

ScadaPhone Alarm Browser for iFix

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ScadaPhone Alarm Browser for iFix

Introduction:

When **ScadaPhone** is used with **iFix HMI/SCADA**, the **ScadaPhone's iFix Alarm Browser** can be used to configure a project.

The alarm browser utilizes the industry-standard **OPC-DA** interface to obtain a filtered list of **iFix** data blocks which are configured as alarms (i.e. blocks which contain fields having the **A_NALM** (in alarm) tag suffix). After the list of **A_NALM** tags has been obtained, the alarm browser conducts additional scans to determine additional alarm attributes.

Browse iFix for Alarms:

Follow these steps to Browse Alarms in iFix

Step 1: Launch iFix

It is important that **iFix** is allowed to complete its start-up process. The ScadaPhone can proceed to establish the OPC connection when you see the message, "Proficy iFix Software is running" on the **iFix** Startup window:



CAUTION: If ScadaPhone (or any other **OPC client**) attempts to establish an OPC connection to the **iFix OPC Server** before iFix has fully loaded, the connection attempt will fail and the following error message will be displayed:

IFIX INTERNAL ERROR	x
Can not start iFIX. Please identify the program which is still a resources and shut it down before restarting. C:\Program Files (x86)\Proficy\Proficy iFIX\fix.exe	accessing iFIX system
	ОК

This error can be difficult to resolve and may require a system reboot.

Step 2: Launch ScadaPhone, select Development Mode, create new project

After clicking the **ScadaPhone** desktop icon, ScadaPhone's main window will appear; to determine ScadaPhone's current **Mode**, examine the status bar at the bottom of the window:

💋 ScadaPhone			
File Mode Options V	Window Logs Modem(s) Web Server ScadaLink TTP Sche	duler Session Help
Project 🕨	Load/New		
Program 🕨	Recent	Contacts (0) Users (0) Menus	(2) Wav Files (0)
Exit	Save	Select Directory	
Alarm Group	Save As	Select Directory	
	Export	Directory Name:	- Provide Party
	Import	C: Scada i EC (ScadaPhone (Projects (PixAlari	mbrowserDemo
	Create Restore Point	Directories:	<u>Files: (*.*)</u>
	Restore		AckTagInfo.csv
	Explore	Scada Phone	CalloutScheduleDOWDefaults.csv
	Compatibility	Projects	CModemConfigStrings.csv
-		👝 Project1	ContactSchedules.csv
		ActivityLogs	Driver
		CalloutControllerLogs	
			OK Cancel
07:39:43 Development Mo	de		

If ScadaPhone is not in **Development Mode**, click the **Mode** menu item and select **Development Mode** from the drop-down menu.

Initially, ScadaPhone installs with either **SampleProject** or **Project1** selected; it is recommended that a more meaningful and descriptive project name be selected. For this example, the project name will be set to **iFixAlarmBrowserDemo**. To set the project name click **File | Project | Load/New** to open the **Select Directory** window (ScadaPhone projects are collections of files encapsulated within directories). Next, set the **Directory Name** to the desired location and click **OK**.

If the selected directory does not yet exist, a prompt to **Create Directory** will be displayed; click **Yes**. If any changes to the currently loaded project are detected, a prompt to **Save Changes** will be displayed; again, click **Yes**.

Step 3: Link ScadaPhone to the iFix HMI/SCADA OPC-DA Server

ScadaPhone's linkage to **DDE**, **OLE** or **OPC** data servers is handled under the **ScadaLink** menu item on ScadaPhone's main window:

ScadaPhone		
File Mode Options Window Logs Modem(s) Web C:\ScadaTEC\ScadaPhone\Projects\iFixAlarmBrowserDemo Logs Alarms (0) Discretes (0) Analogs (0) Strings (0) Eloat New Browse Edit Play Delete Alarm Group Alarm Name Message	Server ScadaLink TTP Scheduler Setup Conta Scan Rate ScadaLink Setup Enabled Interface Type DDE OPC OLE Selected Server <blank> Server on remote machine Remote Machine Name Scan Cancel</blank>	Session Help 0) ScadaLink Setup Canabled Interface Type DDE DDE OPC OLE Selected Server ScadaTEC OPCHub OPCHub.OPCServer.1 Server on remote machine Remote Machine Name Scan Use OPC Private Security User Name
08:22:46 Development Mode		User Password OK Cancel

The initial values from the new (empty) project will cause the ScadaLink Setup window to display

- Enabled: Unchecked
- Interface Type: DDE
- Selected Server: <BLANK>

To proceed, place a check mark in **Enabled** box and select the **OPC** Interface Type; when **OPC** is selected, the **Selected Server** blue-hyperlink text will change to a default value; to specify the **iFix HMI/Scada** server, click the blue-hyperlink text. This will open ScadaPhone's **OPC Server List** window.

