Getting Started with Open AT® v3.03

Revision: 001
Date: November 2005

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Getting Started with Open AT® V3.03

Revision:	001
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Document History

Index	Date	Versions	
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1. Introduction

1.1. About this document

This document describes how to quickly start with the Open AT® Software Development Kit.

1.2. Open AT® SDK Documentation

The following documents are included in the Open AT® SDK:

Document	Description
Getting Started with Open AT®	Description of the first steps to use Open AT®.
Tutorial	Tutorial for the development of Open AT® applications.
Open AT® ADL Development Guide	Guide for the development of Open AT® application with the Development Layer (ADL).
Open AT® Basic Development Guide	Guide for the development of Open AT® basic applications. This document includes the description of the Open AT® basic APIs.
Tools Manual	Manual describing the tools available in the Open AT® SDK.
AT commands Interface Guide	Description of the AT commands supported in the Open AT® firmware.
Open AT® release note	Release note listing the Open AT® design features as well as the new features.

NOTE: All reference manuals are provides in PDF format. The Adobe Acrobat Reader can be downloaded from Adobe's web site at **http:\\www.adobe.com**. The recommended version is Version 5.0 or higher.

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2. Software installation

To develop and test Open AT® applications you must install the Open AT® SDK. This chapter guides you through the installation of the Open AT® SDK.

2.1. System Requirements

To install the Open AT® SDK, your system must support one of the following operating systems :

- Windows 98 / NT / Me / 2000 / XP

IMPORTANT WARNING : The provided GCC compiler runs only on Windows NT/2000/XP versions (it is not supported on Windows 98/ME systems).

2.2. Hardware Requirements

The main requirements for the PC that will support the Open AT® SDK are:

- Pentium 300 MHz or higher with at least 128 MB of RAM and 500 MB free on the hard disk
  (Recommended : CPU speed 1GHz or higher, RAM : 256 MBytes or more)
- A CD-ROM drive (for software installation)
- At least 1 free COM (serial) port for the communication with the target product

2.3. Software Requirements

- Microsoft Visual C++ Version 6.0
  or
  Microsoft Visual C++ .NET 2002 edition (7.0)
  or
  Microsoft Visual C++ .NET 2003 edition (7.1)
- ARM Compiler

Open AT® applications may be built for target mode or remote mode. The Visual C++ environments are required for the remote mode, and may be used also to build projects in target mode.

IMPORTANT: The ARM compiler is included in the SDK as an option. The compiler must be compatible with the Open AT® software version. In case the ARM compiler has not been ordered with the Open AT® SDK, please check that your current version of the ARM compiler is compatible with the Wavecom core software[1].

---

[1] For ex. if the Wavecom core software has been compiled with the ARM ADS 1.2 compiler, the Open AT® application (embedded application) must be compiled with the same compiler version.

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3. Installing the Open AT® SDK

Insert the Open AT® SDK CD-ROM in the drive on your PC. If the auto-start is enabled, the installation will automatically start.
If the auto-start is disabled or for some reason the auto-installation does not start, you can use Windows Explorer to launch **\autorun\autorun.exe** from the root folder of the CD-ROM.
After this, the following menu is displayed.

Figure 1 - Open AT® startup screen

Several operations are possible from this menu:

- Display the Readme.html file,
  which describes the CD-ROM contents.
- Install the Open AT® SDK.
- Install the Development Toolkit
- Display documentation HTML file,
  which allows to access to all documents related to Open AT®.
- Explore the CD-ROM contents.
- Exit the Open AT® installation program.

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To install the Open AT® SDK, choose **install Open AT**. The setup program will then run.

