

QUICK START

DevCom2000 uses Device Descriptions (DDs) to access data stored in the memory of the smart field device. These DDs are developed by the manufacturer for their products and, in turn, distributed by the HART[®] Communication Foundation (HCF) worldwide. The latest DDs are included as part of the DevCom2000 installation. Visit the HCF website (www.hartcomm.org) or the ProComSol website (www.procomsol.com) for update information.

The following steps will allow you to install and quickly begin using DevCom2000:

Step 1: Install the DevCom2000 application

Insert the DevCom2000 installation CD into the CD drive on your computer. The DevCom2000 installation will automatically start and guide you through the installation process. Install DevCom2000 in its default location. If the installation program does not begin automatically, please go to Start \rightarrow Run \rightarrow and enter "CDRom drive letter":\DevCom2000Setup.exe. This will begin the installation program.

Step 2: Connect the communication interface

Connecting to a HART device requires special interface hardware to be attached to your computer. These interfaces ("HART Modems") are available from ProComSol, Ltd and other sources. The interface should be connected and configured. Note: Many USB to RS232 converters will not work with the HART protocol. Due to concerns about port replicators it may be necessary for you use a USB to HART modem (ProComSol, Ltd model HM-USB-ISO) if you do not have an RS232 port.

Step 3: Connect to the field device

Find a connection point for the device's 2-wire 4-20mA loop you wish to communicate with. For communications you must have a suitable load resistance or a 250Ω resistor must be placed in series with the device. Using the clips from the HART interface, connect to the HART device. While the HART Communication signal is available anywhere along the 4-20mA wiring, it is often easiest to connect across the field device's terminals (caution should be observed when working in a hazardous area, many PC's are not rated for intrinsic safety and should only be connected in a safe area).

Step 4: Activate DevCom2000

Launch DevCom2000 by selecting the DevCom2000 icon on your desktop. You can also start the application by going to your computer's Start Menu and selecting **Start** \rightarrow **Programs** \rightarrow **ProComSol** \rightarrow **DevCom2000** \rightarrow **DevCom2000** to launch the program.

You will now be asked to Activate DevCom2000. If you have Activation Codes (located on the CD case), select the Activation method of your choice (Manual or Online). Select the Evaluate option if you do not have Activation Codes. You can use DevCom2000 for 10 days before you need to Activate it.

If you are Activating DevCom2000 by the online method, select online activation. You will be asked to enter the Activation Codes on the next screen. Once entered, DevCom2000 will connect to the Internet to verify the Activation Codes. If you do not have an internet connection, you can activate it by email or phone using the Manual Activation method. Activation details are fully explained later in this manual.

Activation only needs to occur once.



Step 5: Set the DevCom2000 Serial Port

DevCom2000 uses a default serial port of COM99. The serial port should be changed from **Options** \rightarrow **Basic** on the DevCom2000 menu to the appropriate serial port for the HART Modem. The other settings on the Options tabs typically do not need to be changed.

Step 6: Browse the Device

Operating DevCom2000 is similar to working with Windows® Explorer. DevCom2000 communicates to the field device, establishes a connection and learns its identity. Once DevCom2000 knows its identity, DevCom2000 locates the device's DD and loads it. From this point forward operation of DevCom2000 is determined by the DD provided by the product's manufacturer. If a DD for the device is not present, a generic DD will be used.

By default, DevCom2000 will open the Browser window. The organization of the data in this explorer-style window is dictated by the device DD. The left hand tree-pane of this window shows the logical groups of field device data. These are called "Menus". The right hand data-pane shows the data, any sub-groups and any standard operating procedures found on a given menu.

You can browse through the field device data by expanding (click "+" symbol) or collapsing (click the "-" symbol) the menus in the tree-pane. You can also double-click the folder symbol when seen on the data-pane.

Step 7: Modify the Device's Configuration

The Browser allows access to all of the data exactly as described by the product's manufacturer's DD. When you find elements of the field device's configuration you want to change, simply double-click and edit the data. Once you have changed the configuration to suit your needs, press the Send icon \Re to commit the data and transfer it to the field device.

Step 8: Performing Maintenance and Testing the Field Device

Many devices perform Methods or Standard Operating Procedures (SOPs) that may need to be performed to ensure the device is in peak condition. These Methods may include calibrating the loop current, trimming the transducer values or performing some diagnostic test on the field device. Methods appear in the data-pane just like data does. Double-click on the Method and it will start running in a separate window. The Method will guide you through the process ensuring the procedure is completely and consistently performed. When the Method is complete the window will disappear.

Step 9: Exit

When you are through working on the field device simply exit DevCom2000. Once the program exits, you can then disconnect the HART interface hardware.



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1 INTRODUCTION

The Smart Device Communicator (DevCom2000) allows access to and management of a HART compatible field device's configuration and calibration. This manual provides the information about the Hardware setup, Communication with Smart devices, and functions of DevCom2000.

DevCom2000 is unique in that it uses the DD of the connected device to determine what information to display, what variables are available for edit, and what procedures to follow for calibration, setup, and maintenance.

1.1 Acronyms and Definitions

Acronym	Definition
COTS	Commercial-off-the-Shelf
DD	Device Description File. This contains the device information.
DDL	Device Description Language
HCF	HART Communication Foundation
DevCom2000	Smart Device Communicator Software

1.2 Conventions Used in This Manual

Following formatting conventions are used in this guide:

Convention	Description
Words in bold type	Field names including buttons in the display, or important phrases.
\rightarrow Arrow	Windows pull down menus and their options are separated by \rightarrow .
	For example, click Device \rightarrow New Device to connect to a new device.
Courier font	Information that you type, parts of the code quoted for explanations or as examples.
UPPERCASE	Acronyms
UPPERCASE within angle brackets	Command keys For example, press <enter>.</enter>



1.3 Document Organization

DevCom2000 user manual is organized into the following sections:

Section 1	Describes the scope and objective of DevCom2000 user manual along with the organization of the remaining part of the manual.
Section 2	Provides an overview of the DevCom2000 application and its architecture.
Section 3	Provides the information pertaining to hardware and software requirements for the DevCom2000 application.
Section 4	Provides the steps to install, activate, and uninstall the DevCom2000 application.
Section 5	Provides the steps to start the DevCom2000 application and connecting to field devices.
Section 6	This section explains different aspects of the DevCom2000 application and its functionalities.

1.4 Getting Help

If you need help or encounter problems when using DevCom2000 or this guide, please contact ProComSol, Ltd. See Appendix B for contact information. Please provide the following information.

Create a text description of the problem. If possible, provide the text in event sequence, which will enable the duplication of the problem. Provide information about the system. This information must include:

- DevCom2000 version and License ID
- Computer information: make, model, CPU type, clock speed, attached peripherals and operating environment (Windows version)
- Device information: make, model, and device revision
- Point of contact: complete mailing address, telephone number, and e-mail address,
- The date and time of the problem occurrence.



2 OVERVIEW OF DEVCOM2000

Field devices such as flow, pressure, level, temperature transmitters, and valve positioners provide the physical connection to the process. These devices allow the control system to monitor and manipulate process conditions. HART devices maintain a real-time database of process, configuration, identification, and diagnostic information. This information can be accessed using the HART Field Communications Protocol.

HART devices are capable of providing functions and features far beyond the basic task of providing a process input or accepting a control output to manipulate process conditions. Many HART compatible device manufactures create a DD (Device Description) describing all of these functions and features specific to that device. The DD also provides information essential to the successful configuration and calibration of the device.

DevCom2000 uses these DD's to access the data stored in a device, providing full configuration and setup support for all registered HART DD's.

DevCom2000 accesses and presents field device data based solely on its DD. No other files, information or custom drivers are required. DevCom2000 is intended to monitor and configure a single device at a time, it is directly connected to the current loop of the particular device and:

- Provides user interface to configure the HART field device,
- Provides a means to configure and view all the parameters related to HART field device, and
- Provides an option to view the detailed status and diagnostic capability of the device.

DevCom2000 allows viewing and modifying of field device parameters based on the DD. Using the device's DD, DevCom2000 performs various tests to verify the proper operation of the HART device. DevCom2000 runs as a standalone software package and must have a HART compatible modem attached to the system to interrogate the HART base devices. A HART modem is not required for HART-IP communications to a WirelessHART Gateway. In this case, an Ethernet connection is required.



3 SYSTEM REQUIREMENTS

The following minimum system requirements are recommended for operation of DevCom2000.

PC	Processor Speed: Pentium, 600 Mhz Memory: 256 MB Hard Disk Space: 500 MB Monitor: 256-color VGA
HART Modem	USB to HART modem, or Bluetooth to HART modem, or RS-232 to HART modem. ProComSol, Ltd supplies HART modems. Not needed for HART-IP.
Communication Port	USB, Bluetooth, or RS-232. Ethernet for HART-IP.
Operating System	Windows XP, Windows Vista, Windows 7, Windows 8



4 DEVCOM2000 INSTALLATION

4.1 Prerequisites

You need to be familiar with the basic functions of the following when installing the DevCom2000 tool:

- Microsoft Windows
- HART communication interface
- HART field device

4.2 Installing the DevCom2000 Application

To install the DevCom2000 application in a standalone system, perform the following steps:

Step	Action
1	Insert the DevCom2000 CD into the CD-ROM drive. Auto run should begin installation, if not:
2	Click Start and choose Run . From the Run window, click Browse .
3	In the Look In box, browse to your CD drive.
4	Double-click the drive to access the CD content.
5	Look for the DevCom2000Setup.exe file and double-click the same. This process will take you through a sequence of installation wizard steps.
6	Follow the instructions on the upcoming screens to complete the Installation.

4.3 Activating DevCom2000

DevCom2000 must be activated before use. If the program is not activated, it will not run after 10 days. The following procedure will activate the software.





If you want to evaluate DevCom2000 before purchasing, select the "Evaluate DevCom2000" option. You will have 10 days of unlimited program use before you will need to purchase a license. Select "Purchase DevCom2000 Online" to go to the ProComSol, Ltd website to purchase a license.

2 If "Activate DevCom2000" is selected, the following window appears:



	DevCom2000	
	Activating DevCom2000 is simple and quick.	
	Please select an activation option:	
	🔿 Activate DevCom2000 Online	
	I have a valid License ID	
	📫 Activate Manually	
	I will contact a support representative	
<u>Click here for support</u>		
	😓 Back 💥 Exit	

3 If the "Activate DevCom2000 Online" option is selected, the following window appears.

License ID and Password	
	DevCom2000
	Please enter your License ID and Password found on the CD Label or received through your email.
	Please enter your License ID:
	Please enter your Password:
<u>Click here for support</u>	
	🖨 Back 💥 Exit Continue 🚔

Enter the information from the Activation label on the CD case. Select "Continue" to process the information.

If the codes were successfully entered, the program will continue as normal. You will not need to perform the activation process again.



4 If the "Activate Manually" option is selected, the following window appears:

DevCom2000 Activation		×
	DevCom2	000 Activation
	Please call 216.221.1550 to a	stivate DevCom2000
	User Code 1:	User Code 2:
	295962078	86636908
	Activation Code 1:	Activation Code 2:
Click here for support		
	緈 Back 🛛 💥 Exit	Continue 🛋

You will then need to contact ProComSol, Ltd to obtain the Activation Codes. You must supply the User Codes to ProComSol, Ltd support personnel (Your user codes will be different than those shown here). You can register manually in any of the following ways:

1. Call ProComSol, Ltd at 216.221.1550. Have the program License ID and User Codes ready.

2. Or, send an email to <u>support@procomsol.com</u> containing your company name, License ID, and User Codes.

3. Or, send a fax to ProComSol, Ltd (216.221.1554) containing your company name, License ID, and User Codes.

The above information will be processed at ProComSol, Ltd and an appropriate response will contain the required Activation Code information that the user will need to enter.

If successful, the program continues as normal. You will not need to perform the activation process again.

5 We have tried to make the Activation process as easy as possible. Contact ProComSol, Ltd if you have any difficulties.

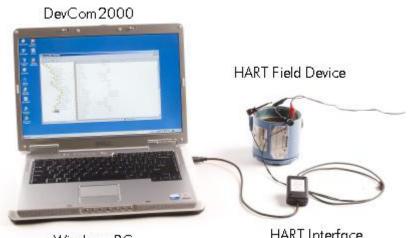


4.4 Connecting to the HART Network

The DevCom2000 application communicates with the HART Field Devices through a HART compatible communication interface (e.g., a "HART Modem"). Using this communication interface you will transmit real-time HART data between DevCom2000 and the connected HART compatible field device.