Note: ScadaPhone's **OPC Server List** window uses **OPC Server Enumeration** (**OpcEnum**) which is implemented via the **OPC Core Components**. The OPC Core Components must be installed on the host computer for ScadaPhone to browse OPC Server for tags. An installer for the **OPC Core Components** can be downloaded from:

https://opcfoundation.org/developer-tools/samples-and-tools-classic/core-components/

Step 4: Selecting the iFix OPC Server

Clicking the **Selected Server** blue-hyperlink label on the **ScadaLink Setup** window opens the **OPC Server List** window. This window uses **OpcEnum** to build a list of all available **OPC-DA Servers** installed on the host computer. If the **iFix OPC Server** is correctly installed, there should be at least one item containing "**iFix**" in the **OPC Server List**:

🧭 OPC Server List			×
Browse Remote View Registry Dump			
Selected OPC Server: Click blue labels below to edit manually, click list item below to select. Server Name: OPC Data Access 2.0 Server for iFix Server Prog ID: Intellution.OPCiFIX.1 Server Status: Installed: Server found @ C:\Program Files (x86)\Proficy\Proficy iFIX\OPC20iFIX.exe			
TEST5 (Local)			
Server Name	Prog ID	Vendor	Status
CIPTagServer GUI OPCServer CIPTagServer Service OPCServer iFIX OPC Client Data Access Server ISaGRAF Gateway OPC DA Server V3.5 My Opc Server OPC Data Access 2.0 Server for iFix OPCHub GUI OPCServer OPCHub Service OPCServer Proficy iFIX OPC EDA in-process server ScadaPhone OPC Server	CIPTagServer.OpcServer.1 CIPTagServerService.OpcServer.1 Intellution.iFixOPCClient ISaGRAF.Gateway.OPC.DA30.5 ScadaPhoneTestServer.OpcServer.1 Intellution.OPCiFIX.1 OPCHub.OpcServer.1 OPCHubService.OpcServer.1 Intellution.OPCEDA.3 ScadaPhone.OpcServer.1	ScadaTEC ScadaTEC Intellution, Inc. Rockwell Automation Canada, Ltd. Unknown Vendor ScadaTEC ScadaTEC ScadaTEC	Installed, OK Installed, OK Installed, OK Installed, OK Installed, OK Installed, OK Installed, OK Installed, OK Installed, OK Installed, OK
Show Installed Servers Only OK Cancel			

Depending upon the iFix version installation history of the host computer, various versions of the **iFix OPC Server** may be present in this list.

On the host computer used to create the preceding screen capture, there are varying browse results depending upon which server is selected:

- Intellution.OPCiFix.1 (recommended) worked perfectly.
- Intellution.iFix.OPCClient (not recommended) returned no results.
- Intellution.OPCEDA.3 (not recommended) took an *extremely* long time to scan.

The list of available servers on your computer may vary. If a selected server does not work properly, try choosing another.

Click on the desired server connection to select it, then click **OK** to exit the **OPC Server List** window. Focus will return to the **ScadaLink Setup** window. The **Selected Server** will be displayed. Click **OK** to save this option and exit the **ScadaLink Setup** window.

Step 5: Initiate the Alarm Browse

Once the **ScadaLink** has been correctly configured the **Alarms** tab can be used to browse for **Alarms** The **Alarm Browse Source Selector** window will display:

💈 ScadaPhone
File Mode Options Window Logs Modem(s) Web Server ScadaLink TTP Scheduler Session Help
C:\ScadaTEC\ScadaPhone\Projects\iFixAlarmBrowserDemo
Logs Alarms (0) Discretes (0) Analogs (0) Strings (0) Contacts (0) Users (0) Menus (2) Wav Files (0)
Eloat New Browse Edit Play Delete
Alarm Group Alarm Name Message
Alarm Browse Source Selector
ScadaLink Setup TTP Client Setup
Select the server connection you wish to browse
ScadaLink connection: OPC Data Access 2.0 Server for iFix
OK Cancel
11:10:09 Development Mode

If the current ScadaPhone project has no tags defined or no other server connections configured, there will only be one option for a browsing source (the **ScadaLink OPC** connection to **iFix**); select the list item and click **OK**.

At this point in the browse process, the user will be presented with an opportunity to narrow the search results by imposing the **iFix Alarm Browse Filter**:

🧕 iFix Alarm Browse Filtering	—
Enter filter criteria below or leave blank for no f	iltering
Filter Strings (one per line)	Filter String Prefix Characters
4 F	I OR Must contain any (default) & AND Must contain all ! NOT Must not contain any < Prefix
Filter: <blank></blank>	Cancel

This filter is **optional**, and for most users, can be left **blank**. This filter is useful if the **iFix project** being browsed contains tens-of-thousands of tags and the system designer only wants to select from tags from specific system nodes (SITE1, SITE2, SITE3...). In that case, the user can enter the node name (e.g. **SITE1**) in the **Filter Strings** box and click **OK** to proceed. If the specified filter does not match any tags in the iFix project, the browse results will be empty.