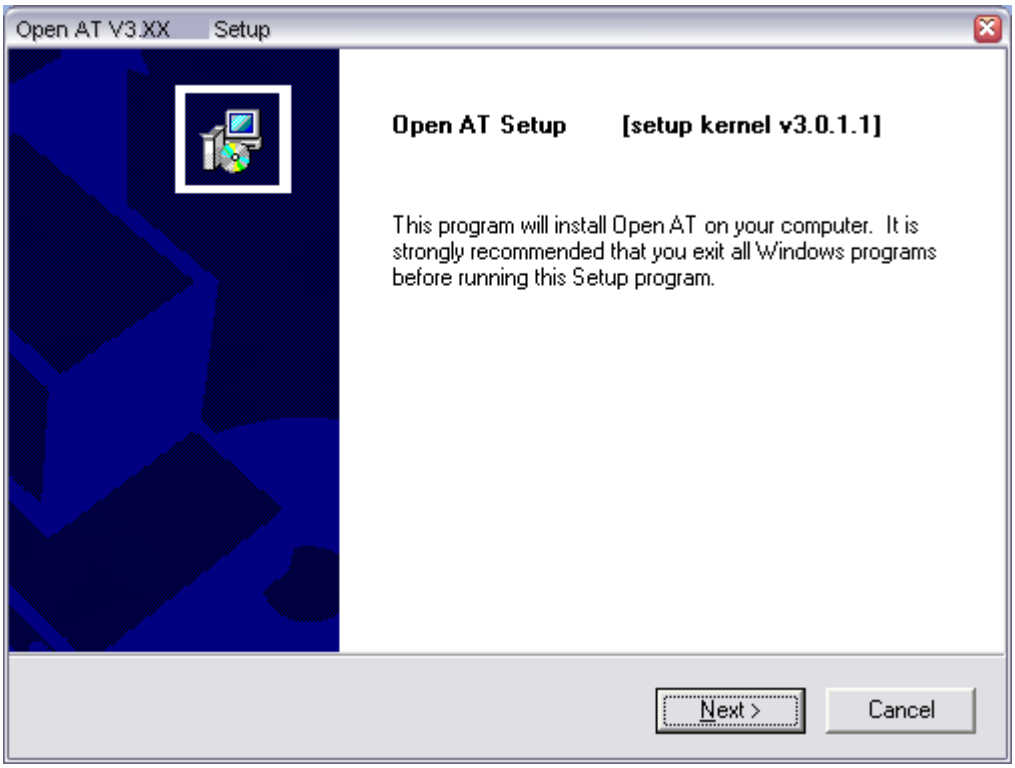

Figure 2 - Open AT® setup

Select **Next** to continue

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3.1. Setup options

Three components can be installed either together or separately. The available components are :

- Open AT® SDK, with libraries, header files and the documentation in PDF format ;
- Open AT® application samples, with sources, built binaries and HTML documentation ;
- Wavecom Software Generation Toolkit, used to build Open AT® applications in target mode ;
- Cygwin : this tool is a Linux environment running under Windows. The provided version on the CDROM is the 1.5.10 one ; it is recommended to use this version since SGT and provided GCC compiler are designed to run with.
- GCC Cross-Compiler : to build Open AT® target applications. The provided version is correctly running on Cygwin 1.5.10 version (based on Windows NT / 2000 / XP systems).
- TCP/IP Add-on : additional Open AT® TCP/IP functionalities.