There are a wide variety of HART compatible interfaces. Please follow the manufacturer's instruction for connecting your interface to the PC. This manual uses the HART modem manufactured by ProComSol, Ltd, called the HM-USB-ISO. It uses the USB interface.

Insert the USB connector on the HM-USB-ISO into your computer's USB port. Using the clips on the wires from the HART interface, connect to the device across the 4-20ma signal. If a suitable load resistance is not available, a 250Ω resistor must be placed in series with the device power supply.



Windows PC

HART Interface

Figure 1 Typical DevCom2000 Hardware Setup

4.5 Uninstalling the DevCom2000 Application

To uninstall the DevCom2000 application, perform the following steps:

Step	Action
1	Click Start → Programs → ProComSol → DevCom2000 → Uninstall DevCom2000
2	Or, Click Start → Settings → Control Panel → Add/Remove Programs
3	In the <i>Add/Remove Programs</i> dialog window, select the DevCom2000 program that you want to uninstall.
4	Click Remove.
5	Click OK to confirm the removing of the selected application.



USING DEVCOM2000 5

5.1 Starting DevCom2000

The HART compatible field device must be connected to a PC or tablet running DevCom2000 to configure or calibrate the field device, or to view the field device's data. Make sure to establish the physical connection between the field device and the DevCom2000 computer. With the physical connection established, launch DevCom2000 by clicking the DevCom2000 icon on your desktop. You can also start the application by going to your computer's Start Menu and selecting Start \rightarrow Programs \rightarrow ProComSol \rightarrow DevCom2000 \rightarrow DevCom2000.

If your computer is running an anti-virus program such as McAfee, you may get a message about a program wanting to access the internet. This is normal. DevCom2000 uses TCP/IP to communicate with the Communication Log program.

Step Action

1

SevCom2000 - [Explorer]			
	Trending DD License Window Help		- 8
2 8 7 2 2 2 2			
8-2 Online	Item	Value Units	

DevCom2000 will then automatically identify the field device and open a communication channel to (i.e., a connection with) the field device.

2 Setting Options → Basic

If communications cannot be established, you may need to change the communication settings using the Options dialog box.

The serial port box will show the available com ports. Select the one your HART modem is using.



tions Basic Search By].	Advanced	11
Modem Server	r Preferences	
Serial Port	COM40 (available)	
Online DevCom2	2000	
Use TCP/IP	with WirelessHART Gateway	
IP Address:	192 . 168 . 1 . 11 Advanced Settings	
Port	5094	
Use HART S	Server with WirelessHART Gateway or HART Multiplexer	
(Note: HAR	T Server must be purchased from the HART Foundation)	

3 You may also change the polling options for the computer. If you do not know the poll address of the device you are trying to communicate with, use the default address 0 setting. To do this either click on the **Search By** tab or go to **Options -> Search**

Poll Address Search by Tag Search by Poll Address Image: search by Poll Address	WirelessHART Adapter - Default ABB FieldKey - 15 Emerson THUM - 63 Endress + Hauser SWA70 - 15 MACTek BULLET - 15 Pepperl+Fuchs WHA-ADP - 15 Phoenix Contact RAD-WHA - 63 Siemens SITRANS AW200 - 15
---	---

Make sure that **Poll Address** under **Search By** is selected.



4 When the device is connected to DevCom2000, the browser window appears with online (i.e. root menu) selected.

S DevCom2000 - [Explorer]				- U X
Bovice Options View Enhanced Trending DD I	license Window Help			- # ×
2 7 7 2 B B				
B- 🥔 Online	Item	Value Units		
	hem Device Status: Good Corm Status: Burit Presure Analog Output Unger Range Vale Device Information	Value Units 1.8 initQO 11.273 mA 40.0 initQD -30.0 initQD		
Tag: P-101 - LongTag/Desc: TEST UNIT - Device: 3051	- DD: 26/06/03/07	O HART Activi	t O Trend Activit	NUM

The left pane of the window shows the menu structure and the right pane of the window displays corresponding parameters of the menu selected.

The DevCom2000 screens shown in this document are only an example of what you may see when connected to your field device. What you see is actually controlled by the DD and the device. The menus, data, status and configurations displayed are specified by the field device's manufacturer in the DD itself.

5 Select the required menu to configure or review the field device's data.

5.2 Getting Familiarized with DevCom2000 Explorer

5.2.1 Using the Menus

DevCom2000 Explorer provides visual representation and structure of the application window.

Menu

Explanation

Download / View – Brings up the Download dialog box which provides Configuration File features. Exit - Exit DevCom2000.
--



Basic Search Advanced	The Options Menu offers the following sub-menu options: Basic- Select what COM port the device
	is connected to and use WirelessHART gateway.
	Search- Search by Poll Address, Long or Short Tag.
	Advanced- Select HART Master, Language, and DD Startup.
✓ Toolbar✓ Status Bar	The View Menu offers the following sub- menu options:
Communication Log	Toolbar - Hide or show the Tool Bar.
Device Condition	Status Bar - Hide or show the Status Bar.
Event-Status Log	Communication Log – Open the Communication Log window.
	Device Condition – View detailed device status.
	Event-Status Log – View log of events and status changes
Example of available	The Enhanced menu offers enhanced
Enhanced Menus:	device menus. Some devices do not have
Enhanced View Below (if available) Start	enhanced menus and this menu will only say "Enhanced View Below (if available).
Device Diagnostics	suy Emilaneed view Below (if dvandele).
Process Variables	
No Enhanced Menus available:	
Enhanced View Below (if available)	
Define Trend View Current Trend	The Trending menu offers the following sub-menu options:
View Past Trends	Define Trend – Brings up the Define
Stop Current Trend	Trend dialog box where a trend is started.
	View Current Trend – Brings up a real- time graph of values currently being trended.
	View Past Trends – Brings up the View
	Trend dialog which contains past trend files. Selected trend files can then be
	graphed. Stop Current Trend – Stops the current
	log in process.

Our Quality Management System is ISO 9001:2008 Certified



Add DD	The DD menu offers the following sub-
Available DDs	menu options:
	Add DD – Brings up the dialog that adds
	a DD to the library. Also used to give
	labels to non-standard library DDs.
	Available DDs – Brings up a browser of all the DDs installed in the library.
	·
Launch FDT Frame	The DTM menu offers the following sub-
	menu options:
(Future)	Launch FDT Frame– launches the FDT
	Frame program.
DevCom2000 Help	The Help menu offers the following sub-
Com Troubleshooter	menu options:
Device Help About DevCom2000	DevCom2000 Help – Brings up Help
About DevCom2000	information for the DevCom2000
	application.
	Com Troubleshooter – Brings up the
	DevCom2000 Com Troubleshooter.
	Device Help – Brings up help information
	for the connected device (if available).
	About DevCom2000 – Shows copyright
	information, support information, and
	application Version Number.

5.2.2 Using the Toolbar

When you start the application, by default, the toolbar buttons appears on the main window. If it fails to display, click **View** \rightarrow **Toolbar** option from the menu bar to bring up the toolbar.

Following are the buttons available in the DevCom2000 application toolbar to perform the necessary tasks:

Button	Description	Corresponding Menu Option
1	Connect to a new device	Device \rightarrow New Device
8	Send parameter changes to the device	
3	Cancel parameter changes	
3	View more status on Device and Communication (Command 48 status)	View → Device Condition
	View Communication log	View \rightarrow Communication log

_



View Event log	View \rightarrow Event-Status log
Launch FDT Frame (Future)	DTM \rightarrow Launch FDT Frame

5.2.3 Familiarizing with Icons

DevCom2000 application uses different icons to represent different elements of the application. Following table lists the icons and their meanings:

Icon	Meaning
	Indicates a menu or submenu in the navigation tree
<u></u>	Indicates a currently selected menu or submenu in the navigation tree
÷	Online menu icon. The actual DD menu comes under this.
છ	Indicates a "Variable" item
۹	Indicates a "Method" (Standard Operating Procedure) item
e	Indicates an "Edit Display" item



6 FUNCTIONS AND BASIC OPERATIONS

6.1 Overview

DevCom2000 allows the user to monitor and configure a single device at a time in the field. Each device is associated with the DD when the device information is present. A DD may contain any of the following parameters/elements:

<u>Variable</u>

A variable is defined as the data contained in the device (e.g. Device Firmware Version). There are two types of variables:

Editable Variable – It allows the operator to modify the value and download it to the device.

<u>Non-Editable Variable</u> – It is a read-only data from the device.

Edit Display

This option is used to view a group of parameters. You can also modify a single parameter from this group, based on which other parameters of the device get altered.

For example, if the Engineering Unit of the device is modified, the corresponding Low Limits and High Limits change as per the Engineering Unit set.

Method / Standard Operating Procedure (SOP)

This option helps to perform various tests on the device for instance, Self Test and Loop Test. A Method or SOP is a series of steps that are executed in a sequence results in the completion of some device related tasks. When a method gets invoked, it gives various warning messages and options to the user, by which the user can thoroughly test the device. If a test is aborted by operator command at any stage of the sequence, the method invokes additional steps to bring the device back to its original state before the test.

6.2 Viewing Device Configuration (typical, actual view may change based on DD)

To view the configuration of the device that is connected to DevCom2000, perform the following steps:

Step	Action
1	Ensure that the application is running and communications have been established:



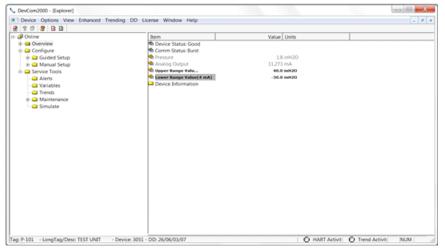
Device Options View Enhanced Trending DD LU 영경 호 교 교 Ownre	Izense Window Help	Value Units		
	Overview Configure	Value Units		
	Overview Configure	Value Units		
	Configure			
	i Configure ⊒ Service Tools			
	Service Tools			
	1			
: P-101 - LongTag/Desc: TEST UNIT - Device: 3051			Activit O Trend Activit	NUM

The left pane of the window shows the menu structure and the right pane of the window displays corresponding parameters of the menu selected.

The menus are displayed depending on the type of device that is being connected. These menus are displayed based on the DD file of the particular device.

If no DD is available for the device the DevCom2000 will select the standard DD. This should provide limited functionality for the device. NOTE: If a parameter is updated that is not supported by the device you will receive an error.

2 Expand the menu by clicking the "+" sign and double-click to view the device parameters. Below is an example of an expanded menu:



3 Select the menu and view the associated parameters to view the device information.



6.3 Configuring Device Information

6.3.1 Overview

DevCom2000 allows you to view and configure the field device parameters based on the device description. However, the device vendor defines most of the parameters at the factory. These parameters become read only for the users and the user cannot modify the values. The related variables are grouped under various menus of different levels as defined in the DD file. Expand or collapse the tree view using the "+" or "-"sign to access the device configuration parameters.

Following table describes the details about the device configuration:

- Step Action
- 1 Ensure that the application is running and communications have been established:

DevCom2000 - [Explorer]			
Device Options View Enhanced Trending	DD License Window Help		- 8
2 9 7 2 9 9 9			
8- 🧬 Online	Item	Value Units	
 a Configure a Configure a Service Tools 	Device Status Good Comm Status Bust Presure Analog Output Comm Status Bust Device Information Device Information	1.9 inH2O 11.299 mA 400 inH2O -38.6 inH2O	
ag: P-101 - LongTag/Desc: TEST UNIT - Device	3051 - DC: 26/05/03/07	O HART Activit O T	rend Activit NUM

The left pane of the window shows the menu structure and the right pane of the window displays corresponding parameters of the menu selected.

- 2 Expand the menu by clicking the "+" sign and double-click to view the device parameters.
- 3 There are three types of variables: dynamic, read/write and read only. The parameters that are grayed out indicate that these are dynamic variables (variables that get updated online by the device) or read only variables.