Step 6: Select Browse Results

After clicking the **OK** button on the **iFix Alarm Browse Filtering** window, the browse operation will start. If the iFix project has a small number of Tags, the **OPC Browse Progress** window may not be displayed:

OPC Browse	Progress		
Scanning Ol OPC Serve A_NALM Secondary <blank></blank>	PC server for tags with th er Filter Criteria: / Client Filter:	he following filters:	
	Server Filter Matches: 13	32 Elapsed Time :	00:00:00
	Client Filter Matches: 13	32 Items / Sec :	328
	C	Stop Scan	

For large projects, it may take a minute or more to completely scan the iFix namespace. This window shows the user the browse status during long scans.

The **Secondary Client Filter** will display whatever has been entered as a filtering string in the previous step (in this case: <**BLANK>** for no filtering). Also note that there is an **OPC Server Filter Criteria** value specified as **A_NALM** (the **iFix block field** which denotes the "*In Alarm*" condition). By narrowing the search in this way, ScadaPhone can select only **iFix blocks** which have **alarm conditions** defined.

After the list of A_NALM tag list has been obtained, ScadaPhone performs a series of additional scans for tags having similar **block** names to the items in the A_NALM list, but ending with associated known **suffixes** such as **F_CV**, **A_NAME**, **A_INV**, **F_HI**, **F_LO**, etc.

After performing the additional scans, the **iFix Alarm Browser** window is displayed:

🚺 iFix Alarm Browser			- • •
Discrete Alarms (95) Analog Alarms (38)			
Select desired alarms via check-mark	Show Tags	Already Used In Alarms	
♥ FXLINF_FLOW ♥ FXLOPP_AS_CB_LEVEL_SCALED ♥ FIXLOPP_AS_CO_LEVEL_SCALED ♥ FIXLOPP_CO_MB_GAS_LVL_HLSP ♥ FIXLOPP_CO_GAS_LVL_HLSP ♥ FIXLOPP_FLOW ♥ FIXLOPP_FLOW ♥ FIXLOPP_LOG_MB_CALL_TM ♥ FIXLOPP_LOW_WE_LVL_SP ♥ FIXLOPP_LOW_WE_LVL_SP ♥ FIXLOPP_LOW_WW_LVL_SP ♥ FIXLOPP_MMR_CB_LEVEL_SCALED ♥ FIXLOPP_OC_GAS_LVL_HLSP ♥ FIXLOPP_OV_WW_LIVL_SP ♥ FIXLOPP_OV_MWR_LIVL_SCALED ♥ FIXLOPP_OF_OC_GAS_LVH_HSP			A H
🔽 All 🗌 All Select All Deselect All	Selection(s)	Selection(s)	
Use Filter Filter String			Case Sensitive
Create Alarms U	sing Checked Tags [133]	Close Alarm Browser	

The **iFix Alarm Browser** window shows **iFix block names** detected to have alarm conditions defined (A_NALM tags). To create corresponding alarms in the ScadaPhone project, put a check-mark next to all desired blocks (or click the **All** button). Do this for both **Discrete** and **Analog Alarms**.

Step 7: Inspect Browse Results:

After selecting the desired iFix blocks and clicking the **Create Alarms Using Checked Tags** button, ScadaPhone will define alarms into the ScadaPhone project. Any alarm can be inspected by double-clicking an alarm name in the **Alarms** tab:

💋 ScadaPhone		
File Mode Options	s Window Logs Modem(s) Web Server ScadaLink TTP Scheduler Session Help	
C:\ScadaTEC\ScadaPh	none\Projects\iFixAlarmBrowserDemo	
Logs Alarms (133)	Discretes (235) Analogs (133) Strings (9) Contacts (7) Users (3) Menus (2) Wav Files (126)	
<u>F</u> loat <u>N</u> ew <u>B</u> rowse	Ed <u>i</u> t <u>P</u> lay De <u>l</u> ete Di <u>s</u> able	
Alarm Group	Alarm Name Message	
General (133)	FIX.INF_FLOW FIX.INF_FLOW	<u>^</u>
3	FIX.OPP_ALM_RST OPP ALARM RESET FROM SCADA FIX.OPP_AS_CR_LEVEL_SCALED OPP_ACCESS_SHELTER_COMBUSTIBLE GAS_LEVEL	=
4	FIX.OPP_AS_CB_LVL_H_ALM OPP ACCESS SHELTER COMBUST GAS HIGH ALM	
5	FIX.OPP_AS_CO_LEVEL_SCALED OPP ACCESS SHELTER CO GAS LEVEL	
7	HX.OPP_AS_CO_LVL_H_ALM OPP ACCESS SHELTER CO GAS HIGH ALM	
8	Alarm Information	
	Browse Alarms	
11	Alarm Type 💿 Discrete Alarm 💿 Analog Alarm 🔲 Local (store in Alarms.Local.txt)	
12	Tag/Alarm Name FDX.OPP_AS_CO_LEVEL_SCALED	
13	Ack Tag Name FIX.OPP_AS_CO_LEVEL_SCALED.A_NALM	
15	(Optional) Auto-Suffix	
16	Alarm Group General	*
15:34:45 Development	Priority Normal Filter Delay Do Not Filter	.4
	Fnabled Runtime Enable Exp <blank></blank>	
	Latching Phone Ack Over Range Limit BLANK (No Alarm)	
	Console Ack Required High Limit BLANK (No Alarm)	
	Latching Console Ack High Limit FIX.OPP_AS_CO_LEVEL_SCALED.F_H Low Limit FIX.OPP_AS_CO_LEVEL_SCALED.F_LO	
	Inverse Trigger Logic (0=Active) Low Low Limit BLANK (No Alarm)	
	✓ Inverse Ack Logic (0=Acked) Under Range Limit BLANK (No Alarm)	
	Text message for email/alpha-numeric pagers (optional) Syntax Help Multi-Line Edit	
	OPP ACCESS SHELTER CO GAS LEVEL Browse	
	Display Format: OPP ACCESS SHELTER CO GAS LEVEL	
	Voice Message Composition	
	WavFile(OPP ACCESS SHELTER CO GAS LEVEL)	
	\Diamond	
	Add Insert Edit Remove Play	
	OK, Previous OK, Next OK, New OK Cancel	