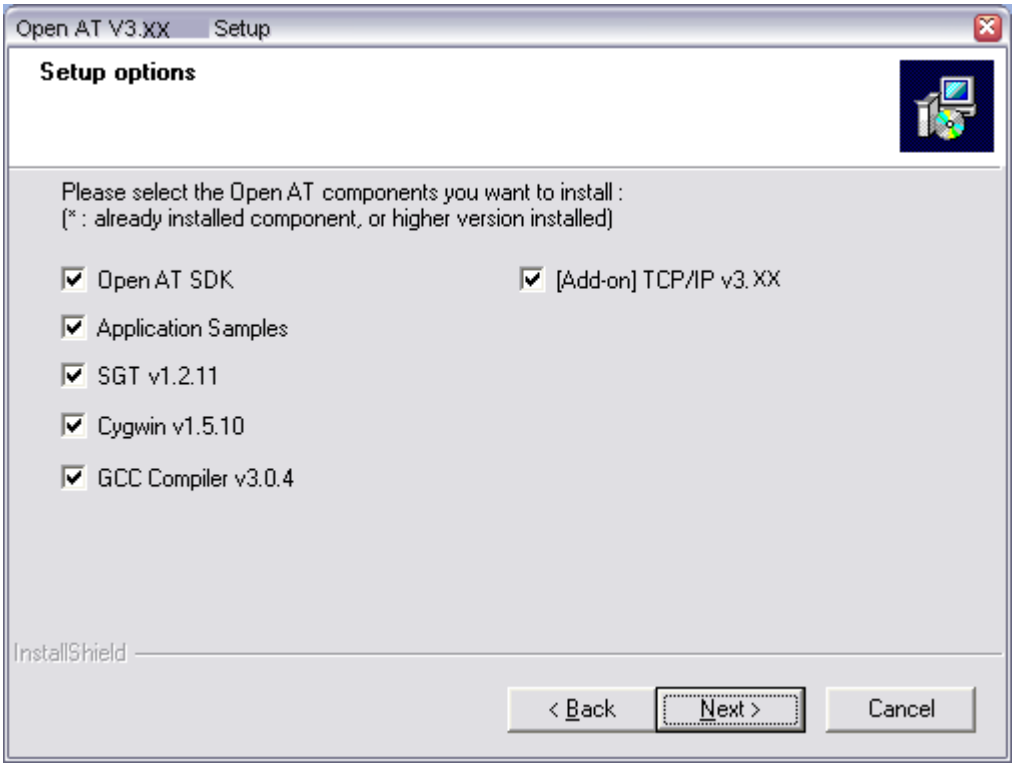

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Figure 3 – Setup options

The Setup program is able to detect already installed components. For such components, the corresponding check box will be disabled, and the * tag will be displayed.

Figure 4 – Already installed component

After the choice of the setup options, select **Next** to continue.

3.2. Destination of the Program and Documentation Files

The Open AT® SDK can be installed in any directory on your hard disk.

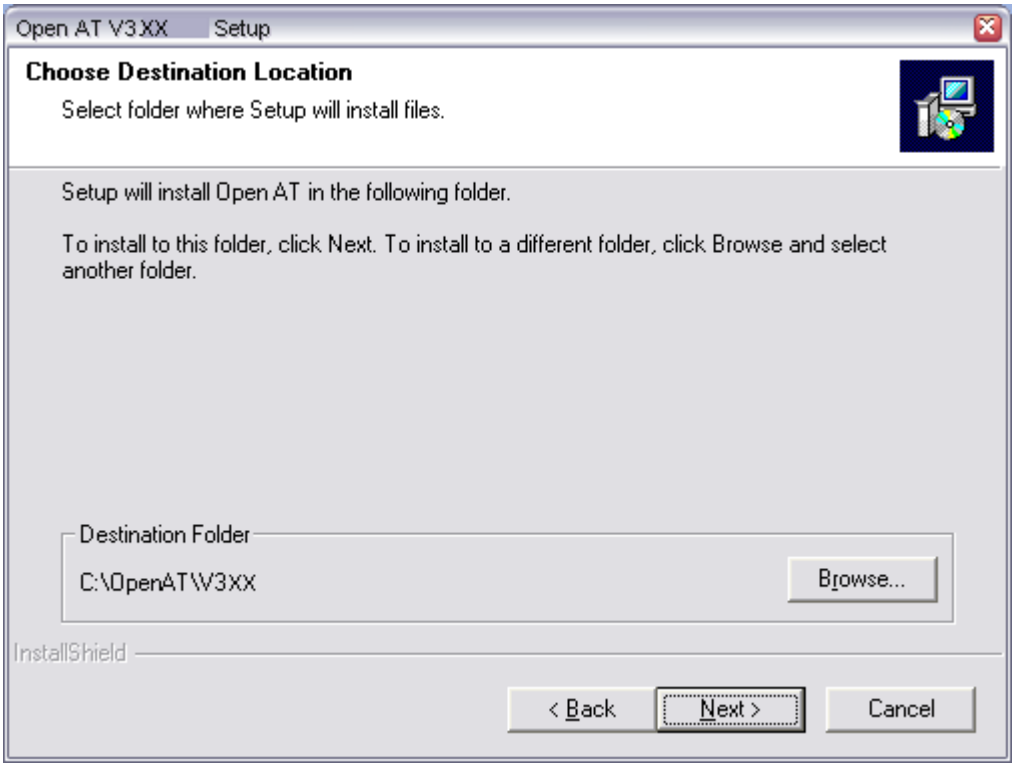

Figure 5 – Open AT® Destination Folder

The default location, as shown in the example above, is in a folder named with the version number of the Open AT® SDK. By default, it is installed under the root folder of the **C:** drive. If this location is not suitable, enter a different path before clicking **Next** . The files will be copied under the specified destination folder.

Warning : this path must not include any space character.

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3.3. Additional libraries path

If TCPIP Add-on option is selected, the setup will require a path to configure the WMLIBHOME environment variable, where Open AT® additional libraries are or will be installed.

Select another folder if the default one is not suitable, and click Next.