Following points describe how the device parameters represents their status when connected to DevCom2000:

Bold Font: Modifiable Values

Normal Font: Menu Item

Gray Font: Dynamic or Read Only Variables

4 Select the parameter and configure the values, as required.



5 The subsequent topics explain how to configure device parameters.

6.3.2 Variable

To edit the parameter variables of the connected device, perform the following steps:

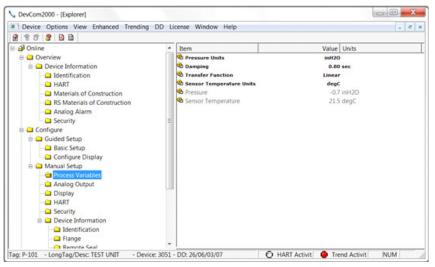
Step Action

1 Ensure that the application is running and communications have been established:

SevCom2000 - [Explorer]				0 0 X
B Device Options View Enhanced Trending DD	License Window Help			- # X
2 9 7 2 8 8 8				
Device Options View Enhanced Trending DD License Window Help				
B 🔐 Online B 🛥 Overview B 🛥 Configure	Device Status: Good Comm Status: Burst Pressure Analog Output Upper Range Yaha Lower Range Yaha	1.9 inH2O 11.299 mA 69.0 int20		
Tag: P-101 - LongTag/Desc. TEST UNIT - Device: 30	51 - DC: 26/06/03/07	O HARTA	Activit O Trend Activ	it NUM

Expand the menu by clicking the "+" sign and double-click to view the device parameters.

2 Select the menu where the editable parameter is present as shown below:



3 Double-click the variable to edit it. The following dialog box appears on the screen:



Device Options View Enhanced Trend	ing DD License	Window Help		- 8 >
2 8 7 2 B B				
B B Online	* Item	1	Value Units	
B 🖸 Overview	🙁 Pr	essure Units	inH2O	
B Device Information	🙁 Da	ping	0.80 sec	
- 🗀 Identification	🙁 Te	ansfer Function	Linear	
- HART	🙁 Se	insor Temperature Units	degC	
- Materials of Construction	-	ire Units	-0.7 inH2O	
- RS Materials of Construction	Sensor Temperatu	ire Units	21.5 degC	
- Canalog Alarm				
- Security	degC			
B- Configure	deaF	-		
😑 🗀 Guided Setup	Periodo -	<u> </u>		
- Basic Setup				
Configure Display	Se	t Cancel		
B- 🗀 Manual Setup				
Process Variables				
Analog Output			-	
- Display				
HART				
- Security				
B G Device Information				
Identification				

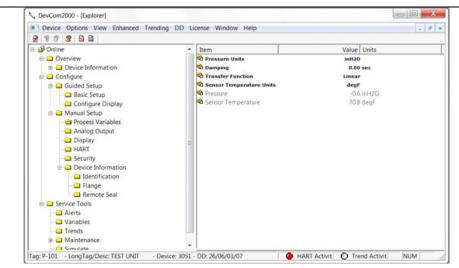
- 4 Make the changes to the parameter value, as required.
- 5 Click **Set** to accept the changed value. The change gets reflected as shown:

V DevCom2000 - [Explorer]							x
B Device Options View Enhanced Trending	DD Li	cense Window Help				-	e ×
2 2 2 2 D D							
8- 🖨 Online	*	Item		Value	Units		
😑 🛄 Overview		Pressure Units		inH20			
B- Device Information		S Damping		0.80	sec		-
- 🗀 Identification		Carlos Transfer Function		Linear			- 1
- 🗀 HART		A Sensor Temperature Units		degF			-
Materials of Construction		Pressure		-0.6	inH2O		- 1
- RS Materials of Construction		Sensor Temperature		21.5	degC		
- 🗀 Analog Alarm							-
- Security	=						
B- Configure							
😑 🗀 Guided Setup							
- Basic Setup							
Configure Display							
🕀 🛄 Manual Setup							
- Process Variables							
Analog Output							
Display							
- HART							
- Carlo Security							
Device Information							
- Calidentification							
- Ca Flange							- 1
Remote Seal	-						
Tag: P-101 - LongTag/Desc: TEST UNIT - Devic	ce: 3051	DD: 26/06/03/07	O HART Activit	O Tree	nd Activit	NUM	1

- 6 Click on the **Send** icon $\overline{\mathbb{C}}$ to commit the changes to the device.
- 7 When the value is no longer yellow, the variable has been changed in the device.



Step	Action
SICP	ACTION



The Send and Cancel Icon will now be grey as well. This indicates that there are no new changes to be sent to the device.

6.3.3 Edit Display

The Edit Display is a variation on the Variable edit. An additional window helps the user view a group of parameters based on the DD. You can also modify a single parameter from this group. Parameters linked to the edited field will be updated automatically

To view and configure these variables, perform the following steps:

- Step Action
- 1 Ensure that the application is running and communications have been established

	ing DD License Window Help	- 8 :
🛪 🕫 🔗 😡 🖻 🛛		
- 🗗 Online	Item	Value Units
🖮 🗁 Overview	Device Status: Good	
🖮 🗀 Configure	🕲 Comm Status: Burst	
Gervice Tools	🗠 Pressure	2.1 inH2O
	🕰 Analog Output	11.331 mA
	🕙 Upper Range Valu	40.0 inH20
	🕙 Lower Range Value(4 mA)	-30.0 inH20
	Device Information	

Expand the menu by clicking the "+" sign and double-click to view the device parameters.



2 Select the menu where the required variable is present as shown below:

SevCom2000 - [Online]			
Device Options View Enhanced Trending	DD DTM Window Help		_ 8 ×
🛛 🕄 🐨 🛛 🗶 🗈 🕒 🖿			
	Item	Value Units	
🖻 🗀 Device setup	Device setup		
Process variables	PV PV	0.00 degC	
🕀 🛄 Diag/Service	PV AO PV LRV	0.00 mA	
Basic setup		0.00 degC 0.00 degC	
🖻 🧀 Detailed setup		0.00 dege	
🗄 🗀 Sensors			
Signal condition			
🖻 🛄 Output condition			
Analog output			
HART output			
Meter Options			
🖻 🛄 Device information			
Revision #'s			
Status			
Review			
	1		
	<u> </u>		
Tag: TestDev - LongTag/Desc: Dev Desc Here - Device	: 3144 Temp - DD: 26 🦳 🔴 HART Activity	O Trace Activity	

3 Double click the parameter you wish to edit. The following dialog box appears on the screen:

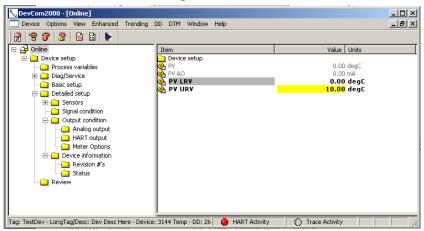
SevCom2000 - [Online]	_ _ X
Device Options View Enhanced Trending DD DTM Window Help	_ <u>_</u> <u>_</u> <u>_</u>
🕅 🐨 🐨 🚾 🖻 🕨	
E-P Online Item	Value Units
🖻 🛄 Device setup	
Process variable Write As One Edit Display	× 0.00 degC
E Diag/Service	0.00 mA
Basic setup	0.00 degC
🚊 🗀 Detailed setup 🛛 Item 👘 👘 Value Units	OK 0.00 degC
🗄 🗀 Sensors 🛛 🔌 T 0.00 degC	
🛁 Signal condi 🛛 🕺 T 0.00 degC	
📋 📋 Output con	
HART 0	>
Meter C	
🖻 🛄 Device infor	
Status	
Review	
Tag: TestDev - LongTag/Desc: Dev Desc Here - Device: 3144 Temp - DD: 26 🧕 HA	RT Activity O Trace Activity //

4 Double click the parameter you wish to edit. The following dialog box appears on the screen:

💊 DevCom2000 - [Online]		
Device Options View Enhanced Trending	DD DTM Window Help	_ & ×
🛛 🕅 🐨 🖓 🛛 🛍 🖹 🕨		
Device Options View Enhanced Trending DD DTM Window Help		
Process variables Process variables	0.00 OK	0.00 mA 0.00 degC
Tag: TestDev - LongTag/Desc: Dev Desc Here - Device	: 3144 Temp - DD: 26 🦳 🙆 HART Activity 👘 🔘	Trace Activity



- 5 Make the change to the value, as required.
- 6 Click **Set** to accept the changes. Or press **Cancel** to cancel the changes.
- 7 Click **OK** to close the dialog box.



Again the yellow means the parameter is changed and ready to be sent to the device.

8 Click on the **Send** icon \mathbb{C} to commit the changes to the device.

📐 DevCom2000 - [Online]			<u>_ ×</u>
Device Options View Enhanced Trending	DD DTM Window Help		_ 8 ×
💦 😵 😵 💁 🖻 🕒			
⊡🔁 Online	Item	Value Units	
Device setup Diag/Service Diag/Service Sersors Signal condition Output condition HART output HART output Revision #'s Status	PV Exetop PV AO PV AO PV LRV PV URV	0.00 degC 0.00 mA 0.00 degC 10.00 degC	
Tag: TESTDEV - LongTag/Desc: DEV DESC HERE - De	vice: 3144 Temp - DE 🛛 🥝 HART Activity	C Trace Activity	

After being sent the change is reflected in the device info.

6.3.4 Executing Methods or Standard Operating Procedures

Methods are defined in the DD file for the device that DevCom2000 is connected to. You can select the Method and execute it for calibrating the device, trouble shooting, etc. Method execution leads you through a number of steps, like in a wizard.

9



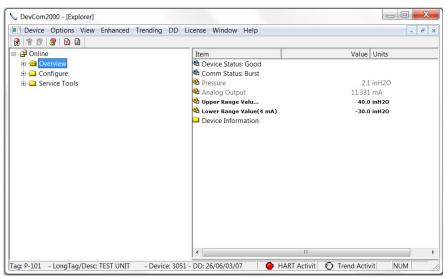
A Few examples of methods include:

- Setting high and low range calibration points
- Calibration of the device
- Run the advanced diagnostic test procedure
- Execute tests to gather information on device operation.

To execute a Method, perform the following steps:

Step Action

1 Ensure that the application is running and communications have been established:



Expand the menu by clicking the "+" sign and double-click to view the device parameters.

- 2 Select the menu where the method is present and double-click to execute it.
- 3 Below is an example of a Method dialog box:



Device Options Wew Enhanced Trending DD	License Window Help			- 0 x
2 8 7 2 3 3 3				
🛛 🧬 Online 🔹	tem	Valu	e Units	
Device Information Device Informatio	Rem Pressure Units Pressure Units Transfer Punction Sensor Temperature Units Sensor Temperature Sensor Temperature degC degC degC Set	inti G.I. Line de 21	10 10 sec ar 8 inH2O 1 degC	
- Variables				
Trends Maintenance				
Garden Andersee An				

Click Set to open a Method dialog box:

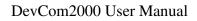
Variables which use this	as the units code	e will be in the previo	ous units until this ∨alue	is sent to the device.	
Press OK button to continue	e method executi	on or Abort button to	abort method execution	m.	

- 4 Click **OK** to move to the next dialog in the Method sequence.
- 5 Or, click **Abort** to cancel the Method execution.
- 6 Click **Help** to get specific help for that step of the Method. This Help information is provided by the device DD.

6.4 Calibrating HART Field Devices

Calibration of field devices and loop test are achieved by executing the Methods or Standard Operating Procedures that are specific to device. Methods are defined based on the test parameters specific to the device, providing information for the calibration of that device.

See the previous section for Method execution.



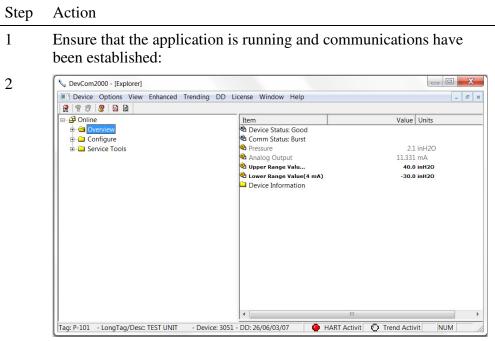


6.5 Viewing the Device Status

DevCom2000 provides the user with the ability to monitor the device specific status of the device and the communication network.

When there is error communicating with the device, it is recognized and indicated to the user. The user can view more details of such errors, using the **View** \rightarrow **Device Condition** from the main window.

To view the device and communication status, perform the following steps:



Expand the menu by clicking the "+" sign and double-click to view the device parameters.

3 Select View \rightarrow Device Condition from the main window or choose the status icon \Im from the toolbar. Following window is displayed:



	Status Status group 1 Status group 2 Status group 3	
0	Device malfunctioning	
Ø	Configuration changed	
o	Cold start	
Ø	More status available	
O	PV AO fixed	
0	PV AO saturated	
o	Non primary variable out of limits	
Ø	Primary variable out of limits	

The *Device Status* tab option shows the status of the device and the communication network. The individual status is indicated by green and red LEDs.

- 4 Additional tabs may be available depending on the DD.
- 5 Click **X** to close the Status window.