Note that ScadaPhone's Alarm Browser has used the iFix Block name as the Tag/Alarm Name. This value is actually obtained from the Block.F_CV value without the F_CV suffix (this is done by defining a ScadaLink alias). Also note that the Ack Tag Name alarm field has been set to Block.A_NALM; this allows ScadaPhone to monitor and control the alarm's acknowledgement status.

Other **iFix Block** fields are obtained during the browse, and their values are used as appropriate:

- The **Block.A_DESC** field is polled during the browse, and the values obtained are used to configure the ScadaPhone alarm **Text** and **Voice Message** fields (highlighted in previous image).
- For Analog alarms, the appropriate Block.F_HI and Block.F_LO fields are added to ScadaPhone's Analog Alarm Limit fields (highlighted in previous image).
- **Discrete** alarms are also filled-in with the appropriate values: The **Block.A_INV** values are polled, and the ScadaPhone **Inverse Trigger Logic** alarm fields are set accordingly. (highlighted below)
- All iFix alarms are configured with Inverse Ack Logic; this reflects the behavior of the Block.A_NALM tag.

Alarm Information				? 🛛
Browse Alarms				
Alarm Type 💿 Discrete Alarm 🔇	🔵 Analog Alarm	🔲 Local (store in	Alarms.Local	.txt)
Tag/Alarm Name FIX.OPP_AS_CO	_LVL_H_ALM			
Ack Tag Name FIX.OPP_AS_CO	_LVL_H_ALM.A_N	ALM		
Alarm Group, General				
Priority Normal	Filter D	elay Do Not Filter		
Console Ack Time 01:00:00	Re-Alarm D	elay Do Not Re-Al	arm	
Tenabled	Runtime Enable	Exp <blank></blank>		
Latching Phone Ack	Over Range	Limit N/A		
Console Ack Required	High High	Limit N/A		
Latching Console Ack	High	Limit N/A		
Automatically Ack When Report	ed Low	Limit N/A		
Inverse Trigger Logic (0=Active)	Low Low	Limit N/A		
✓ Inverse Ack Logic (0=Acked) Text message for email/alpha-nun	Under Range neric pagers (opti	Limit N/A onal) Syntax Help	Multi-Line f	Edit
Inverse Ack Logic (0=Acked) Text message for email/alpha-nun OPP ACCESS SHELTER CO GAS HIG	Under Range heric pagers (opti H ALM	Limit N/A Ional) Syntax Help	Multi-Line E	Edit Browse
Inverse Ack Logic (0=Acked) Text message for email/alpha-nun OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL	Under Range neric pagers (opti H ALM TER CO GAS HIGH	Limit N/A onal) Syntax Help H ALM	Multi-Line E	Edit Browse
Inverse Ack Logic (0=Acked) Text message for email/alpha-nun OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition	Under Range heric pagers (opti H ALM TER CO GAS HIGH	Limit N/A Ional) Syntax Help	Multi-Line E	dit Browse
✓ Inverse Ack Logic (0=Acked) Text message for email/alpha-nun OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER C	Under Range heric pagers (opti H ALM TER CO GAS HIGH O GAS HIGH ALM)	Limit N/A onal) Syntax Help H ALM	Multi-Line E	dit Browse
✓ Inverse Ack Logic (0=Acked) Text message for email/alpha-nun OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER C	Under Range neric pagers (opti H ALM TER CO GAS HIGH O GAS HIGH ALM)	Limit N/A onal) Syntax Help H ALM	Multi-Line E	dit Browse
✓ Inverse Ack Logic (0=Acked) Text message for email/alpha-nun OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER CO	Under Range heric pagers (opti H ALM TER CO GAS HIGH O GAS HIGH ALM)	Limit N/A onal) Syntax Help H ALM	Multi-Line B	dit Browse
Inverse Ack Logic (0=Acked) Text message for email/alpha-nun OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER CO	Under Range heric pagers (opti H ALM TER CO GAS HIGH O GAS HIGH ALM)	Limit N/A onal) Syntax Help H ALM	Multi-Line B	dit Browse
✓ Inverse Ack Logic (0=Acked) Text message for email/alpha-nun OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER Co	Under Range heric pagers (opti H ALM TER CO GAS HIGH O GAS HIGH ALM)	Limit N/A onal) Syntax Help H ALM	Multi-Line B	Edit Browse
✓ Inverse Ack Logic (0=Acked) Text message for email/alpha-nun OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER Co	Under Range heric pagers (opti H ALM TER CO GAS HIGH O GAS HIGH ALM)	Limit N/A onal) Syntax Help H ALM	Multi-Line B	dit Browse
Inverse Ack Logic (0=Acked) Text message for email/alpha-num OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER CO	Under Range heric pagers (opti H ALM TER CO GAS HIGH O GAS HIGH ALM)	Limit N/A onal) Syntax Help H ALM	Multi-Line B	Edit Browse
Inverse Ack Logic (0=Acked) Text message for email/alpha-num OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER C	Under Range	Limit N/A	Multi-Line f	dit Browse
Inverse Ack Logic (0=Acked) Text message for email/alpha-num OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER C Add Inse	Under Range heric pagers (opti H ALM TER CO GAS HIGH O GAS HIGH ALM)	Limit N/A onal) Syntax Help A ALM Remove	Multi-Line F	Edit Browse
Inverse Ack Logic (0=Acked) Text message for email/alpha-num OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER CO Add Inser	Under Range heric pagers (opti H ALM TER CO GAS HIGH O GAS HIGH ALM) t Edit	Limit N/A onal) Syntax Help A ALM Remove	Multi-Line E	Edit Browse
Inverse Ack Logic (0=Acked) Text message for email/alpha-num OPP ACCESS SHELTER CO GAS HIG Display Format : OPP ACCESS SHEL Voice Message Composition WavFile(OPP ACCESS SHELTER CO Add Insec OK, Previous OK, Ne	Under Range Heric pagers (opti H ALM TER CO GAS HIGH O GAS HIGH ALM) O GAS HIGH ALM) t Edit ext OK, Ne	Limit N/A onal) Syntax Help A ALM Remove W OK	Multi-Line E	dit Browse

