

User's Guide

DeviceGate  
Conformance Test  
Support

DGAP  
Rev. 1.1

*HURON  
NET  
WORKS*

# **1. OVERVIEW**

## **1.1. General Description**

DGAP (DeviceGate Application Support) consists of a pair of dll's that are to be installed on the user's PC and a DeviceNet driver to be installed in the DeviceGate. This software set has been created to support the ODVA conformance test. The dll's provide the interface between the test software and the Ethernet link to the DeviceGate. The driver software in the DeviceGate interfaces between the Ethernet link and the DeviceNet connection to the device under test.

## **1.2. Requirements**

This document will assume that the DeviceGate was shipped with DN-EMU emulator software pre-installed. Section Two will describe the installation of the DGAP software.

1. A DeviceGate (DN-E100).
2. A 10 MB Ethernet network with a twisted pair connection for the DeviceGate. Alternatively, a point-to-point connection can be made using a crossover Ethernet cable.
3. A DeviceNet connection with 24 v DC power. The DeviceGate receives its power from the DeviceNet connection.
4. The CD ROM with DG tools install software and the driver and dll files. There will be other application software on the disk besides the following files.
  - DGTools\Setup.exe
  - DGAP Installer\DGAPSetup.msi
  - DeviceGate Software\Dn-driv\DNDRV.exe
5. A PC with
  - a 10 Mb ethernet card.
  - Windows 98, NT, 2000, or XP
  - Conformance test software from ODVA

## **2. INSTALLATION**

### **2.1. DGTools**

DGTools is a utility that is installed on your PC which allows you to upload software to you DeviceGate.

If DGTools has not previously been installed on your PC then navigate to the DGTools folder on the CD and run setup.exe.

In the event that there are future updates to DGTools you may need to replace an old version with a new one. If you wish to install a newer version, first use your add/remove control panel to uninstall the old version.

### **2.2. DNDRV.exe**

DNDRV.exe is to be installed on the DeviceGate. You will need to be connected to the DeviceGate via Ethernet. DGTools will detect if the DeviceGate and your PC are communicating.

Open the DGTools program and use the discover button to locate your DeviceGate. The DeviceGate will be displayed in the window by serial number. Select the DeviceGate with your mouse, the “upload files” button will become un-grayed.

Use the “ Upload files” button to navigate to ‘DeviceGate Software\Dn-drv\DNDRV.exe’ on the CD. This will copy the driver program to the DeviceGate.

If DGTools cannot find your DeviceGate, there is probably a mismatch between IP address settings in the PC Ethernet configuration and the DeviceGate configuration.

### **2.3. DLL's**

The dll's are to be installed on your PC. If you are updating the dll's with a new version, first uninstall the old version.

Exit any programs that you are running and navigate to ‘DGAP Installer\DGAPSetup.msi’. Double click on the msi program to start the install process.

When the process is complete the installer may or may not ask you to restart your PC. Please restart your machine even if you are not asked. *The operating system may not be able to find the new dll's until after a restart.*

## 2.4. Conformance Test

The Conformance Test software runs on your PC. It must be obtained from ODVA ([www.odva.org](http://www.odva.org)).

## 3. OPERATION

The device to be tested should be connected to the DeviceGate using DeviceNet cable. The DeviceGate should be connected to the PC over the Ethernet.

### 3.1. Starting the DeviceGate

The DeviceGate is shipped with an emulator program that is started by an autoexec.bat file that resides on the DeviceGate along with the application. The emulator application must be stopped and the dndrv.exe application must be started. Perhaps the simplest way is this:

1. Using a text editor, create a file on your PC named 'autoexec.bat' containing one line that says 'dndrv'.
2. Use DGTools to upload this file to the DeviceGate.
3. Cycle the power to the DeviceGate. It will reboot and start the driver.

To change back to the emulator when you are done with the conformance test, edit autoexec.bat to contain one line saying 'dmem' and again upload it to the DeviceGate with DGTools. Power cycle the DeviceGate to start the emulator.

### 3.2. Starting the Conformance Test

After the DeviceNet has been connected and the driver in the DeviceGate has been started you can run Conform.exe on your PC.

Make sure that the baudrates and the mac id's are set properly in the setup window. A dialog will open that contains the Huron Net Works logo. This dialog will list all DeviceGates that it can find. Highlight and select the one that is connected to the device under test.

The test should operate normally now.

Note: If you are doing a series of tests in which you change the baudrate of the device under test, it is best to terminate the conformance test and the DeviceGate and restart them both as described above.