6.6 Viewing the Communication Log

DevCom2000 allows the user to view the actual communications between DevCom2000 and the device. You can view send commands and received responses.

If your computer is running an anti-virus program such as McAfee, you may get a message about a program wanting to access the internet when you open the Communication Log. This is normal. DevCom2000 uses TCP/IP to communicate with the Communication Log program.

If no data appears in the Communication Log, this may be due to an anti-virus program. Close the Log window and re-launch.

To view the communication log, perform the following steps:

Step	Action
1	Ensure that the application is running and communications have been established



Device Options View Enhanced Trend	ling DD License Window Help	
1 7 7 1 1		
⊡ 🛱 Online	Item	Value Units
🗉 🛥 Overview	Device Status: Good	10
🗄 🗀 Configure	Comm Status: Burst	
🗄 🗀 Service Tools	Pressure	2.1 inH2O
	🗠 Analog Output	11.331 mA
	🕙 Upper Range Valu	40.0 inH20
	🕙 Lower Range Value(4 mA)	-30.0 inH2O
	Device Information	

Expand the menu by clicking the "+" sign and double-click to view the device parameters.

2 Select View → Communication Log from the main window or choose the communications log icon b from the toolbar. Following window is displayed:

Stream 0110 0110 0110 0110 0110 0110 0110 0110 0110 0110 0110 0110 0110 0110 0110 0110 0110 0110 0110	00 12 00 12 00 12 00 12 00	00	00 00 00 00	01bf 01bf 01bf	c854 c768 c538	c120 1720 b320	41a9 41a9 41a9	e000 e000 e000	
0110 0110 0110 0110 0110 0110 0110 011	12 00 12 00 12 00 12	00	00	01bf 01bf	c768	1720	41a9	e000	
0110 0110 0110 0110 0110 0110 0110 011	12 00 12 00 12 00 12	00	00	01bf 01bf	c768	1720	41a9	e000	
0110 0110 0110 0110 0110 0110 0110	00 12 00 12 00 12	00	00	01bf 01bf	c768	1720	41a9	e000	
0110 0110 0110 0110 0110 0110	12 00 12 00 12	00	00	01bf					
0110 0110 0110 0110 0110	00 12 00 12	00	00	01bf					
0110 0110 0110 0110	12 00 12				c538	b320	41a9	e000	
0110 0110 0110	00				c538	b320	41a9	e000	
0110 0110	12	00	00						
0110		00	00	0.01					
	00			01bf	c538	b320	41a9	e800	
	00								
0110	12	00	00	01bf	c538	b320	41a9	e800	
0110	00								
0110	12	00	00	01bf	c538	b320	41a9	e000	
0110	00								
0110	12	00	00	01bf	c538	b320	41a9	e000	
0110	00								
0110	12	00	00	01bf	c538	b320	41a9	e000	
0110	00								
0110	12	00	00	01bf	c50d	ab20	41a9	e800	
0110	00								
0110	12	00	00	01bf	c4d0	b520	41a9	e000	
	0110 0110 0110 0110 0110 0110 0110 011	0110 12 0110 00 0110 12 0110 00 0110 12 0110 00 0110 12 0110 00	0110 12 00 0110 00 0110 12 00 0110 12 00 0110 12 00 0110 12 00 0110 12 00 0110 12 00	0110 12 00 00 0110 00 00 01 0110 12 00 00 0110 12 00 00 0110 12 00 00 0110 12 00 00 0110 12 00 00 0110 12 00 00 0110 00 00 01	0110 12 00 00 01bf 0110 00 0110 12 00 00 01bf 0110 00 0110 12 00 00 01bf 0110 00 0110 12 00 00 01bf 0110 00	0110 12 00 00 01bf c538 0110 12 00 00 01bf c50d 0110 12 00 00 01bf c50d 0110 12 00 00 01bf c4d0	0110 12 00 00 01bf c538 b320 0110 00 0 01bf c538 b320 0110 12 00 00 01bf c53d b320 0110 12 00 00 01bf c50d ab20 0110 12 00 00 01bf c50d ab20 0110 12 00 00 01bf c4d0 b520	0110 12 00 00 01bf c538 b320 41a9 0110 12 00 00 01bf c538 b320 41a9 0110 12 00 00 01bf c538 b320 41a9 0110 02 00 00 01bf c538 b320 41a9 0110 12 00 00 01bf c538 b320 41a9 0110 12 00 00 01bf c50d ab20 41a9 0110 12 00 00 01bf c50d ab20 41a9 0110 12 00 00 01bf c50d ab20 41a9 0110 12 00 00 01bf c4d0 b520 41a9	0110 12 00 00 01bf c538 b320 41a9 e000 0110 12 00 00 01bf c538 b320 41a9 e000 0110 12 00 00 01bf c538 b320 41a9 e000 0110 12 00 00 01bf c538 b320 41a9 e000 0110 12 00 00 01bf c50d ab20 41a9 e800 0110 12 00 00 01bf c50d ab20 41a9 e800 0110 12 00 00 01bf c50d ab20 41a9 e800 0110 12 00 00 01bf c4d0 b520 41a9 e000

Note: The communications log lists actual HART commands and the responses from the unit. A good understanding of the HART protocol is required to interpret this data.

3 Select File \rightarrow Exit to get back to the main window. Or, close the Communication Log window by clicking on the X.



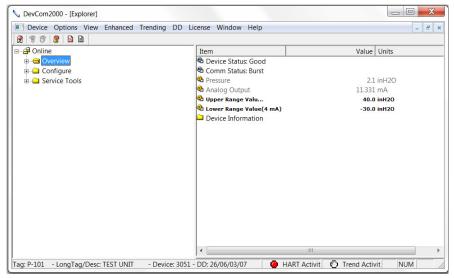
6.7 Viewing the Event-Status Log

DevCom2000 allows the user to view the error conditions of the device and the communication network.

To view the Event-Status Log, perform the following steps:

Step Action

1 Ensure that the application is running and communications have been established:



Expand the menu by clicking the "+" sign and double-click to view the device parameters.

2 Select View \rightarrow Event-Status Log from the main window or choose the Event-Status log icon from the toolbar. An additional Event Status window is displayed:



Step	Action
SICD	ACTION

Device Options View Enhander	ced Trending DD License Window Help			
8888888				
8- 2 Online	hem	Value Units		
	Cverview			
	Configure			
	Service Tools			
	Event-Status Log			
	Event-Status Log 11/18/2013 15:21:34	Latest Messages:		
	11/18/2013 15:21:34	Latest Messages: http://www.com/poor/9/0083/j0101.fm8		
	11/18/2013 15:21:34 11/18/2013 15:23:31			
	11/18/2013 15:21:34 11/18/2013 15:23:31 11/18/2013 15:23:31	hitialized using \hcf\ddl/library\0000f9\0083\0101.fm8'		
	11/18/2013 15:21:34 11/18/2013 15:23:31 11/18/2013 15:23:31 11/18/2013 15:23:31 11/18/2013 15:23:31	hitialized using \hcf\ddl\library\0000f9\0083\0101.fm8 Device manager has loaded the device for 0xf90083000.		
	11/18/2013 15:21:34 11/18/2013 15:23:31 11/18/2013 15:23:31 11/18/2013 15:23:31 11/18/2013 15:23:32 11/18/2013 15:23:32	Initialized using "\hcf\ddl\libray\0000F9\0083\0101.fm8" Device manager has loaded the device for 0xf9008300. Initialized using '\hcf\ddl\libray\000026\0006\0307.fm8 Device manager has loaded the device for 0x260006000.		
	11/18/2013 15:21:34 11/18/2013 15:23:31 11/18/2013 15:23:31 11/18/2013 15:23:31 11/18/2013 15:23:31 11/18/2013 15:23:35	hitialized using \/hcf\.ddl/Jibrary\/0000f9\.0083\/0101.fm8' Device manager has loaded the device for 0xf90083000. hitialized using \/hcf\.ddl/Jibrary\/000026\/0006\/0307.fm8		
	11/18/2013 1521-34 11/18/2013 1523-31 11/18/2013 1523-31 11/18/2013 1523-31 11/18/2013 1523-32 11/18/2013 1523-32 11/18/2013 1523-35 11/18/2013 1523-35	hitalized using \hchddl\library\0000F9\0083\011.fm3 Device manager has loaded the device for 0x50008.000. Initialized using \hchddl\library\00002F9\00000.0001.tm3 Device manager has loaded the device for 0x260000000. ERROR: Readimd: Non-Local item 0x0Hf (burst, mode, se ERROR: Readimd: Non-Local item 0x0Hf (burst, mode, se		
	11/18/2013 152/34 11/18/2013 152/34 11/18/2013 152/34 11/18/2013 152/34 11/18/2013 152/34 11/18/2013 152/35 11/18/2013 152/36 11/18/2013 152/36	Initialized using "http://doi.org/0000910008100011md Device manager has loaded the device for De90081000, Initialized using "http://doi.initialized using "http://doi.org/00020/0000100071md Device manager has loaded the device for Do200000000 EBROR: Readmin Non-local item Dofff (burrt, mode, pe EBROR: Readmin: Non-local item Dofff (burrt, mode, pe EBROR: Readmin: Non-local item Dofff (burrt, mode, pe		
	1/1/8/00115/2134 1/1/8/00115/2031 1/1/8/00115/2031 1/1/8/00115/2032 1/1/8/00115/2032 1/1/8/00115/2032 1/1/8/00115/2030 1/1/8/00115/2030 1/1/8/00115/2030	hinkilated using 'hef.ddt)literary(0000F9/0083/0011 fm8 Device manager has loaded the device for 0x90003000, Initialted using 'hef.ddt)literary(000026/00090007 fm8 Device manager has loaded the device for 0x2000000, BBOR: Readims theo-local item botht (burst,mode, pe. DROR: Readims: Non-Local item botht (burst,mode, pe. DROR: Readims: Non-Local item 0x0111 (burst,mode, pe. DROR: Readims: Non-Local item 0x0111 (burst,mode, pe.		
	11/18/2013 15/2131 11/18/2013 15/2131 11/18/2013 15/2131 11/18/2013 15/2132 11/18/2013 15/2132 11/18/2013 15/2132 11/18/2013 15/2140 11/18/2013 15/2140 11/18/2013 15/2140	Initialized using \https://doi.iv.any/00009/0083/0011/mil Device manage has loaded the device for 0h70001000 Initialized using \https://doi.iv.any/000020.000800000 BedGR BedGm As hon-Local item 0h0111 (burst, mode, pe ERROR, BedGm As hon-Local item 0h0111 (burst, mode, pe ERROR, BedGm As hon-Local item 0h0111 (burst, mode, pe ERROR, BedGm As hon-Local item 0h0111 (burst, mode, pe Connected to Device Tag -P-101 Connected to Device Beorgioso - TEST UNIT		
	11/18/2013 15/2131 11/18/2013 15/2131 11/18/2013 15/2131 11/18/2013 15/2132 11/18/2013 15/2132 11/18/2013 15/2132 11/18/2013 15/2140 11/18/2013 15/2140 11/18/2013 15/2140	hinkilated using 'hef.ddt)literary(0000F9/0083/0011 fm8 Device manager has loaded the device for 0x90003000, Initialted using 'hef.ddt)literary(000026/00090007 fm8 Device manager has loaded the device for 0x2000000, BBOR: Readims theo-local item botht (burst,mode, pe. DROR: Readims: Non-Local item botht (burst,mode, pe. DROR: Readims: Non-Local item 0x0111 (burst,mode, pe. DROR: Readims: Non-Local item 0x0111 (burst,mode, pe.		
Fag: P-101 - LongTag/Desc: TEST U	11/18/2013 15/2134 11/18/2013 15/2134 11/18/2013 15/2034 11/18/2013 15/2034 11/18/2013 15/2035 11/18/2013 15/2036 11/18/2013 15/2040 11/18/2013 15/2040 11/18/2013 15/2040	hintailed using \hefddillaran/0008f9.0883/011.fm8 Device manage has laaded the device for 0xf00810001 hintailed using \hefddillaran/000829.000610017hm8 Device manage has laaded the device for 0xf0080000 IRRIOR ReadIms Non-Local item 0xf111 (burst, mode, se IRRIOR	O Trend Activit	NUM

3 To close, go to View \rightarrow Event-Status Log menu option or click on the icon to go back to the original window.

6.8 Saving Device Configuration to Disk

HART Device configurations can be saved to disk as a text file to document the device. Fields are delimited with a comma so that the data can be imported into configuration management software packages. A PDF version of the configuration is also created.