In addition to adding items to the ScadaPhone Alarms list, the alarm browse also populates the **Analog** Tag, **Discrete** Tag and **Wav File** lists of the ScadaPhone project:

Discretes (228)		
Main Window Dock	Aodify Value	
Type Tag Name	Value	
OPC FIX.INF_FLOW.A_	NALM 0	
OPC FIX.OPP_ALM_RS	T ?0	
OPC FIX.OPP_ALM_RS	T.A_NALM 0	
OPC FIX.OPP_AS_CB_L	Analogs (115)	
OPC FIX.OPP AS CB L	Main Window Dock Modify Value	
OPC FIX.OPP_AS_CO_	Type Tag Name Value	
OPC FIX.OPP_AS_CO_	OPC FIX.INF FLOW ? 0	A
OPC FIX.OPP_AS_CO_	OPC FIX.INF_FLOW.F_HI 25	
OPC FIX.OPP_COIVIB_	OPC FIX.INF_FLOW.F_LO 0	
OPC FIX.OPP EXHAUS	OPC FIX.OPP_AS_CB_LEVEL_SCALED ? 0	
	OPC_FIX.OPP_AS_CB_LEVEL_SCALED.F_HI 100	
Filter List	OPC FIX.OPP AS CO Wav Files (126)	
	OPC FIX.OPP_AS_CC Main Window Dock New Record Generate Play Edit Delete File Info	
	OPC FIX.OPP_AS_C0 WAV File Name	
	OPC FIX.OPP_COMI FIX.INF FLOW	
	OPC FIX.OPP_COMIL FIX.OPP FLOW	=
	OPP ACCESS SHELTER CO GAS HIGH ALM	
	Filter List OPP ACCESS SHELLER CO GAS LEVEL	
L		
	OPP ALARM RESET FROM SCADA	
	OPP COMBUSTIBLE GAS HIGH ALARM SP	
	OPP COMBUSTIBLE GAS LEVEL HIGH ALARM SP	
	OPP EXHAUST FAN AIR FLOW LOW	
	OPP EXHAUST FAN RUNNING INDICATION	
	OPP H2S GAS LEVEL HIGH ALARM	
	OPP H2S GAS LEVEL HIGH ALARM SP	-

Note that the entire list of **WAV Files** is initially displayed in red font; this indicates that the WAV files do not yet exist. This is not a problem, ScadaPhone will use the **Windows Text To Speech** interface to create any missing WAV files; however, since the text-to-speech engine will be asked to render whatever text was read from the **A_DESC** fields during the browse, some of the speech audio may be difficult to understand if the alarm messages contain names and abbreviations which the text-to-speech engine may not recognize.