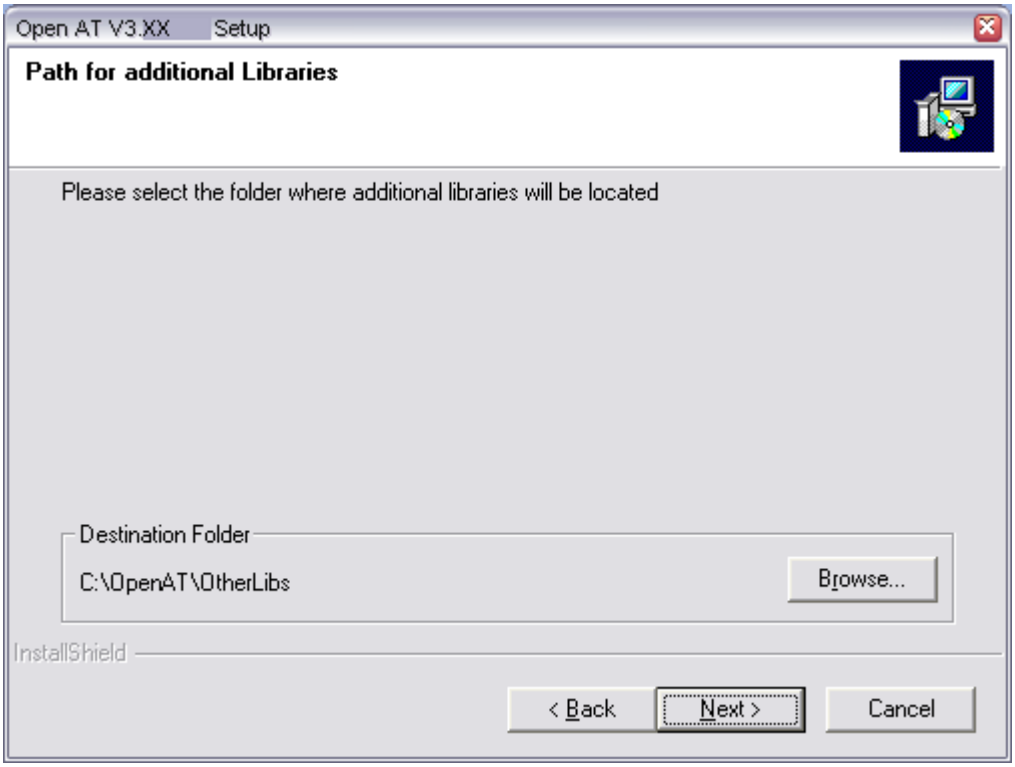

Figure 6 – Additional libraries path

Warning : this path must not include any space character.

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3.4. Tools path

Since Open AT® tools (as SGT, or GCC compiler) are independent of the Open AT® SDK release, they will be installed in a specific folder. If GCC or SGT options are selected, the setup will require this path to configure the WMTOOLS environment variable, where Open AT® tools are or will be installed.

Select another folder if the default one is not suitable, and click Next.