To save device configurations to disk, perform the following steps:

- Step Action
- 1 Ensure that the application is running and communications have been established:

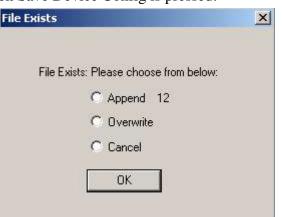
Item	Value Units
Device Status: Good	Č.
Comm Status: Burst	
Pressure	2.1 inH2O
🗠 Analog Output	11.331 mA
🕙 Upper Range Valu	40.0 inH20
🕙 Lower Range Value(4 mA)	-30.0 inH20
Device Information	
	 Device Status: Good Comm Status: Burst Pressure Analog Output Upper Range Valu Lower Range Value(4 mA)



2 Select **Device** → **Document Device** from the main window. The Document Device Dialog Box is displayed:

File Name:					
C:\ProgramFiles\ProComSol\DevCom2000\TESTDEV_1_txt					
Notes:					
	*				
	-				
"Notes" must be less than 250 chara	acters.				

- 3 The default directory is based on Windows User Accounts. The default file name is Tag_Device ID. The directory and filename can be changed by the user. Use the "Browse" button to change directories and/or filenames also.
- 4 Enter a Note in the Notes: field if desired. Maximum of 250 characters.
- 5 Press the "Save Device Config" button to save device configuration.
- 6 If the filename has already been used, the following Dialog Box is displayed when Save Device Config is pressed:



<u>Append</u>: Adds the number shown to the end of the file name <u>Overwrite</u>: Deletes and writes over the existing file <u>Cancel</u>: Returns to the previous menu



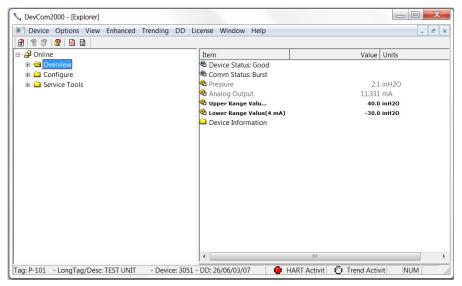
6.9 Download Configuration to Device

Saved configuration files can be downloaded back to devices. This is useful for "Cloning" a device, either for replacement or plant setup.

To save device configurations to disk, perform the following steps:



1 Ensure that the application is running and communications have been established:



2 Select **Device** → **Download** from the main window. The Download Dialog Box is displayed:



N	Таз	LongTag/De	Device	Date	File	Notes	
01 02 03 04 05	T-104 T-104 PUKEY1 P-101 RAD-WHA3	VERIFY DES VERIFY DES TEST UNIT	 TNT162 TNT162 DVC6200;DV. 	2012-02-05 2013-10-01 2013-10-01 2013-10-01	C:\Users\\nni C:\Users\\nni C:\Users\\nni C:\Users\\nni C:\Users\\nni	Rounc Blue I wo Hece T Shape	
•			п				
		Device Tag:	P-101		Bro	wse	
	Configure	tion Fie Tag:			Enter new Tag if de	sired (8 Character Max)	
	LongTag	/Description:	TEST UNIT				
	Config. File Lon	igTag@esc:	[
		Device:					
		File Name:	[
		Date:					
		Notes:					
			Write	View	Delete	Close	

3 The available configurations are displayed. You can sort on each column by clicking it.

To get details about a configuration, select the desired configuration and double click it. The details will be displayed below.

- 4 You can change the desired Tag by editing the Configuration File Tag box. You can change the desired Description by editing the Config. File LongTag/Desc box.
- 5 Press the "Write" button to write device configuration. The device must be the same type as the configuration file. If they are different, the write operation will be aborted.
- 6 You can view the PDF file for the configuration file by double clicking on the desired configuration and pressing "View".
- 7 You can delete configurations by double clicking on the desired configuration and pressing "Delete".

6.10 Customizing PDF File Output

HART Device configurations can also be saved to disk as PDF Files to document the device. The header, footer, and technician name can be entered to customize the PDF file to make it into a configuration report.

To customize the PDF output, perform the following steps:



1

Document	Device	
Fil	e Name:	
C:	\ProgramFiles\ProComSol\DevCom2000\PDFTest_1.txt	Brow

Ļ

Close

PDF Setup

2 The PDF Setup Dialog box is displayed:

"Notes" must be less than 250 characters

PDF Setup	×
Head	er: User Manual Device Config
Foot	er: Footer for Device Config
Tec	h: Guy Instrument
	1
	PDF Text Scaling
	Scale ∀alue: 96
	Note: Larger the value, the smaller the text.
	96 is default value, use 120 on small screens.
	OK Cancel

Save Device Config

- 3 Enter data as needed and press OK. The data is saved for future configuration saves.
- 4 Below is a sample PDF file.



User Manual	Device Config
DevCom2000, Rev 4.6,	Device Configuration File

LongTag/Desc: DEV D	ESC HERE				
Device ID: 1					
DD: 26/19/01/08					
Date (vvv-mm-dd): 2011-02-17					
Time (hr-mn-sc): 03:58:57 PM					
Tech: Guy Instrument					
Notes: this is a saved o	levice config				
Label	Value	Units			
Xfer fnctn	Linear				
AO	0.00	mA			
AO airm typ	Hi				
Unit	ohm				
Term temp unit	degR				
% rnge	0.00				
Term temp	0.00	degC			
Term Upr Rng	10.00	degC			
Term Lor Rng	0.00	degC			
Term temp USL	0.00	degC			
Term temp LSL	0.00	degC			
Term temp damp	0.00	5			
Diff min span	0.00				
Snsr1	0.00	ohm			
Snsr1 snsr s/n	1				
Snsr1 Upr Rng	0.00	ohm			
Snsr1 Lor Rng	0.00	ohm			
Snsr1 USL	0.00	ohm			
Snsr1 LSL	0.00	ohm			
Snsr1 damp	0.00	5			
Snsr1 Min Span	0.00	ohm			
Snsr 1 Type	Ohms				
Snsr 1 Conn	2 Wire				
Meter typ	Eng unit				
Meter decimal pt	Floating decimal pt				
Meter bar graph	Bar graph off				
50/60 Hz filter	60 Hz				
Snsr 1 Cal Mode	Factory Trim				
Footer for Dev Config		Page 1 of 3			

6.11 License File Transfers

The license file can be transferred easily to other computers. The process is a "Check-In/Check-Out" process. When a license is on the computer, it is considered "Checked-Out". When the license is on the license server, it is considered "Checked-In". When the license is "Checked-in", it can be "Checked-Out" by other users. This enables the license to be shared by many users.

6.11.1 Check-In

To Check-In the license from the current computer to the License Server, perform the following steps:

Step	Action
1	Verify your PC is connected to the Internet.
2	Select "Check-In" from the "License" Menu.
	If the current computer is not licensed, an error message will appear. If licensed, the program will contact the License Server via the internet. It will check-in the license using the License ID and Password used in Activation. The current computer will



then become un-activated.

6.12 Options Menu

6.12.1 Options → Basic 6.12.1.1 Changing the COM port

The **Basic** menu is used to set the COM port to the correct one that the device is connected to. To change the COM port, perform the following steps:

Step Action

1 Ensure that the application is running.

DevCom2000 - [Explorer]			
Device Options View Enhanced Tren	iding DD License Window Help		- 8)
🕅 🐨 🐷 🔝 🗎			
🗉 🚰 Online	Item	Value	Units
🛱 🗝 Overview	Device Status: Good		
🗉 🗀 Configure	Comm Status: Burst		
🖮 🗀 Service Tools	Pressure	2.1	inH2O
	🗠 Analog Output	11.331	mA
	🕙 Upper Range Valu	40.0	inH2O
	🕙 Lower Range Value(4 mA)	-30.0	inH2O
	Device Information		
	•	111	

2 Select **Options** → **Basic** from the main window. The Options Dialog Box is displayed with the Basic tab selected:

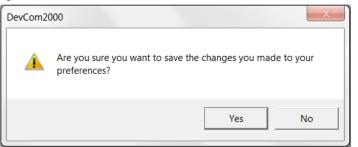


Modem Server Preferences	
Serial Port COM40 💌 (a	available)
Online DevCom2000	
Use TCP/IP with WirelessHART Gateway	
IP Address: 192 . 168 . 1 . 11	Advanced Settings
Port: 5094	
Use HART Server with WirelessHART Gateway	
(Note: HART Server must be purchased from th	ne HART Foundation)

3 To change serial ports, Click on the drop down box:

Serial Port	COM51	•	(i
	COM49		
line De∨Com200	COM50		
	COM51		
	COM52	-	
Use with Wirele	ssHART Gateway or HA	RT Mu	lt

- 4 Once the desired COM port is selected click OK to save the changed settings.
- 5 Click Yes if you want to save the changes. Clicking No will not save the changes.



6 Select New Device from the Main screen to connect using the new COM port.



6.12.1.2 Use HART-IP with a WirelessHART Gateway

The **Basic** menu is where DevCom2000 can be set to use HART-IP to communicate with a *Wireless*HART Gateway. To communicate using HART-IP with *Wireless*HART Gateway, perform the following steps:

Step	Action
------	--------

1

SevCom2000 - [Explorer]		
Device Options View Enhanced	Trending DD License Window Help	-
🕅 🐨 🐨 💁 🖻 🗎		
⊡ 🗗 Online	Item	Value Units
🗐 🗁 🔁 Overview	Device Status: Good	1
🗉 🗀 Configure	Comm Status: Burst	
E Gervice Tools	🗠 Pressure	2.1 inH2O
	🗠 Analog Output	11.331 mA
	🕙 Upper Range Valu	40.0 inH20
	🕙 Lower Range Value(4 mA)	-30.0 inH20
	Device Information	

² Select **Options** \rightarrow **Basic** from the main window. The Options Dialog Box is displayed with the Basic tab selected:

Options	X
Basic Search By Advanced	ul.
Modern Server Preferences	
Serial Port COM40 (available)	
Online DevCom2000	
Use TCP/IP with WirelessHART Gateway	
IP Address: 192 . 168 . 1 . 11 Advanced Settings	
Port 5094	
Use HART Server with WirelessHART Gateway or HART Multiplexer	
(Note: HART Server must be purchased from the HART Foundation)	
OK Cancel	Restore Defaults



2
5

Click "Use TCP/IP with Wireless HART Gateway"

Options X
Basic Search By Advanced
Modem Server Preferences
Serial Port COM40 - (available)
Online DevCom2000
✓ Use TCP/IP with WirelessHART Gateway
IP Address: 192 . 168 . 1 . 11 Advanced Settings
Port 5094
Use HART Server with WirelessHART Gateway or HART Multiplexer
(Note: HART Server must be purchased from the HART Foundation)
OK Cancel Restore Defaults

The Serial Port option will now be grayed out. **Un-checking** will make Serial Port selectable again.

- ⁴ Enter the IP Address of the WirelessHART Gateway in the IP Address Field. Also enter the Port assigned to HART-IP in the Gateway. It is typically 5094.
- 5 For more advanced settings related to HART-IP, click the "Advanced" button. The following dialog box appears:

Advanced HART-IP Setup
Gateway AddressingGateway URL:
Resolve Resolve Enter Gateway URL as text then press "Resolve" to find IP Address
Gateway HART Address: 0
Save Cancel

Communicating to a WirelessHART Gateway via its URL



Enter a URL text address in the URL field and click the "Resolve" button to convert it into an IP Address. The IP Address will populate the IP Address box if a successful conversion occurs.

Gateway Address

Some WirelessHART Gateways do not use the default address of 0. For these Gateways you must enter the correct Gateway Address in this field.

