

Previs Inc.

Users Manual

Bailey DCS Simulator

Quick Console

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Prepared by:



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Managing Critical Microsoft® Technology

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Quick Console

1 Introduction

This manual is an addendum to the Previs Bailey DCS Simulator Users Manual, and provides a manual for Quick Console, most specifically a manual for the *BaileyDcsConsole.EXE* Client to the Bailey DCS Simulator.

Quick Console is intended to provide the means to make a quick operator console to help when testing DCS logic, without the need for any external software or operator console and the large associated configuration effort.

Bailey DCS Simulator version

The *BaileyDcsConsole.EXE* client (herein also called *Quick Console*) is included within the following Bailey DCS Simulator versions:

Version	Quick Console Included
<i>HMI</i> (HMI Test)	Included by Not Useful
<i>CC</i> (Composer Companion)	Yes
<i>OTS</i> (Operator Training Simulator)	Yes

2 Functions and Features

Key Functions and Features for the BaileyDcsConsole.EXE application are:

- Bailey DCS Simulator must be executing to use Quick Console, and the simulator license type must be either CC (Composer Companion) or OTS (Operator Training Simulator).
- Quick Console supports the rapid development of a table based HMI to support display states and to provide HMI control functions, similar to what an operator would have. The Quick Console table based console is a set of pages created manually by a user, or automatically from one of several sources.

Supported FC Types

Appendix A lists all the exception generating function code types that are supported by Quick Console.

3 Install and Configure Quick Console

Installation

Quick Console is always installed with the Bailey DCS Simulator. Refer to the Bailey DCS Simulator Users Manual for installation.

Before Attempting to Run the Quick Console

Before attempting to run this application in communication with simulator, i.e. do actual control, you must first ensure that:

- The Bailey DCS Simulator is correctly installed, and the USB license key for the Bailey DCS Simulator is installed.
- The default.INI file for the Bailey DCS Simulator is correctly configured to start the simulator, and that the Bailey DCS Simulator correctly loads all of your CFG files.
- There are no installation or configuration issues clearly evident at the Message Tab of the BaileySim client.
- The simulator starts & stops via the services control menu correctly each time, with all CFG files loaded.

For help, please refer to the Users Manual – Bailey DCS Simulator.

Run Quick Console

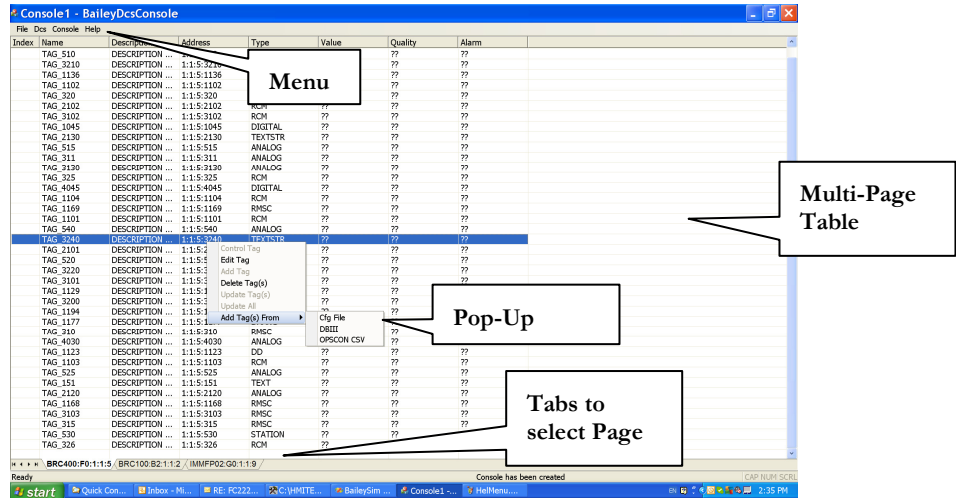
Run Quick Console (BaileyDcsConsole.exe) from the directory where Bailey DCS Simulator has been installed and:

- Select **File/Open** to load CSV console tag file if you have one.
- Otherwise create a new console using Console menu, as follows:
 - Select **Add Page** to create a new page
 - Double click on any page name to edit the page name
 - Select **Create from INI** to create a console from Bailey DCS Simulator default.ini file.
 - Select **Create from DBIII** to create a console from WinTools DBIII tag database file.
 - Select **Create from OPSCON CSV** to create a console from OPSCON CSV file.
- Right click on the page to display popup menu to add, delete, edit , update current status of the tag(s) on the page
- Select **DCS/Connect** to connect to the Bailey DCS Simulator.
- Right click any line to execute pop-up controls as you need to.
- Select **File/Save(Save As)** to save console CSV file.
- Select **File/Exit** to exit.

5. The User Interface

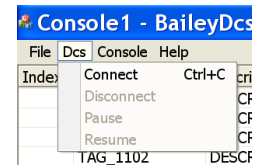
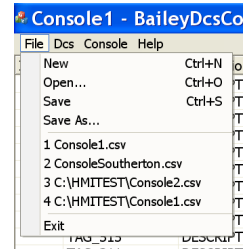
The Quick Console user interface has three main parts:

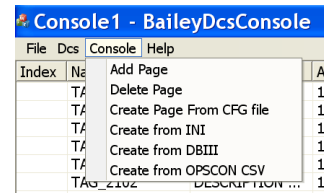
- Menu – Along the top
- Multipage table – With tabs to select the page
- Popup Menu – Accessed via right click at any line



Menu

- Menu – provides the following choices:
 - File – Provides the following options:
 - New – make empty 1 page console
 - Open – load console CSV file
 - Save – save console CSV file
 - Save As – save CSV with new name
 - Exit – terminates application
 - Dcs – Provides the following options:
 - Connect - connect to simulator
 - Disconnect – disconnect to simulator
 - Pause - pause simulator
 - Resume - resume simulator





- **Console** – Provides three file options:
 - **Add Page** - Add new page
 - **Delete Page** – Delete current page.
 - **Create Page From CFG File** – Create new page from selected CFG file. Each exception generating block in CFG will generate one line to the table.
 - **Create From INI** – Creates a page for each CFG file defined in default.ini by CONTROLLER line and load tags from the corresponded CFG file. Each exception generating block in CFG will generate one line to the table.
 - **Create From DBIII** - Creates a page for each module defined in WinTools DBIII tag database file and populate corresponded page by loading tags with the same module address.
 - **Create From OPSCON CSV** - creates a page for each module defined in OPSCON tag database CSV file and populate corresponded page by loading tags with the same module address.
- **Help** – Gives details re this application. Refer to Manuals for operating instructions.

Multipage Table

- **Tabs** – Use the tab control to select a page.
 - The default tab title is often defined as the module address.
 - Double click tab to change name.
- **Table** – spread sheet control, each row represents a function code of supported type. Columns:
 - **Index** – defined in DBIII or OPSCON CSV file, if used. Not required for Quick Console operation.
 - **Name** – tag name, defined automatically if possible. Can be changed by user.
 - **Description** - tag description, defined automatically if possible. Can be changed by user.
 - **Address** – {Loop : PCU : Module : Block}address
 - **Type** – The function code types for which control pop-ups are provided are listed in Appendix A, Table A.
 - **Value** – current value, when updated, as defined in Appendix A, Table A.

- **Quality** – current quality
 - Quality (Q) is BAD or GOOD for all FC types.
- **Alarm** – current alarm

Refer to Appendix A, Table A, for current alarm states supported for each FC type.

