

DA-C V3.5

RistanCASE
Development Assistant for C
Version 3.5

Technical Note #105

Using DA-C with
Lauterbach Trace32
Debugger

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www.RistanCASE.ch/da-c/SpecificSupportLauterbach.htm

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0 Requirements

- **Trace32 debugger** (Lauterbach Datentechnik GmbH).
- **Development Assistant for C (DA-C)** - V3.5 build 555 or later.
Demo downloadable from URL:

<http://www.RistanCASE.ch/da-c/download.htm>

NOTE: This Technical Note only provides information on how to use and configure DA-C with Trace32; for further information about Trace32, please refer to Lauterbach documentation. For further information on DA-C, please refer to "*Development Assistant for C*" documentation V3.5.

1 Configuring DA-C

To configure DA-C check the "*First Steps*" document and DA-C documentation V3.5. The documentation is downloadable from <http://www.RistanCASE.ch/da-c/download.htm>

Defining "User Defined Actions": Compile, Link, and Make are highly useful.

In the following sections, it is assumed that Trace32 is installed in the "C:\Trace" directory, and that DA-C is installed in the "C:\Tools\DA-C" directory.

2 Debugger Interface

DA-C V3.5 is currently integrating a **DAPI (Debugging support Application Programming Interface)**. This interface will enable DA-C to exchange messages with Trace32. The advantages of such a connection are that it allows you to set or delete breakpoints from within DA-C and to execute other debugger operations. Furthermore, DA-C is not only synchronized with Trace32, but runs with it as it operates - it is always in the same file and on the same line as Trace32. Thus, the usability of both DA-C and Trace32 is increased. These are the configurations you will need to use this debugger interface efficiently:

- **Installation of communication DLL's**
- **Configuration of Debugger properties in DA-C**

2.1 Principles of Communication Between DA-C and Trace32

Communication between DA-C and HiTOP is based on TCP/IP protocol. The whole system contains (Figure 1.):

- **Trace32**
- **DA-C**
- **The two DA-C DLL's which implement DAPI: *cdtrc32.dll* and *ndapi32.dll***

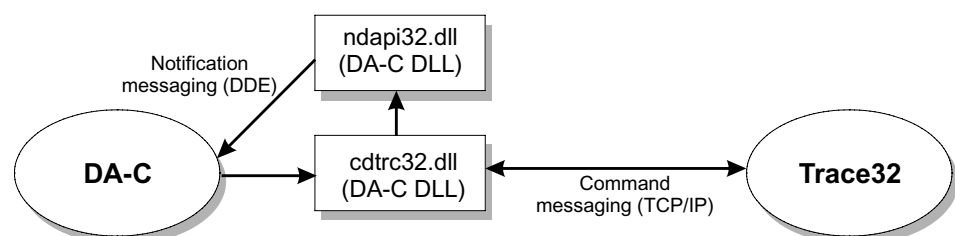


Figure 1. Communication between DA-C and Trace32



2.2 Installation of Communication DLL's

Files *Cdtrc32.dll* and *Ndapi32.dll* will be installed automatically during the DA-C installation process.

2.3 Configuration of Debugger Properties in DA-C

From the DA-C main menu, choose **Options / Debugger**, and a dialog box will be displayed, as shown in Figure 2.

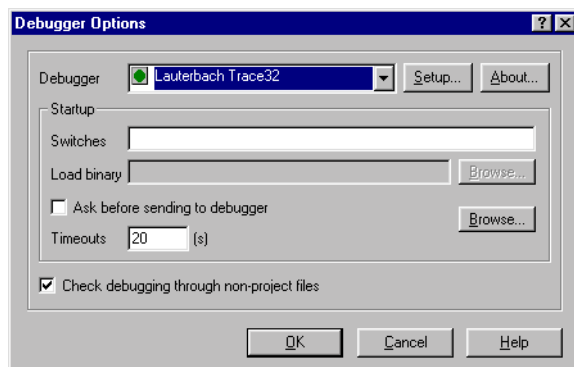


Figure 2.

In the *Debugger* field, select the corresponding debugger: "Lauterbach Trace32".

Now you have to specify the command string in the *Switches* field. It will be executed after a connection between Trace32 and DA-C has been established. More detailed information about the command string can be found in Trace32 documentation.

Then click the *Setup...* button. The dialog box shown in Figure 3. is opened.

In the *Program to start* field, specify the path and name of the Trace32 executable. Set the other parameters so that they correspond to the values set in Trace32, where an explanation of their meaning is given. The values are likely to appear as shown in Figure 3.

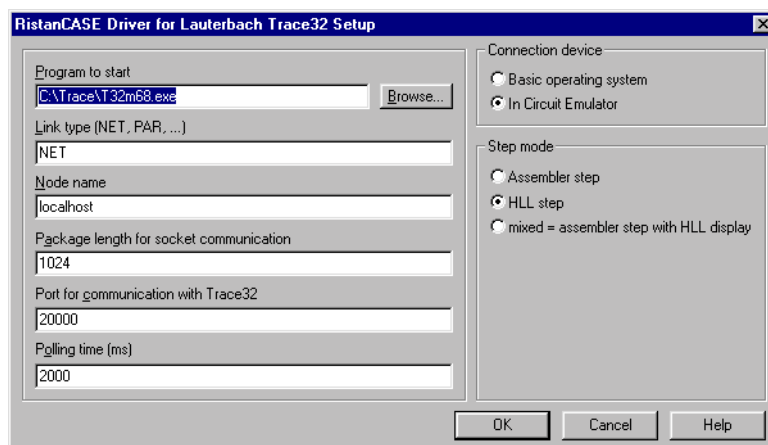


Figure 3.

3 Synchronized Debugging

It is now possible to test synchronization between DA-C and Trace32. Run DA-C and open the project. Select the source file you wish to debug. Select one of the executable lines in the code. In the DA-C main menu, select **Debug / Set Breakpoint** (or click the corresponding button on the Debug toolbar). The selected line is marked in configurable color, indicating that a breakpoint has been set. Then select **Debug / Run**. Trace32 has now been started; after a certain period of time, it will stop at the specified breakpoint.

Starting now, you can debug directly from DA-C with the toolbar in Figure 4, or even from Trace32. Synchronization between the two programs has been ensured.



Figure 4.

4 Troubleshooting

This section describes some potential problems that can be encountered while trying to connect Trace32 with DA-C.

1. You are trying to select Trace32, but there is no "Lauterbach Trace32" in the Debugger combo-box.

Check DA-C Version and release number. It should be V3.5, build 555 or later. Check the folder in which you have installed DA-C for necessary DLL's (*Cdtrc32.dll* and *Ndapi32.dll* are required). Trace32 support in DA-C has probably also not been licensed; please contact your supplier.

2. DA-C displays the alert message box with the message "External debugger tried to connect to a DA-C project dissimilar to the one configured!".

This means that the name currently specified in **Options / Debugger** of the DA-C main menu does not match the debugger name. DA-C was connected to the "wrong" debugger. Please refer to [section 2.3](#), "Configuration of debugger properties in DA-C".

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