See **ScadaPhone WAV Phrase Organizer** documentation for instructions to optimize the text-to-speech alarm messages.

To generate all of the necessary WAV files at once:

- Highlight any WAV File Name in the WAV Files list (this will enable the Generate menu item).
- Click the Generate menu item to open the Generate Missing Wav(s) window.
- Click the Create All Missing Wav Files button.
- When the generation process is finished, all items will change from red font to black; this indicates that the files exist.

Gen	erate Missing Wav(s)	- X
	Generate Only The Selected Way File	
	Scheldte only the Schelted Way the	
0	PP ACCESS SHELTER CO GAS LEVEL	
	Create All Missing Wav Files (126)	
0	PP ACCESS SHELTER COMBUSTIBLE GAS LE	VEL
R	SP PUMP 9 SPEED INDICATION SCALED	
0	PP ACCESS SHELTER CO GAS HIGH ALM	
R	SP PUMP 7 SPEED INDICATION SCALED	
0	PP EXHAUST FAN RUNNING INDICATION	
R	SP PUMP 8 SPEED INDICATION SCALED	
R	SP PUMP 7 DISCHARGE VALVE CLOSED	
0	PP COMBUSTIBLE GAS HIGH ALARM SP	
0	PP RSP PUMP 7 VALVE CLOSED ALARM	
0	PP SUPPLY FAN RUNNING INDICATION	

Step 8: Record WAV Audio (optional)

WAV files can be recorded manually by using a microphone connected to either the system sound-card or a voice modem.

Step 9: Alarm Group Assignment (optional)

ScadaPhone's **iFix Alarm Browser** simply places all alarms into the default **General** Alarm Group. In many systems it is desirable to separate alarms into logical groups. Each group has its own lists of contacts. ScadaPhone's **Alarm Attribute Organizer** facilitates this process:

SeedeDhama		
File Mode Ontions	Window Logs Modem(s) Web Server	r Scadal ink TTD Scheduler Session Heln
C:\ScadaTEC\ScadaPho	Alarm Attribute Organizer	
Logs Alarms (133)	Tag Property Organizer	Contacts (7) Users (3) Menus (2) Wav Files (126)
Float New Browse	WAV File Phrase Organizer	
Alarm Group	Audio Analyzer	Message
General (133)	ColoredLog Disk I/O Status	FIX.INF_FLOW
2 3 Alarm At	tribute Organizer	
Alarm Mess	age CSV Import Tool – Alarm Bypass Config	juration
General	0₩	
FIX.INF_FL FIX.OPP_A FIX.OPP_A	OW LM_RST S_CB_LEVEL_SCALED	
FIX.OPP_A	S_CB_LVL_H_ALM S_CO_LEVEL_SCALED	
12 FIX.OPP_A	S_CO_LVL_H_ALM	
FIX.OPP_C	O_GAS_LVL_HI_SP OMB_GAS_LVL_HI_SP	Alarm Groups
15 FIX.OPP_E	XHAUST_FAN_AIR_FLOW_LOW	
FIX.OPP_E	XHAUST_FAN_RUNNING LOW	Alarms can be grouped into different groups so that ScadaPhone can be configured to call specific contacts for different types of alarms.
15:49:09 [FIX.OPP_G	O_INDICATION	Use the list below to configure the desired number of Alarm Groups
FIX.OPP_H	IZS_GAS_LVL_H_ALM IZS_GAS_LVL_HI_SP	Alarms Alarm Group
FIX.OPP_H	IDW_LVL_H_ALM	133 General New Alarm Group
FIX.OPP_L	AG_PMP_CALL_TM OW_WW_LVL_SP	Enter the name of the new alarm group
Select All	Clear Selection Edit Alarm Groups	WTP
List Filter	Filter String	OK Cancel
Selected A	larm Attributes	
Enabled		New Delete Rename
Local S	torage Al	
Consol	e Ack Required	Close
Latchin	g Console Ack Console	
Autom	atically Ack When Report Re-A	larm Delay N/A
Inverse	Ack Logic (0=Acked) Ana	alog Limits N/A
Undo	Close	

Click the **Edit Alarm Groups** button to open the **Alarm Groups** window. Use the **New** button to create as many **Alarm Groups** as needed. When the list of **Alarm Groups** is complete, the **Alarm Attribute Organizer** can be used to assign each alarm into its appropriate group.

