV-13-2012 17:15:15	15	0	49.3	
6	NOV-13-2012 17:15:20	20	1.5	62.3	

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g_Logger1 settings:

If don't want the "File Title", set it as blank (then the first row will become "Column Title") .

Data Logger 1 Two click
g Logger 1 g_Logger 1
Setting - 1 Setting - 2 Setting - 3 Setting - 4 Setting - 2 Setting - 3 Setting - 4
File formet Sample rate 5 secs
File setting
LoggerFileSetting
File setting-1 File setting 2
File title
Time format Show Data Harry Min. Star _ These 3 address are the
Title of the 1st column Date Time
Date formet DEC 21 2012
LoggerFileSetting
File setting-1 File setting 2
Column title Data Address Value Type Dot New
Curvel I Float I Insert
Curve3 5 Float 1
* Delete
Two click
Date Time, Curve1, Curve2, Curve3,
NOV-14-2012 14:54:21
Note : The "sample rate" setting of the a Logger1 affects the retaining days of data files
The retaining time is 10 days if "sampling rate" setting is 1 or 2 or 3 seconds
The retaining time is 30 days if "sampling rate" setting is 5 to 30 seconds.
The retaining time is 6 months if "sampling rate" is 3 or 5 minutes.
The retaining time is 12 months if "sampling rate" is 10 minutes or more that

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10 minutes.

The other note is one PAC can enable only one g_Logger1.

3. Enable the ftp client to send data file of the g_Logger1 to the ftp server.

To send daily data file of the g_Logger1 to the PC / ftp server automatically, do the following settings. Be aware of the setting of "FTP Directory", use the "\" symbol, DONOT use the "/" symbol. For ex., the "\Machine2" or "\" are correct. However "/Machine2" and "/" are incorrect. User may check the "Enable Ftp2" to send data file to the second ftp server. (Note: the "Enable Ftp2" doesn't work if the first "Enable Ftp" is not checked.)

g_Logger 1	×
Setting - 1 Setting - 2 Setting - 3 Setting	1g - 4
✓ Enable Ftp Transmission Type Ethernet	FTP Directory Machine2 Hour to upload
FTP Server IP 192.168.1.170	How1 01:00 💌
Port NO. 21	How2 none 💌
User name chun	Hour3 none 💌
Password *****	

Note:

- 1. The data file of the g_Logger1 is sent at about 05 minute of the selected hour. i.e, if setting the Hour1 as 08:00, the data file is sent at about 08:05.
- If sending file to ftp server fails, the g_Logger1 will re-try once at about 4-hours later. It will continuously re-try once every 4-hours later until it succeeds or expire 7-days.
- 3. The "FTP Server IP" means the IP address of the PC which will receive the data file. If the PC is not in the same IP domain as the PAC, set a proper "Default Gateway" setting for the LAN port of the PAC. (You may find the Gateway-IP-address by key-in the "ipconfig" command on the PC which is connected in the same IP domain of the PAC).

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[∟] <u>D</u> ocuma <u>[®] S</u> ettings <u>[®] H</u> elp [©] Run…	Image: Second start Menu Eile Edit View Advanced Image: Second start Menu Image: Second start Menu Image: Second start Menu Image: Second start Menu					
- - - -	V1 Fast Ethernet Adapter' Settings ок 🔀					
IP	Address Name Servers					
	 IP address can be to matically assigned to this mputer. If your network es not automatically assign IP Address: 					
a	ministrator for an address, Subnet Mask: 255.255.255.0					
ar pr	d then type it in the space Default Gateway: 192.168.1.1					
To send data set the "Tra I/O module a http://m2m. section 1.1 a (<u>http://www</u>	file to a remote PC / ftp server by 2G / 3G dial-up wireless connection, nsmission Type" as "2G/3G Wireless". And this PAC requires a 2G/3G nd a SIM card. (for example, the I-8212W-3GWA : cpdas.com/i-8212w-3GWA.html) . Then follow steps listed in the nd section 1.2 of the following web site to setup the 2G/3G I/O module . <u>icpdas.com/root/support/faq/isagraf.php</u> > FAQ-143).					
z_Logger 1 Setting - 1 Setting - 1 Setting - 2 Setting - 3 Setting - 4 FIP Directory Machine2 Transmission Type Imable Fig Transmission Type Setting - 1 Setting - 2 Setting - 3 Setting - 4 FIP Directory Machine2 Hour to upload Hour 2 None Mover and the figure Hour 3 None Password						