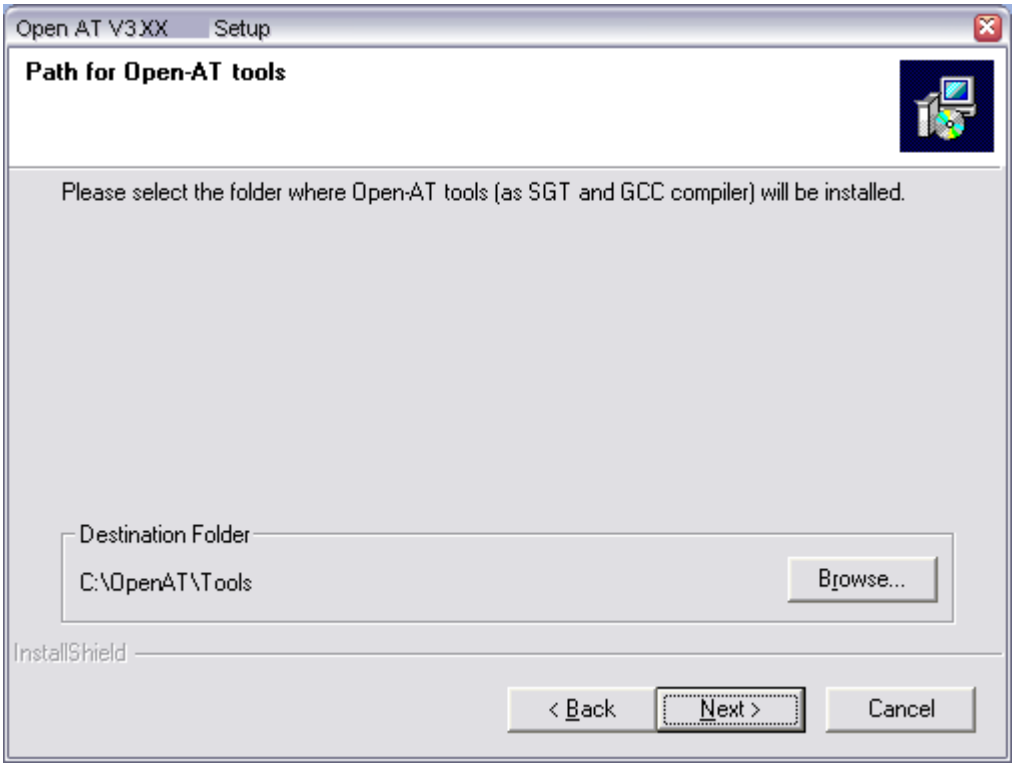

Figure 7 – Tools path

Warning : this path must not include any space character.

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3.5. Cygwin setup

If the Cygwin component is selected, the Cygwin setup is launched during the file copy.
Firstly, a message box informs that **all** the provided packages have to be installed.

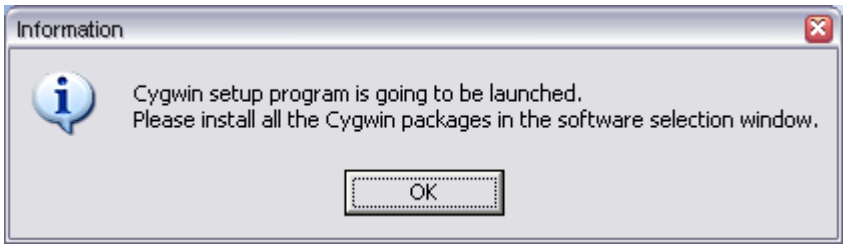

Figure 8 – Warning about the package selection window

- On Cygwin setup welcome screen, click Next ;

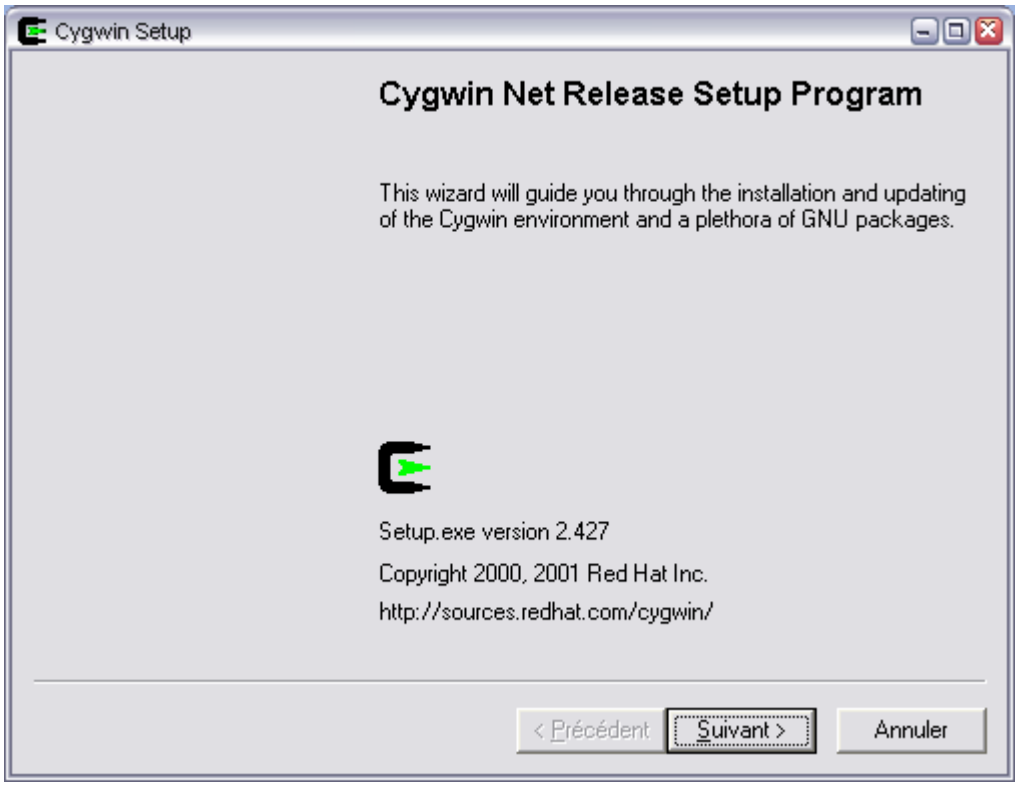

Figure 9 – Cygwin setup

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- Select the "Install from Local Directory" option, and click Next ;