6.12.1.3 Using HART Server

The **Basic** menu is used to set DevCom2000 to communicate with a WirelessHART gateway or HART multiplexer. This requires an external program called HART Server. Although DevCom2000 can use HART Server for WirelessHART communications, it is recommended that HART-IP be used. To communicate with a WirelessHART Gateway or a HART multiplexer, perform the following steps:

Step Action

📞 DevCom2000 - [Explorer]		
Device Options View Enhanced	Trending DD License Window Help	-
🕅 🐨 🐨 🔝 🗎		
⊡ 🗗 Online	Item	Value Units
🖽 🗠 🔁 Overview	Device Status: Good	
🗉 🗀 Configure	🚇 Comm Status: Burst	
E Gervice Tools	🗠 Pressure	2.1 inH2O
	🗠 Analog Output	11.331 mA
	🕙 Upper Range Valu	40.0 inH20
	Lower Range Value(4 mA) Device Information	-30.0 inH20
	<	

2 Select **Options** \rightarrow **Basic** from the main window. The Options Dialog Box is displayed with the Basic tab selected:



Options X Basic Search By Advanced
Modem Server Preferences
Serial Port COM40 (available)
Online DevCom2000
Use TCP/IP with WirelessHART Gateway
IP Address: 192 . 168 . 1 . 11 Advanced Settings
Port 5094
Use HART Server with WirelessHART Gateway or HART Multiplexer
(Note: HART Server must be purchased from the HART Foundation)
OK Cancel Restore Defaults

3 Click "Use HART server with WirelessHART Gateway or HART Multiplexer"

Options	x
Basic Search By Advanced	
Modern Server Preferences	
Serial Port COM40 (available)	
Online DevCom2000	
Use TCP/IP with WirelessHART Gateway	
IP Address: 192 . 168 . 1 . 11 Advanced Settings	
Port 5094	
✓ Use HART Server with WirelessHART Gateway or HART Multiplexer	
(Note: HART Server must be purchased from the HART Foundation)	
OK Cancel Restore Defaults	

- 4 The Serial Port option will now be grayed out. Un-checking will make Serial Port selectable again. Click OK to save the changed settings.
- 5 Click Yes if you want to save the changes. Clicking No will not save the changes.



DevCom2	
	Are you sure you want to save the changes you made to your preferences?
	Yes No

6 Restart DevCom2000 for the changes to take place.

Ensure that the application is running.

6.12.3 Options → Search

6.12.3.1 Poll Address

The **Search** menu is used to change how DevCom2000 searches for a Device. The first option is to search by Poll Address. This searches for a specific poll address or set of addresses. To search for a device using Poll Address perform these steps:

Step Action

1

Device Options View Enhanced Tree	nding DD License Window Help	_ 8
🕅 🐨 🗊 💁 🖻		
⊡ 🗗 Online	Item	Value Units
🗊 😁 Overview	Device Status: Good	Če
🗉 🗀 Configure	Comm Status: Burst	
Service Tools	Pressure	2.1 inH2O
	🗠 Analog Output	11.331 mA
	🕙 Upper Range Valu	40.0 inH20
	😕 Lower Range Value(4 mA)	-30.0 inH2O

2 Select **Options** \rightarrow **Search** from the main window. The Options Dialog Box is displayed with the Search By tab selected:



Poll Address Search by Tag Search by Poll Address	- WirelessHART Adopter - Default
 ☞ use poll address 0 only ← find first poll address ← use poll address: ← 63 ← search 0-31 ← search 0-63 ← search range: 0 through 0 	 ABB FieldKey-15 Emerson THUM - 63 Endress+Hauser SWA70 - 15 MACTek BULLET - 15 Pepperl+Fuchs WHA-ADP - 15 Phoenix Contact RAD-WHA - 63 Siemens SITPANS AW200 - 15

3 There are currently nine options for Poll address:

- "use poll address 0 only" only searches at poll address 0 before not finding a device. This is the default setting.
- "find first poll address" searches poll addresses until it finds the first device it comes across.
- "use poll address:____" If the poll address is know this options searches at a specific address (i.e. 5).
- "search 0-15" searches poll addresses 0 through 15.
- "search 0-31" searches poll addresses 0 through 31.
- "search 0-63" searches poll addresses 0 through 63
- "search range <u>through</u>" searches between a user identified range of poll addresses.
- "MACTek Bullet 15" searches poll address 15.
- "Emerson Process Management THUM 63" searches poll address 63.
- 4 The Search by Tag option is grayed out when searching by poll address. Select a search by poll address option and Click OK to save the changed settings.
- 5 Click Yes if you want to save the changes. Clicking No will not save the changes.



DevCom2000		000
		Are you sure you want to save the changes you made to your preferences?
		Yes No

6 Reconnect to a new device.

6.12.3.2 Short Tag

The **Search** menu can also be used to search by a specific Tag name or Description. To search for a device based on a Tag name or a Description, perform the following steps:

Step	Action
------	--------

1

SevCom2000 - [Explorer]		
Device Options View Enhanced Trendi	ng DD License Window Help	- 6
🕅 🐨 🐨 💁 🖻 🗎		
⊡ 🖴 Online	Item	Value Units
🐵 🗁 Overview	Device Status: Good	
🕮 🗀 Configure	🕲 Comm Status: Burst	
Gervice Tools	💁 Pressure	2.1 inH2O
	🗠 Analog Output	11.331 mA
	🕙 Upper Range Valu	40.0 inH20
	🕙 Lower Range Value(4 mA)	-30.0 inH20
	Device Information	

2 Select **Options** \rightarrow **Search** from the main window. The Options Dialog Box is displayed with the Search By tab selected:



Poll Address 💽 Search by Tag		
Search by Poll Address use poll address 0 only find first poll address use poll address: 63 search 0-15 search 0-31 search 0-63 search range: 0 through 0	WirelessHART Adapter - Default C ABB FieldKey - 15 C Emerson THUM - 63 C Endress + Hauser SWA70 - 15 C MACTek BULLET - 15 C Pepperl + Fuchs WHA-ADP - 15 C Phoenix Contact RAD-WHA - 63 C Siemens SITRANS AW200 - 15	

3 Select "Short Tag" from the Search By drop down box.

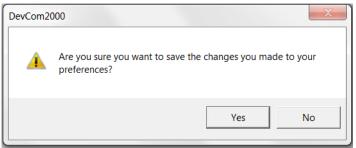
Options			
Basic	Search By Adv	anced	
s	earch By		
F	Poll Address	-	Search by Tag
F	oll Address		
	Short Tag earch by Poll Addi	·ecc	
	earch by Foll Add	600	
6	use poll addres	s 0 only	
) find first poll add	ress	

4 The poll address options will now be grayed out. Enter the tag to be searched for in the "Search by Tag" edit box.

Short Tag Search by Tag	TESTDEV
Search by Poll Address	WirelessHART Adapter - Default
Image: second system Image: second system	ABB FieldKey - 15 Emerson THUM - 63 Endress+Hauser SWA70 - 15 MACTek BULLET - 15 Pepperi+Fuchs WHA-ADP - 15 Phoenix Contact RAD-WHA - 63 Siemens SITRANS AW200 - 15



- 5 Click OK to save the changed settings.
- 6 Click Yes if you want to save the changes. Clicking No will not save the changes.



7 Reconnect to a new device.

Ensure that the application is running.

6.12.4 Options → Advanced 6.12.4.1 HART Master

The **Advanced** menu is used to change DevCom2000 settings. DevCom2000 can be a Primary or Secondary HART Master. To change the HART Master setting, perform the following steps:

1

DD License Window Help	- 8
Item	Value Units
Device Status: Good	
Comm Status: Burst	
🗠 Pressure	2.1 inH2O
🔍 Analog Output	11.331 mA
🕙 Upper Range Valu	40.0 inH20
	-30.0 inH20
	ම Device Status: Good මා Comm Status: Burst මා Pressure ම Analog Output

2 Select **Options** \rightarrow **Advanced** from the main window. The Options Dialog Box is displayed with the Advanced tab selected:



HART Master	DD Startup		
Primary	Device DD		
C Secondary	⊖ Generic DD		
Select Language *			
English	 Change in language will DevCom2000 is restarted. 	not take effect until	
12.19.001	 DevCom2000 is restarted. 		
🔲 Don't Connect to [Device On Startun		
jDoint Connection	sevice on standp		

- 3 Under the section "HART Master" select either "Primary" or "Secondary".
- 4 Click OK to save the changed settings.
- 5 Click Yes if you want to save the changes. Clicking no will not save the changes.

DevCom2	000
	Are you sure you want to save the changes you made to your preferences?
	Yes No

6 Restart DevCom2000 for the changes to take place.

6.12.4.2 Language

Certain DD's can be used in different languages. English is the default setting but some support other languages. Note that main program frame will always be English. Only the DD based items – menus, variables, etc. will change language. And will only change if the DD supports that language. In order to change the Language setting, perform the following steps:

Step Action

1 Ensure that the application is running.



📞 DevCom2000 - [Explorer]			
E Device Options View Enhanced T	rending DD License Window Help		_ 8 ×
🔂 🐨 🐨 💁 🖻 🗎			
e 🖨 Online	Item	Value	Units
🕀 🗃 Overview	Device Status: Good		
🕀 🗀 Configure	Comm Status: Burst		
Service Tools	Pressure		. inH2O
	Analog Output	11.331	. mA inH20
	🕙 Upper Range Valu 🕺 Lower Range Value(4 mA)) inH2O) inH2O
	Device Information	-50.0	iiinz0
	•		• • •
Tag: P-101 - LongTag/Desc: TEST UNIT	- Device: 3051 - DD: 26/06/03/07 🤷 H	IART Activit 🕐 Trend Activ	vit NUM

2 Select **Options** \rightarrow **Advanced** from the main window. The Options Dialog Box is displayed with the Advanced tab selected:

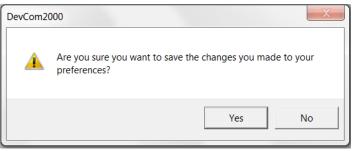
tions		×
Basic Search By Advanced	1	
HART Master Primary C Secondary Select Language * English	DD Startup O Device DD Generic DD - Change in language will not take effect until DevCom2000 is restarted.	
Don't Connect to Device		
	ОК	Cancel Restore Defaults

3 Click the "Select Language" drop down to select a different language.





- 4 Select a language to translate the DD into. Click Okay to save the changed settings.
- 5 Click Yes if you want to save the changes. Clicking no will not save the changes.



6 Restart DevCom2000 for the changes to take place. If the language is supported the DD will be translated. If not, the DD with default to English.

6.12.4.3 DD Startup

During normal startup of DevCom2000, the device is found and then the DD is loaded. If the DD cannot be found then a generic DD is loaded. **Advanced** has settings that can change what DD DevCom2000 loads with loading a device. To load a generic DD at start up or to not load a DD at all perform the following steps:

Step Action

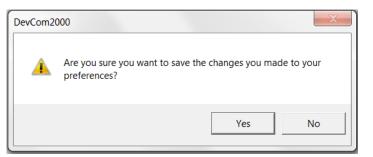
SevCom2000 - [Explorer]		
Device Options View Enhanced Trending	DD License Window Help	-
8 8 8 9 9 9		
⊡- 🗳 Online	Item	Value Units
🖶 🛥 Overview	Device Status: Good	
🕀 🗀 Configure	Comm Status: Burst	
Service Tools	🗠 Pressure	2.1 inH2O
	🗠 Analog Output	11.331 mA
	🕙 Upper Range Valu	40.0 inH20
	Lower Range Value(4 mA) Device Information	-30.0 inH20



2 Select **Options** \rightarrow **Advanced** from the main window. The Options Dialog Box is displayed with the Advanced tab selected:

ions		
Basic Search By Advanced	1	
HART Master Primary C Secondary	DD Startup © Device DD C Generic DD	
Select Language *		

- 3 Click either "Device DD" or "Generic DD" depending on which DD is to be loaded when connecting to a device.
- 4 Check the "Don't Connect to Device On Startup" to start DevCom2000 without connecting to a device. Clicking "New Device" will connect to a device after this start up.
- 5 Click OK to save the changed settings.
- 6 Click Yes if you want to save the changes. Clicking no will not save the changes.



- 7 Restart DevCom2000 for the changes to take place.
- 8 If "Don't Connect to Device On Startup" is checked the following message will be displayed on start up:



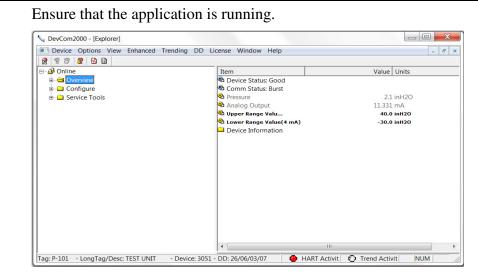
ſ	DevCom20	000	
		Not Connecting to Device. Click 'New Device'	to connect.
			ОК

6.12.4.4 Default Settings

The "Default" button on the **Advanced** tab **Options** resets all the advanced options to their default settings. To return the settings to their default settings perform the following steps:

Step Action

1

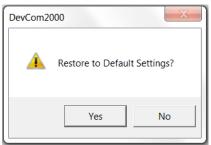


2 Select **Options** \rightarrow **Advanced** from the main window. The Options Dialog Box is displayed with the Advanced tab selected:

HART Master	DD Startup	
Primary	Device DD	
C Secondary	C Generic DD	
Select Language *		
	*- Change in language will not take effect until DevCom2000 is restarted.	
	DevCom2888 is restarted.	
Don't Connect to Devic		



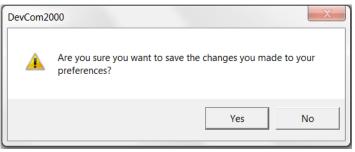
- 3 Click the "Restore Defaults" button.
- 4 DevCom2000 will ask if you want to restore the default settings. Click "Yes"



5 If the restore was successful the following dialog box will be shown:

DevCom20	
	Settings Restored
	ОК

- 6 Click OK to save the changed settings.
- 7 Click Yes if you want to save the changes. Clicking no will not save the changes.