Note that any alarm groups added during the Edit Alarm Groups step will appear as tabs in the Alarm Attribute Organizer (see WTP and WWTP tabs highlighted below):

Alarm Attribute Organizer		
Alarm Message CSV Import Tool Alarm Bypa	ss Configuration	
General WTP WWTP		
FIX.INF_FLOW		A
FIX.OPP_ALM_RST		
FIX.OPP_AS_CB_LEVEL_SCALED		
		Select Alarm Group
FIX.OPP_COMB_GAS_LVL_HLSP		
FIX.OPP EXHAUST FAN AIR FLOW LOW		General
FIX.OPP EXHAUST FAN RUNNING		WTP
FIX.OPP_FLOW		WWIP
FIX.OPP_GO_INDICATION		
FIX.OPP_H2S_GAS_LVL_H_ALM		
FIX.OPP_H2S_GAS_LVL_HI_SP		
FIX.OPP_HDW_LVL_H_ALM		
FIX.OPP_LAG_PMP_CALL_TM		
FIX.OPP LOW WW LVL SP		
Select All Clear Selection Edit Alarm G	roups	
C List Filter		Edit Alarm Groups
Filter Filter String		OK Cancel
Selected Alarm Attributes		
V Enabled	AlarmType	Discrete Analog Both Types
	Alarm Group	General
Latching Phone Ack	Priority	Normal
Console Ack Required	Filter Delay	Do Not Filter
Latching Console Ack	Console Ack Time	01:00:00
Automatically Ack When Report	Re-Alarm Delay	Do Not Re-Alarm
Inverse Trigger Logic (0=Active)	Runtime Enable Exp	<blank></blank>
V Inverse Ack Logic (0=Acked)	Analog Limits	<multiple values=""></multiple>
	- 3	
Undo		

To move alarms from one group to another: Highlight them (using the standard windows *left-click*, *control-left-click* and *shift-left-click* actions) and then click the blue **Alarm Group** label to open the **Select Alarm Group** window. Selecting a new **Alarm Group then** clicking **OK** will move all of the selected alarms to the selected group.

Other alarm fields (such as **Priority**, **Filter Delay**, etc.) can also be manipulated in the **Alarm Attribute Organizer**. After making all desired changes, click the **Close** button to return to ScadaPhone's main window.

Step 10: Assigning Contacts to Alarm Groups

Before any alarm-report testing can be done, **Contact Sequences** must be configured for each **Alarm Group**. The first step in defining **Contact Sequences** is to define the **Contacts** which will be called.

Contacts are normally created and configured from the **Contacts** tab of ScadaPhone's main window; however, Contacts can also be created from within ScadaPhone's **Scheduler**:

ScadaPhone File Mode Options Window Logs Modem(s) V C:\ScadaTEC\ScadaPhone\Projects\iFixAlarmBrowserDem Logs Alarms (133) Discretes (228) Analogs (115) S	Veb Server ScadaLink TTP Scheduler Session Help 10 Strings (9) Contacts (8) Users (3) Menus (2) Wav Files (126)
Scheduler	
WTP (25) WWTP (108)	
Action Scheduling Co Schedule names Cor 2019-09-23(Mon) Day-of-week defaults Woekday Monday: Weekday Weekend Tuesday: Weekday Weekeday Friday: Weekday Saturday: Weekday Saturday: Weekday New Edit Delete	ntact Scheduling ntact List (listed in sequence of callout) Bob (Duty) Dave (Duty) (Off Duty) Bob (Day) (Off Duty) Bob (Day) (Off Duty)
Delete Expired Schedules Configure Upcoming Hours	Link To Next Contact dd/Remove Contacts Edit A A C ATION Ity schedule Hty schedul
WTP WWTP	Alarm Contact
Available Contacts Selected Contacts Tom (Day) Bob (Day) Tom (Duty) Bob (Duty) Dave (Day) Dave (Day) Dave (Duty) Supervisor	Contact Info Imabled Emergency Operator (one call per alarm cycle) Explanation Contact Name Bill (Duty) Imable Contact Type Explanation Associated User Select Contact Type Enable Tag Voice Audio (Voice Modem) Ponter Tag Imable Voice Audio (Voice Modem) Enable Tag Imable Tag Imable Tag Voice Contact S Imail Message (SMTP Client) Email Message (SMTP Client) Imail Collular SMS Text (Cellular Modem) Phone Number Occludar SMS Text (Cellular Modem) Pager Text Message (TAP, SNPP) Imail Numeric Pager (Voice Modem) Scripts in a loop Mark as "Rep OK AFter dialing, Imail Newserger Veryourse AFter dialing, Play alarm list repeatedly for: 1 Minute If the contact presses a touch tone key, play the following menu: SAlarmMenu
	Call Persistence Contact Persistence Ack Timeout = 10 Minutes Hint I attempt Time I count Time I count I attempt I attempt OK

Note that the **Scheduler** uses a tabbed page control to select the **Alarm Group** to be configured; after selecting the desired **Alarm Group** tab, the **Add Remove Contacts** button opens the **Alarm Contact Grouping** window. This window lists all **Contacts** defined in the ScadaPhone project, separated into two lists: **Available Contacts** and **Selected Contacts**. If there are no **Contacts** defined, both lists will be blank.

To create **Contacts**, click the **New** button under the **Available Contacts** list box; this opens the **Alarm Contact** window. The selection of **Contact Type** depends upon the type of devices being utilized to report alarms (i.e. **Voice Modem**, **Cell Modem/Router**, **Email**, etc.). To create numerous contacts, use the **OK**, **New** button until all desired **Contacts** have been defined.