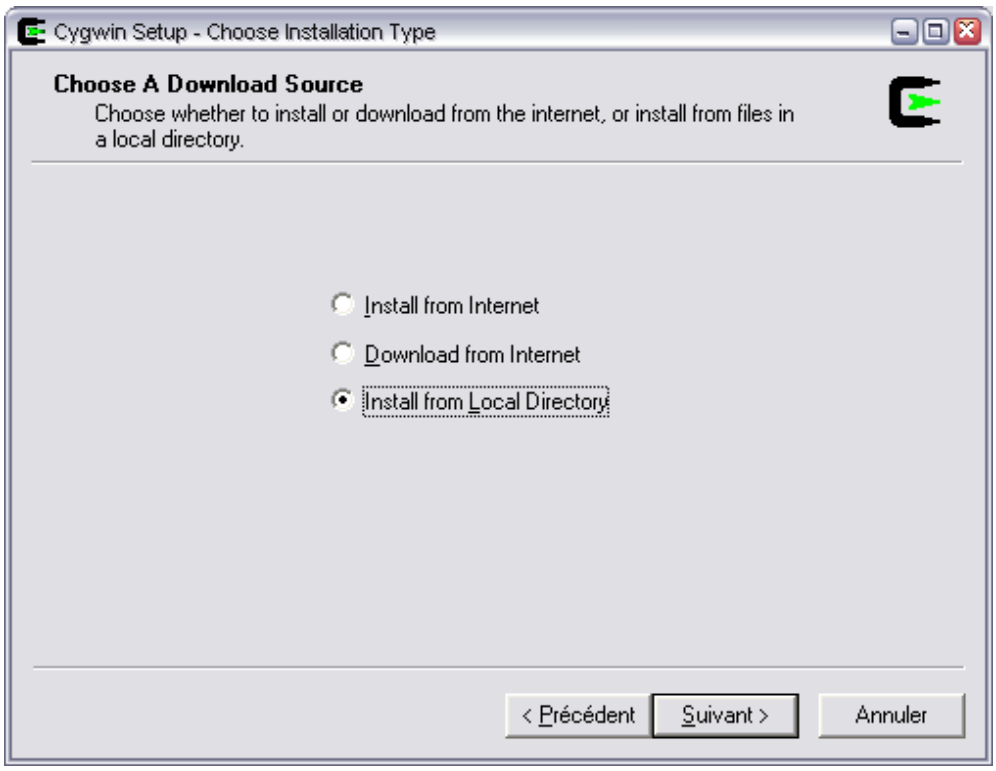

Figure 10 – Install from Local Directory

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- Select the directory where you want to install Cygwin and click Next ;