8 Restart DevCom2000 for the changes to take place.

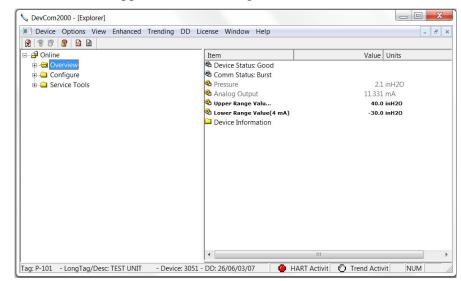
6.13 Trending

6.13.1 Define Trend

The **Trending** menu is used to track dynamic device parameters over a specified period of time. Once a parameter is tracked, it can be graphed and compared against other parameters tracked on the same time period. Before a parameter can be graphed, a trend must first be created. To create a trend, perform the following steps:



1 Ensure that the application is running and is connected to a device.



2 Select **Trending** → **Define Trend** from the main window. The **Define Trend** Dialog Box is displayed:

	Select parameter(s), Maximum 4, use CNTRL key to select mulitple Analog Output Custom Meter Value Percent of Range Pressure Sensor Temperature Status group 1 Status group 2 Status group 3	
Enter Eilene	I Enter Interval: 1 Seconds For how long? Seconds I Continuous me: (saved as a bt file)	
	ComSol/TESTDEV.1-11.txt	Browse
Notes:	Start Cancel	

3 Select the information for the log file:

Select Parameters – Select up to four parameters to log at a time. Press the CNTRL key to select multiple parameters.

Enter Interval - Input a number and select an interval from the drop



Step	Action
	down box, i.e. Seconds, Minutes, Hours, Days.
	For How Long? – Input duration for how long to log the parameter(s). This part will be grayed out if the "Continuous" check box is selected. Unselect it for a finite duration.
	Filename – The default directory is based on Windows User Accounts however a log file can be saved anywhere.
	Notes – The section can only be 250 characters long.
4	Click the "Start" button to start logging.
5	The logging will then be started. At the lower right hand corner of DevCom2000 the "Trend Activity" light will come on. This indicates that there is logging going on. You cannot start another log until this one is finished or the user stops the trend manually.
	HART Activit 🕐 Trend Activit NUM

6.13.2 View Current Trend

When a trend is created DevCom2000 creates a window that shows the graph of the current trend. To view this trend, perform the following steps:

Step Action

1 Ensure that the application is running and is connected to a device.

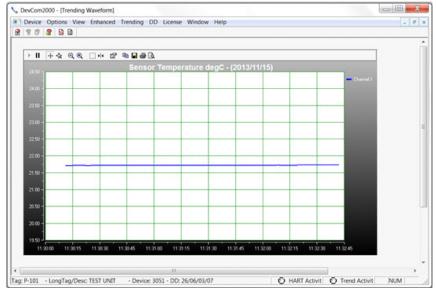
DevCom2000 - [Explorer]				
Device Options View Enhanced Trending	DD License Window Help			_ # ×
2 7 7 2 8 8 8				
8- 🥔 Online	Item	Value Units		
ie Configure ie Configure ie Service Tools	Device Status: Good Device Status: Good Device Status: Bust Pressure Analog Output Upper Range Value; Lever Range Value; Device Information	1.9 InH20 11.29 mA 49.0 InH20 -36.6 InH20		
ag: P-101 - LongTag/Desc: TEST UNIT - Devic	e: 3051 - DD: 26/06/03/07	O HART AC	tivit O Trend Activit	NUM

2 Ensure that a trend is in progress. The "Trend Activity" light at the bottom of the screen is on if a trend is in progress. If not then the



Step	Action	1						
	light w	ill be of	f.					
			۲	HART Activit	0	Trend Activit	 NUM	

- 3 Select **Trending** \rightarrow **View Current Trend** from the main window.
- 4 The **DevCom2000 Trend** dialog opens up.



The user can manipulate the graph as desired. "Tracking" is the term used to describe how the graph control follows the data, changing the axis in real time so that all of the data is shown. Below are the specific parts of the graph:

Tool Bar: There are multiple things that the user can do with the graph.



<u>Resume All Tracking</u>: The "Resume All" button - • is grayed out while tracking. If either axis is changed or the "Pause" button is pressed, this will be come green - • Pressing "Resume All Tracking" will resume the tracking on the graph.

Pause All Tracking: The "Pause" button - III - pauses the graph in its current state. Data is still added, however the current X-axis and Y-axis spans no longer change. Pressing the "Resume" button will continue tracking.

Scroll Axis: This is the default way to scroll both the X and Y-axis.

The "Scroll Axis" button - +- - allows the user to scroll in both directions on the graph.



<u>Zoom Axis</u> : The "Zoom Axis" button - $\hat{\mathbf{x}}$ - allows the user to shrink or enlarge the scale of either axis. By moving up or down, left or right, the span of each axis is changed.						
Zoom Out All Axis: The "Zoom Out All Axis" button - Q - zooms out both the X-axis and Y-axis at the same time giving the user a broader look at the graph.						
Zoom In All Axis: The "Zoom In All Axis" button - 🔍 - zooms in both the X-axis and Y-axis at the same time giving the user view over a smaller time period.						
Zoom Box: The "Zoom Box" button changes the cursor allowing the user to select a specific area of the graph to zoom in on for a more detailed look.						
<u>Cursor</u> : The "Cursor" button - I - adds a cursor to the screen that gives the coordinates of the graph at a certain time. Clicking and moving the cursor can give the coordinates of any point on the						
graph. See below for an example of using the "Cursor" tool:						

	X-Axes Y-Axes Legend Tables ToolBar Data View VO Annotation Defaults Border Style C Raised C Raised C Lowered
Update Frame Rate 60 🚽 🕫 Auto Frame Rate	



<u>Copy To Clipboard</u>: The "Copy To Clipboard" button - 🖻 - copies the graph to the clipboard to allow the graph to be pasted into documents like a report. <u>Save</u>: The "Save" button - 🖬 - saves the graph as a "*.bmp".

<u>Print</u>: The "Print" button - 🖨 - prints the graph.

<u>Preview</u>: The "Preview" button - 🖸 - gives a print preview of the graph.

Title: The title gives the name of the parameter being trended, the units that the parameter is being measured in, and the date(s) of the graph.

(Parameter) (Units) - (Date) Pressure inH2O - (2011/03/14)

Axis: The Y-axis is the units of the parameter. The X-axis is the time in HH:MM:SS format.

Redraw: This section is disabled for View Current Trend.

6.13.3 View Past Trends

DevCom2000 keeps a list of trends that have been done in the past. These trends are saved so that they can be viewed at a later date. To select a trend to be viewed perform the following steps:

Step Action

1 Ensure that the application is running, you do not have to be connected to a device to use **View Past Trends**.

Device Options View Enhanced	Trending DD License Window Help		- 8
888 8 9 9			
	Item	Value Units	

- 2 Select **Trending** \rightarrow **View Past Trends** from the main window.
- 3 The **Select Trend To Graph** dialog will open.



	Tag	LongTag/Desc	Device	Date	Start Time	File	Notes	
01 02 03 04 05 06 07	T-101 T-101 T-101 T-101 T-104 T-104 POKEY1	TEST TEST TEST TEST VERIPY DESC VERIPY DESC	1106744 1106744 1106744 3342378 3342378 3342378 7451130	2013-09-30 2013-09-30 2013-09-30 2013-09-30 2013-10-01 2013-10-01 2013-10-01	15:40:24 15:44:51 15:57:18 16:42:39 10:12:08 10:15:48 10:31:31	C:\Users\hni C:\Users\hni C:\Users\hni C:\Users\hni C:\Users\hni C:\Users\hni C:\Users\hni		II
-	PONETT -	TEATLANT	111	2013-10-01	10.31.31	C.Yosersymi.		
	Device: File Name: Date:						meter 3 meter 4	
	Start Time:							
	Notes:					_		

This dialog box is very similar to the "Download/View" dialog box.

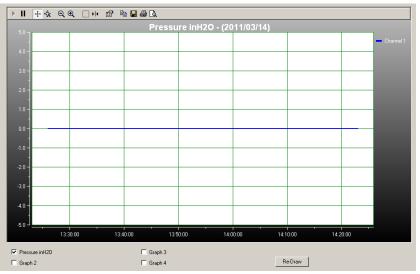
Data: Opens the text file where the data has been saved.

<u>Delete</u>: Deletes a previous trend from the database.

<u>Close</u>: Closes the dialog box.

<u>Trend</u>: Opens the saved Trend and displays it graphically. Select a trend to graph and click "Trend".

4 The **DevCom2000 Trend** dialog opens up when "Trend" is selected.



The user can manipulate the graph as desired. "Tracking" is the term used to describe how the graph control follows the data,



changing the axis in real time so that all of the data is shown. Below are the specific parts of the graph:

Tool Bar: There are multiple things that the user can do with the graph.

▶∥ 🕂 ଝ଼ ୧୧ 🗋 ୷ 🖻 🖶 🖨 🗟

<u>Resume All Tracking</u>: The "Resume All" button - • is grayed out while tracking. If either axis is changed or the "Pause" button is pressed, this will be come green - • Pressing "Resume All Tracking" will resume the tracking on the graph.

Pause All Tracking: The "Pause" button - III - pauses the graph in its current state. Data is still added, however the current X-axis and Y-axis spans no longer change. Pressing the "Resume" button will continue tracking.

Scroll Axis: This is the default way to scroll both the X and Y-

axis. The "Scroll Axis" button - + - allows the user to scroll in both directions on the graph.

<u>Zoom Axis</u>: The "Zoom Axis" button - \Im - allows the user to shrink or enlarge the scale of either axis. By moving up or down, left or right, the span of each axis is changed.

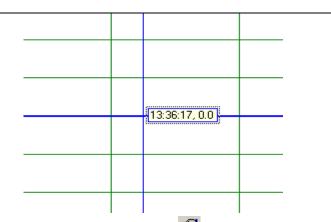
Zoom Out All Axis: The "Zoom Out All Axis" button - Q - zooms out both the X-axis and Y-axis at the same time giving the user a broader look at the graph.

Zoom In All Axis: The "Zoom In All Axis" button - 🔍 - zooms in both the X-axis and Y-axis at the same time giving the user view over a smaller time period.

<u>Zoom Box</u>: The "Zoom Box" button - — - changes the cursor allowing the user to select a specific area of the graph to zoom in on for a more detailed look.

<u>Cursor</u>: The "Cursor" button - \bowtie - adds a cursor to the screen that gives the coordinates of the graph at a certain time. Clicking and moving the cursor can give the coordinates of any point on the graph. See below for an example of using the "Cursor" tool:





<u>Properties</u>: The "Properties" button - 🖻 - brings up the "Properties" dialog box which gives the user the ability to customize the graph as desired. Below is an example of one of the "Properties" tabs:

Plot	×
Control Layout Channels Cursors Limits Labels X-A	xxes Y-Axes Legend Tables ToolBar Data View
General Title Background Print Hints File I/O	Annotation Defaults
	Border Style Outer Margin
Copy To ClipBoard Format Meta File	C None 5
File Column Separator Tab	← Raised 5 → 5 →
🔽 Clip Annotations To Axes	← Lowered
Update Frame Rate 60 🗾 🗸 🗸 Auto Frame Rate	

<u>Copy To Clipboard</u>: The "Copy To Clipboard" button - 🗎 - copies the graph to the clipboard to allow the graph to be pasted into documents like a report.

Save: The "Save" button - 🖬 - saves the graph as a "*.bmp".

<u>Print</u>: The "Print" button - 🖨 - prints the graph.

<u>Preview</u>: The "Preview" button - 🖸 - gives a print preview of the graph.

Title: The title gives the name of the parameter being trended, the units that the parameter is being measured in, and the date(s) of the graph.