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4. Using the "FTP_Loader" to upload the data file of a specified date

The "faq158_demo.zip" includes a utility "FTP_Loader.exe". It can run in a PC / Windows. Its purpose is to command the g_Logger1 to send the data file of a specified date to the PC / ftp server. To use this function, first add six integer variables with six continuous network-address numbers in the ISaGRAF program similar as the following picture (The following picture shows their network number are from 21 to 26, Hex. is 15, 16, ... to 1A).

SaGRAF - FAQ158 - Global integers/reals							
<u>File Edit T</u> ools <u>O</u> ptions <u>H</u> elp							
🖆 🔾 🕓 🧐 🎋 🛰 🗈 🤞 📉 🖴							
Booleans Integers/Reals Timers Messages FB instances Defined words							
Name Attrib. Addr. Comment							
minute1	[internal,integer]	0000		•			
second1	[internal,integer]	0000					
			//				
v1	[internal,real]	0001	Value of Curve 1 , set addr. = 1				
v2	[internal,real]	0003	Value of Curve 2, set addr. = 3	1			
v3	[internal,real]	0005	Value of Curve 3, set addr. = 5				
			//				
CNT1	[internal,integer]	0000	for simulating Sin and Cos curve				
cycle1	[internal,integer]	0000	for simulating Sin and Cos curve				
e1	[internal,real]	0000	for simulating Sin and Cos curve				
			//				
ftp_year	[internal,integer]	0015	addr.=21				
ftp_month	[internal,integer]	0016	addr.=22				
ftp_day	[internal,integer]	0017	addr.=23				
ftp_command	[internal,integer]	0018	Set 1 to let Soft-GRAF to send a file (then auto reset as				
ftp_result	[internal,integer]	0019	1:busy,21:succeed,101:no file,102:ftp fail,103:ftp disak				
ftp_progress	[internal,integer]	001A	0 ~ 100 means progressis 0 ~ 100	_			
•			μ	•			

Then do the following settings in the g_Logger1.

Setting - 1 Setting - 2 Setting -	3 Setting - 4	
Manual FTP setting	Progress Address 26	
Year Address 21		
Month 22		
Day Address 23		
Command Address 24		
Result Address 25		

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Then ru	n the	"FTP_Loade	r.exe" in a PC	to do the "Ad	ddress Setti	ing".	
	🐂 FTP I	Loader					
	This (Soft-C ISaGI	Utility is for loadi GRAF g_Alarm c RAF PAC to the	ng the data file of the r g_Logger from the ftp server.				
	Pleas the "L	se select the dat .oad " button.	a file date to load , t	hen click			
	Year	: N	fonth: Day	:			
	2012	•	11 🔽 14				
			Address	Setting			
	Status						
			Load				
	🐂 Fo	rm2					×
	Ftj	p-Year address	21	Ftp command	address 24	•	
	Ft	p-Month address	22	Ftp result addr	ess 25	j	
	Ft	p-day address	23	Ftp progress a	ddress 26	5	
	PA	AC Net-ID	1				
	PAC		192 168	1	180	Setting 🔪	
			132 . [100	· [·]		Back	

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Then after, ke upload the da	ey-in the date	e and click the "Lo PC / ftp server.	ad" butto	on to comm	and the PA	\C to
	This Soft- ISaG	Loader Utility is for loading the di GRAF g_Alarm or g_Log iRAF PAC to the ftp serve	ata file of the ger from the er.	han dick		
	Year	-oad " button.	Day			
	Statu		Addres: Load			