Popup Menu

Right click on any line to obtain a context sensitive pop-up menu, with the following options:

TAG_1101	DESCRIPTION ...	1:1:5:1101	RCM	??	??	??
TAG_540	DESCRIPTION ...	1:1:5:540	ANALOG	??	??	??
TAG_3240	DESCRIPTION ...	1:1:5:3240	TEXTSTR	??	??	??
TAG_2101	DESCRIPTION ...	1:1:5:2		??	??	??
TAG_520	DESCRIPTION ...	1:1:5:5		??	??	??
TAG_3220	DESCRIPTION ...	1:1:5:3		??	??	??
TAG_3101	DESCRIPTION ...	1:1:5:3		??	??	??
TAG_1129	DESCRIPTION ...	1:1:5:1		??	??	??
TAG_3200	DESCRIPTION ...	1:1:5:3		??	??	??
TAG_1194	DESCRIPTION ...	1:1:5:1		??	??	??
TAG_1177	DESCRIPTION ...	1:1:5:1		??	??	??
TAG_310	DESCRIPTION ...	1:1:5:310	RMSC	??	??	??
TAG_4030	DESCRIPTION ...	1:1:5:4030	ANALOG	??	??	??
TAG_1123	DESCRIPTION ...	1:1:5:1123	RD	??	??	??

- **Control Tag** – Open popup for selected tag. Be sure you are connected to DCS to activate this option. You may open multiple pop-ups at same time.
- **Edit Tag** – Edit tag name and other properties for selected tag.
- **Add Tag** – Manually add tag by defining tag name, description, loop, PCU, module, block and tag type
- **Delete Tag(s)** – Delete one or more selected tags.
- **Update Tag(s)** – Update current value, quality and alarm for one or more selected tags. Must be connected to DCS.
- **Update All** – Update current value, quality and alarm for all tags on page. Must be connected to DCS.
- **Add Tag(s) From** – Provides the following options:
 - **CFG File** – Displays the list of tags in selected CFG file and pick the tags you wish to add to this page.
 - **DBIII** – Displays the list of tags in selected DBIII file and pick the tags you wish to add to this page.
 - **OPSCON CSV** – Displays the list of tags in selected OPSCON tag database CSV file and pick the tags you wish to add to this page.

Appendix A - Popup Controls for each FC Type

This section describes the control pop-ups available for each Function Code type. Pop-ups have similar outlook and behavior as Bailey or OPSCON pop-ups.

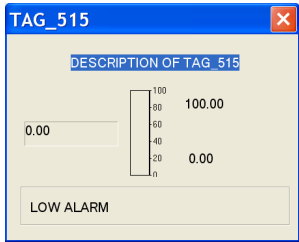
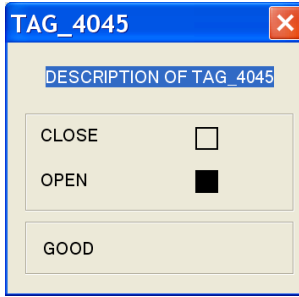
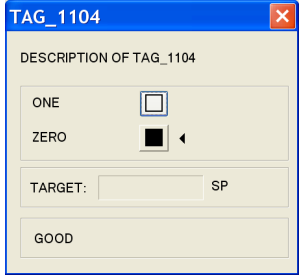
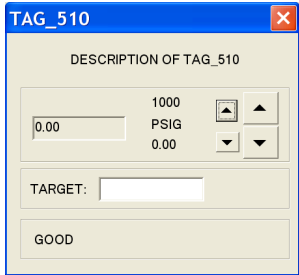
Table A - Popup Controls for each FC Type				
FC	FC DESC	CURRENT VALUE	ALARM STATES	POPUP
30	ANALOG	{analog output value}	NO HIGH LOW	
45	DIGITAL	{ON, OFF}	NORMAL ALARM	
62	RCM	{SET, RESET}	NORMAL ALARM	
68	RMSC	{analog output value}	{no alarm state}	