(Parameter) (Units) - (Date) Pressure inH2O - (2011/03/14)

Axis: The Y-axis is the units of the parameter. The X-axis is the time in HH:MM:SS format.



Step	Action						
	Redraw: Up to four parameters can be trended at the same time.						
	By clicking the check box for a parameter u can show one or four at the same time for easy comparison over a period of time.						
	Pressure inH20	🗖 Graph 3					
	🗖 Graph 2	🔲 Graph 4					
	Click "Redraw" and the parameter	rs checked will be shown.					

6.13.4 Stop Current Trend

Step Action

1 Ensure that the application is running and is connected to a device.

DevCom2000 - [Explorer]				
Device Options View Enhanced Trends	ng DD License Window Help			- # 3
2 7 7 2 8 8 8				
8- 🥔 Online	Item	Value Units		
e - GA Conine e - G Overview e - G Configure ie - G Service Tools	Item ® Device Status Good ® Comm Status Bust ® Presare ® Analog Output ® Users Range Value(< = AA) I Device Information	Value Units 1.9 imH20 11.299 mA 460 e wH70 -38.6 iwH20		
ag: P-101 - LongTag/Desc: TEST UNIT - Dr	vice: 3051 - DD: 26/06/03/07	0.00	tivit O Trend Activit	NUM

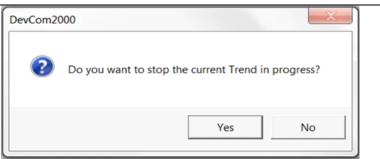
2 Ensure that a trend is in progress. The "Trend Activity" light at the bottom of the screen is on if a trend is in progress. If not then the light will be off.



- 3 Select **Trending** \rightarrow **Stop Current Trend** from the main window.
- 4 You will be asked if you want to stop the current trend. Click "Yes". This will stop the current trend.



Step	Action
Step	ACTION



5 The "Trend Activity" light will now be off.

HART Activit	Trend Activit	NUN
--------------	---------------	-----

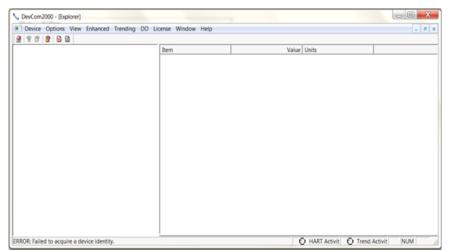
6.14 DD Functions

6.14.1 Adding a DD

DevCom2000 allows the user to add a DD to the library when necessary. Each DD must be in its appropriate destination for DevCom2000 to find the DD. The format is: "C:\HCF\DDL\Library\xxxxx\yyyy\" where "xxxxxx" represents the manufacturer ID and "yyyy" represents the device ID. The user does not need to add the directory structure, DevCom2000 does that automatically. To add a DD perform the following steps:

Step Action

1 Ensure that the application is running, you do not have to be connected to a device to use **Add DD**.



- 2 Select $DD \rightarrow Add DD$ from the main window.
- 3 The **Add DD** dialog will open.



Add DD			X
Enter Location of File:			Browse
DD Info Manufacturer No: Device No: Device Rev: DD Rev:	 Device Label:		
Туре	 Add DD	Update Label	Close

- 4 Click "Browse" and go to the location of the DD that is to be added.
- 5 The "DD Info" section will be populated. Confirm that it is the correct DD. Below is an example of 0000c2/0021/0201.fm6:

0000c2
0021
02
01
*.fm6

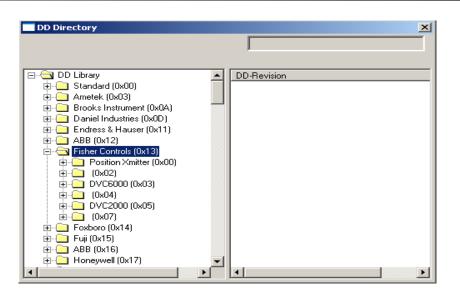
6 Input a "Label" for the DD if necessary. If not Click "Add DD" to add the DD to the library.

6.14.2 Updating a DD Label

DevCom2000 allows the user to add a Label for a DD if there is not one already defined. Below is an example:

Step Action





The manufacturer ID of Fisher Controls is 000013. Device IDs 0002, 0004, and 0007 all do not have a label. This is when updating a DD label is useful. To update the label perform the following steps:

Step	Action
------	--------

1	Ensure that the application is running, you do not have to be
	connected to a device to use Add DD.

V DevCom2000 - [Explorer]						x
E Device Options View Enhanced Trending DD License Window Help						
R 7 3 8 N B						
	Item	Value	Units			
ERROR: Failed to acquire a device identity.		0	HART Activit	O Trend Activit	NUM	

- 2 Select $DD \rightarrow Add DD$ from the main window.
- 3 The **Add DD** dialog will open.



Add DD			X
Enter Location of File:			Browse
DD Info Manufacturer No: Device No: Device Rev: DD Rev:	Device Label:		
Type	 Add DD	Update Label	Close

- 4 Click "Browse" and go to the location of the DD that is to have the label updated.
- 5 The "DD Info" section will be populated. Confirm that it is the correct DD. Below is an example of 0000c2/0021/0201.fm6:

DD Info	
Manufacturer No:	0000c2
Device No:	0021
Device Rev:	02
DD Rev:	01
Туре	*.fm6

- 6 Input a "Label" for the DD if necessary. Click "Update Label" to update the label.
- 7 Below is the new "Available DDs" sections where 000013/0002 is given the label "Updated Label":

DD Directory		×
DD Library Standard (0x00) Ametek (0x03) Brooks Instrument (0x0A) Daniel Industries (0x0D)		DD-Revision
Endress & Hauser (0x11) ABB (0x12) Fisher Controls (0x13) Fisher Controls (0x13) Desition Xmitter (0x00)		
⊕ (0x07) ⊕ Foxboro (0x14) ⊕ Fuji (0x15)		
	•	×



6.15 HART-IP Communication

Step Action

- 1 Ensure that settings for HART-IP have been made in the Options->Basic menu. Note that a HART Modem is NOT required, only Ethernet access to the WirelessHART Gateway.
- 2 Click on "New Device" icon to start the connection process. The following screen will appear.

	Device	Opt	tions	View	Enhanced	Trending	DD	License	Window	Help	
8	7 7	- 💀 -	<u>M</u>	1							
	Wireles	sHAF	RT Ne	twork De	evice Selectio	on					
		_									
	Status	:									
	Click "Qu	ick S	can" to	o display	all devices i	n Network					
					lay all de∨ice wer than Quic		< Heira	archy			
	Double C	lick a	n des	ired de∨	ice above for	r configuratio	n deta	ils			
				Quick Sc	an Det	ailed Scan		Close			

³ Click on "Quick Scan" to provide a simple list of all the devices on the WirelessHART network. Below is a sample screen:



Ê	Device	Ор	tions	View	Enhanced	Trending	DD	License	Window	Help
2	88	5	M 6	1						
	WirelessHART Network Device Selection									
Image: Second system Image: Second system Image: Secon										
	Status	: 0	= 0, 13	= 0, 74 -	= 0, 84 = 0					
	Click "Quick Scan" to display all devices in Network									
	Click "Detailed Scan" to display all devices in Network Heirarchy Note: Will be significantly slower than Quick Scan									
	Double Click on desired device above for configuration details									
									_	
				Juick Sc	an Det	ailed Scan		Close		

⁴ Click on "Detailed Scan" to display all the devices as a heirarchy. This will show what transmitters are connected to each WirelessHART adapter. Note that this listing takes significantly longer to generate than the Quick Scan. Below is a sample screen.

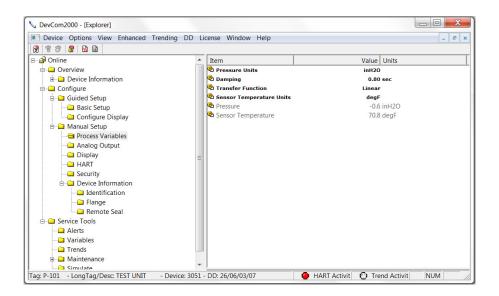
Devic	e Op	otions	View	Enhanced	Trending	DD	License	Window	Help	
18 3		M	1							
Wirel	essH4	ART Ne	etwork De	evice Selecti	on					
E		BULLE P HAN P MOI THUM P 314	T WITH 1 NNOVER DEM TE WITH 31 4 ON TH ESS 648	R MESSE 20 [.] ST 44 IUM	13					
Stat	us: (0 = 0, 13	3 = 0, 74 =	= 0, 84 = 0						
Click "C	Quick S	Scan" to	o display	all devices i	in Network					
				lay all device wer than Quie		(Heira	archy			
Double	Click	on des	ired de∨	ice above fo	r configuratio	n deta	ils			
			Quick Sc	an Det	ailed Scan		Close			



For both types of list displays, the following icons are used:

HART-IP Icons

- 🔄 = Gateway
- Adapter, WirelessHART
- = Transmitter
- 5
- Once a device list has been created, double click on the desired device to configure/review using DevCom2000. Below is a sample screen:



6

To switch to a different device on the *Wireless*HART network: **Select Window** on the MENU bar, then click on **HART-IP Device Selection** to bring up the **Device Menu Tree** again.

g	DD	License	Win	ndow Help
				Cascade
				Tile
				1 Explorer
			✓	2 HART-IP Device Selection



Appendix A

Troubleshooting Guide

For most error messages, there is a selection for "Com Troubleshooter". This program will guide you through the steps to solve your communication problems. Below is a quick summary:

Problem: Will not communicate

Hardware Check:

Verify the following:

- 1. Com port number on Preferences Dialog box matches HART interface hardware.
- 2. Loop power supply is on.
- 3. Loop resistance between 250 ohms and 1Kohms.
- 4. Loop current within HART limits.
- 5. If multi drop configuration, all transmitters in loop have unique addresses.
- 6. HART interface hardware connected across loop resistor or across transmitter terminals.

Software Check:

Sometimes the application does not end cleanly and the communication process is still running in an unknown state. When this happens, it must be closed out before restarting DevCom2000.

Perform the following:

- 1. Close DevCom2000.
- 2. Press CTRL-ALT-DEL to bring up the Windows Security Screen.
- 3. Click on Task Manager.
- 4. Select the Processes tab.
- 5. In the list of running tasks, select HModemSvr.exe.
- 6. Click on the End Process button on the dialog box.
- 7. Restart DevCom2000.

Problem:

Get the message "Error opening COMx"

Verify the following:

- 1. Com port number on Preferences Dialog box matches HART interface hardware.
- 2. HART interface hardware installed.



Problem:

No data in the Communication Log

Verify the following:

1. Verify that the "HART Activity" LED indicator on the bottom of the screen is flashing red. If not, open a menu that has dynamic data that is being refreshed like PV or AO.

- 2. For Windows Vista and Windows 7 users, you may need to perform the following:
 - a) Open the "hosts" file using Notepad. It is located in the following directory:
 - C:\WINDOWS\system32\drivers\etc\hosts
 - b) Make sure this line appears (without preceding # character) 127.0.0.1 localhost
 - c) Make sure the following line does NOT appear:
 - ::1 localhost
 - If it is there, comment it out by placing # character in front like this:
 - #::1 localhost
 - d) Restart the Communication logger.

Note: To modify this file, you may need to perform the following in Windows:

- a) Go to Control Panel->Folder Options
- b) Select the View tab
- c) Remove the check next to Hide extensions for known file types
- d) Make the edit changes above
- e) Save the document to your documents
- f) copy the saved document to the above directory
- g) Delete the original hosts file
- h) remove the .txt extension from the new hosts file

3. Turn off firewall protection temporarily to see if it is blocking the TCP/IP communications between DevCom2000 and the Communication Logger.

Problem:

The system cannot find the path specified error box

Try the following:

- 1. Verify that the device library (C:\HCF\DDL\Library) is on Drive C:
- 2. If not, copy to drive C.

Problem:

Activation by Internet blocked by Firewall

Try the following:

- 1. Allow one time access to internet via your computer's Firewall settings.
- 2. Disable Firewall.
- 3. Use manual activation method.



Problem:

Active Windows not shown in Windows drop down list

Try the following:

- 1. Select Window->Cascade or Window->Tile.
- 2. All Windows will now be shown

<u>Problem:</u> When using HART Server for WirelessHART in Windows 7, the device selection screen does not appear

Try the following:

- 1. Start Windows Explorer.
- 2. Go to directory "C:\Program Files\ProComSol\Common"
- 3. Run "RegisterSELECT.bat" as an Administrator



Appendix B

Contact Information

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