Step 11: Run Mode Testing

After completing the previous steps, the ScadaPhone project is ready to be tested. This first thing to test is the **ScadaLink** (OPC) connection between ScadaPhone and iFix.

Important: If **iFix** is not running, *launch it before attempting to establish an OPC connection from ScadaPhone*; otherwise, the iFix error described in <u>Step_1</u> of this document will occur (resolving this error may require a reboot). After confirming that the **iFix HMI** is running, do the following:

- 1. Put ScadaPhone into Run Mode by clicking Mode | Runtime
- 2. Open the ScadaLink Status window by clicking ScadaLink | Status
- 3. Check the **Scan Rate** label and adjust its polling rate so that there are pauses between scans.



The **ScadaLink Status** window gives a summary overview of the polling status. If the polling **Success** rate is less than 100%, a more detailed view of the polling status can be found in the **Polling Response Log**. Question mark (?) by a Tag indicates that this Tag is not available in the OPC Server.

The **ScadaPhone Polling Response Log** can be opened by clicking the **Logs | Polling Response Log** menu item:

💋 Sca	daPhone								- • •
File	Mode Options Wi	ndow Logs	Modem(s)	Web Server	ScadaLink	TTP	Scheduler	Session Help	
C:\Sca	daTEC\ScadaPhone\P	Projects	Activity Log		1				
Logs	Summary (0) Ala	rms (13	Alarm Histor		rings (9		tacts (8) Use	rs (2) Menus (2) Way	(Files (126)
Logs			Alarm Histor	y	ings (5	/ 00			(11C3 (120)
<u>F</u> loat	M <u>o</u> dify Value		Call Log						
Type	Tag Name		Callout Cont	roller Log			Value		
OPC	FIX.INF_FLOW		Contact Segu	ience Loa			?0		
OPC	FIX.INF_FLOW.F_HI		Enerlan				25		
OPC	FIX.INF_FLOW.F_LO		EnorLog				0		
OPC		EL_SC/	Performance	Log			20 100		
OPC	FIX.OPP_AS_CB_LEV	/FL_SC/	Polling Respo	onse Log			0		
0.000							10		
🚪 ScadaPho	one Polling Response l	Log							
Main Windo	w Dock Other Log	gs							
ſag Handle	Tag Name			Tag Type	Tag Val	ue	Last Read	Time-Stamp	Quality
01E27E10	FIX.INF_FLOW.A_NA	LM		OLEStr	NO		10:36:43	2019/10/02 17:36:43	Good
01E28F70	FIX.INF_FLOW.F_CV			Single	0		10:36:43	2019/10/02 17:36:43	? Bad, Out of service
01E29050	FIX.INF_FLOW.F_HI			Single	25		10:36:43	2019/10/02 17:36:43	Good
01E29130	FIX.INF_FLOW.F_LO			Single	0		10:36:43	2019/10/02 17:36:43	Good
01E29210	FIX.OPP_ALM_RST.A	NALM		OLEStr	NO		10:36:43	2019/10/02 17:36:43	Good
01E292F0	FIX.OPP_ALM_RST.F_	_CV		Single	0		10:36:43	2019/10/02 17:36:43	? Bad, Out of service
01E293D0	FIX.OPP_AS_CB_LEVE	EL_SCALED.A	NALM	OLEStr	NO		10:36:43	2019/10/02 17:36:43	Good
01E29508	FIX.OPP_AS_CB_LEVEL_SCALED.F_CV Sing		Single	0		10:36:43	2019/10/02 17:36:43	? Bad, Out of service	
01E29E30	0 FIX.OPP_AS_CB_LEVEL_SCALED.F_HI Single		100		10:36:43	2019/10/02 17:36:43	Good		
01E29F58	FIX.OPP_AS_CB_LEVE	EL_SCALED.F	LO	Single	0		10:36:43	2019/10/02 17:36:43	Good
01E2A080	FIX.OPP_AS_CB_LVL	H_ALM.A_N/	ALM	OLEStr	NO		10:36:43	2019/10/02 17:36:43	Good
01E2A1A8	FIX.OPP_AS_CB_LVL	H_ALM.F_CV	1	Single	0		10:36:44	2019/10/02 17:36:43	? Bad, Out of service
01534300	TTY ODD AS COLLEN	EL CONTENA	NIALKA	01.04	NO		10.76.44	2010/10/02 17.26.42	C

This log lists all of the tags being polled by the ScadaLink interface and gives the results of the most recent polling attempt for each tag.

Note that the Quality column of the image above explains why the ScadaLink Status window was only indicating a 61.2% Success rate. All of the F_CV tag reads are returning a **Quality** value of **Bad**, **Out of service**; this is to be expected if the iFix communications are not active. Turning on the iFix communications should cause the success rate to rise to 100%.

This concludes the process of utilizing the ScadaPhone iFix Alarm Browser.