Table A - Popup Controls for each FC Type

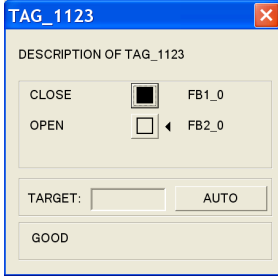
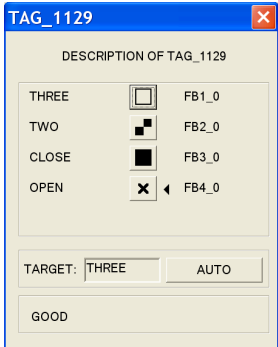
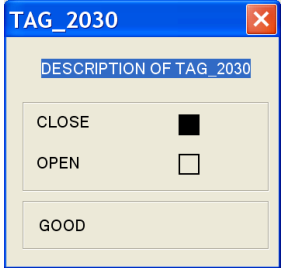
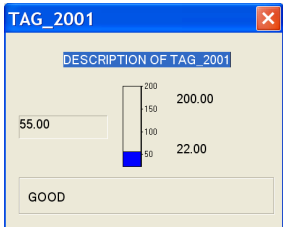
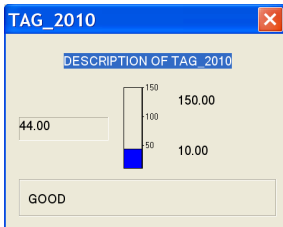
FC	FC DESC	CURRENT VALUE	ALARM STATES	POPUUP
80	STATION	<p>MODE: {MANUAL, AUTO}</p> <p>SP: {analog SP value}</p> <p>CO: {analog CO value}</p> <p>PV: {analog PV value}</p> <p>RI: {analog RI value}</p>	<p>NORMAL</p> <p>LOW</p> <p>HIGH</p>	
123	DD	<p>PV: {0, 1}</p> <p>MODE: {MAN, AUTO, REMOTE, UNUSED}</p>	<p>NORMAL</p> <p>ALARM</p>	
129	MSDD	<p>CO: {1, 0}</p> <p>MODE: {AUTO, MANUAL}</p> <p>GOOD STATE: {ZERO, FOUR, EIGHT, TWELVE}</p>	<p>NORMAL</p> <p>ALARM</p>	

Table A - Popup Controls for each FC Type

FC	FC DESC	CURRENT VALUE	ALARM STATES	POPUP
136	RMCB	{RUNNING, STOPPED}	NORMAL ALARM	
177	DAANG	{analog output value}	NORMAL LOW LEVEL 1 LOW UNDEFINED LOW LEVEL 2 LOW LEVEL 3 HIGH LEVEL 1 HIGH UNDEFINED HIGH LEVEL 2 HIGH LEVEL 3	
194	TEXTSTR	MODE: {AUTO, MANUAL} TEXT: {string output value}	YES NO	
222	ANALOG ENH/IN	{analog output value}	NORMAL HIGH LOW	

Table A - Popup Controls for each FC Type

FC	FC DESC	CURRENT VALUE	ALARM STATES	POPUP
223	ANALOG ENH/OUT	{analog output value}	NORMAL HIGH LOW	 <p>The screenshot shows a popup window titled 'TAG_2030'. It contains a 'DESCRIPTION OF TAG_2030' label, a 'CLOSE' button with a black square indicator, an 'OPEN' button with a white square indicator, and a 'GOOD' button.</p>
224	DIGITAL ENH/IN	{ON, OFF}	NORMAL ALARM	 <p>The screenshot shows a popup window titled 'TAG_2001'. It features a vertical scale with values 55.00, 100, 150, and 200.00. A blue bar indicates a current value of approximately 22.00. Below the scale is a 'GOOD' button.</p>
225	DIGITAL ENH/OUT	{ON, OFF}	NORMAL ALARM	 <p>The screenshot shows a popup window titled 'TAG_2010'. It features a vertical scale with values 44.00, 100, and 150.00. A blue bar indicates a current value of approximately 10.00. Below the scale is a 'GOOD' button.</p>