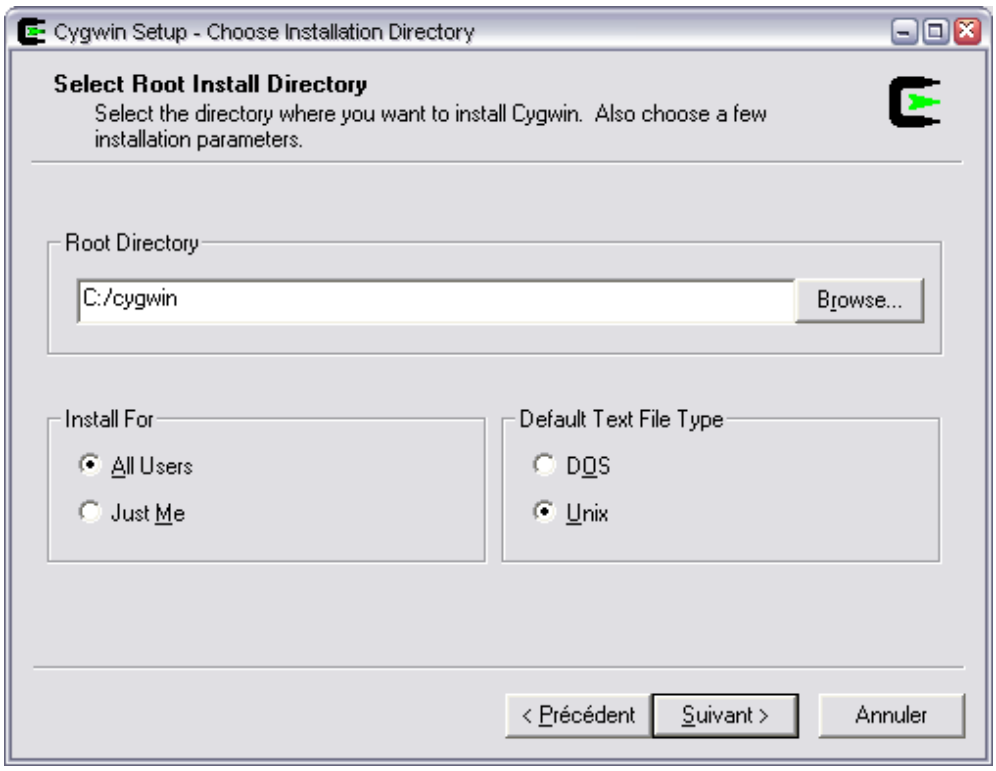

Figure 11 – Install root directory

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- Check your cdrom drive \Software\Cygwin sub-directory is well selected, and click Next ;

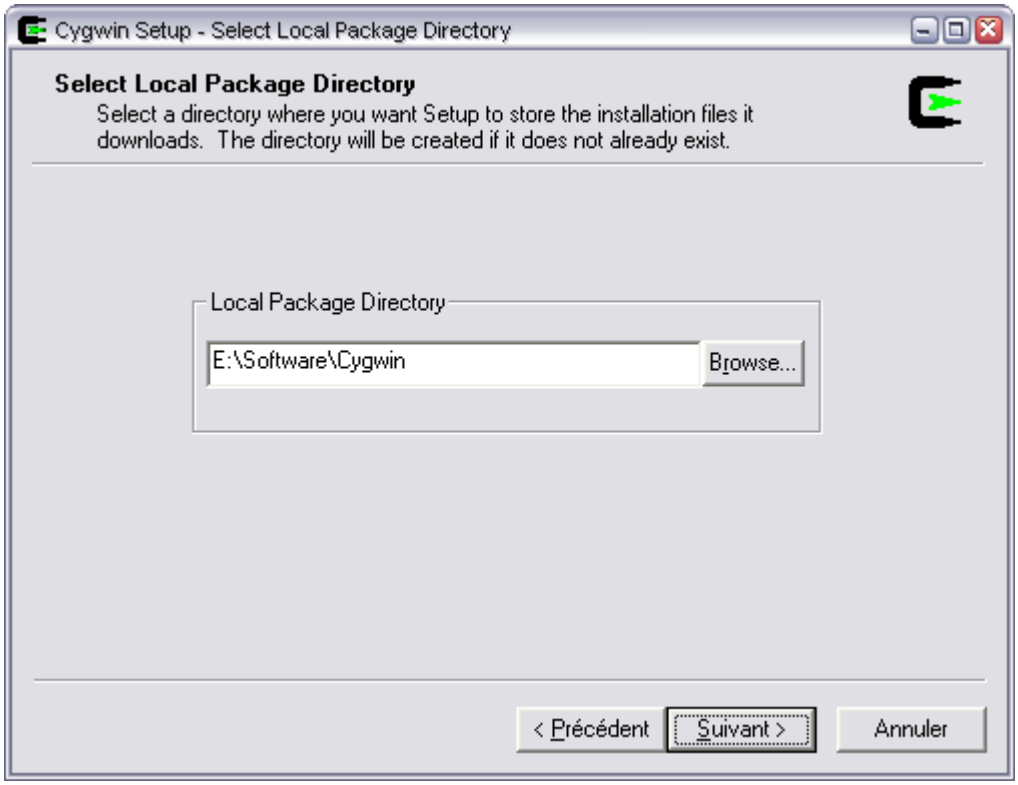

Figure 12 – Local package directory

- Please wait while Cygwin setup is reckoning checksums on provided packages ;

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- The Package selection window is then displayed

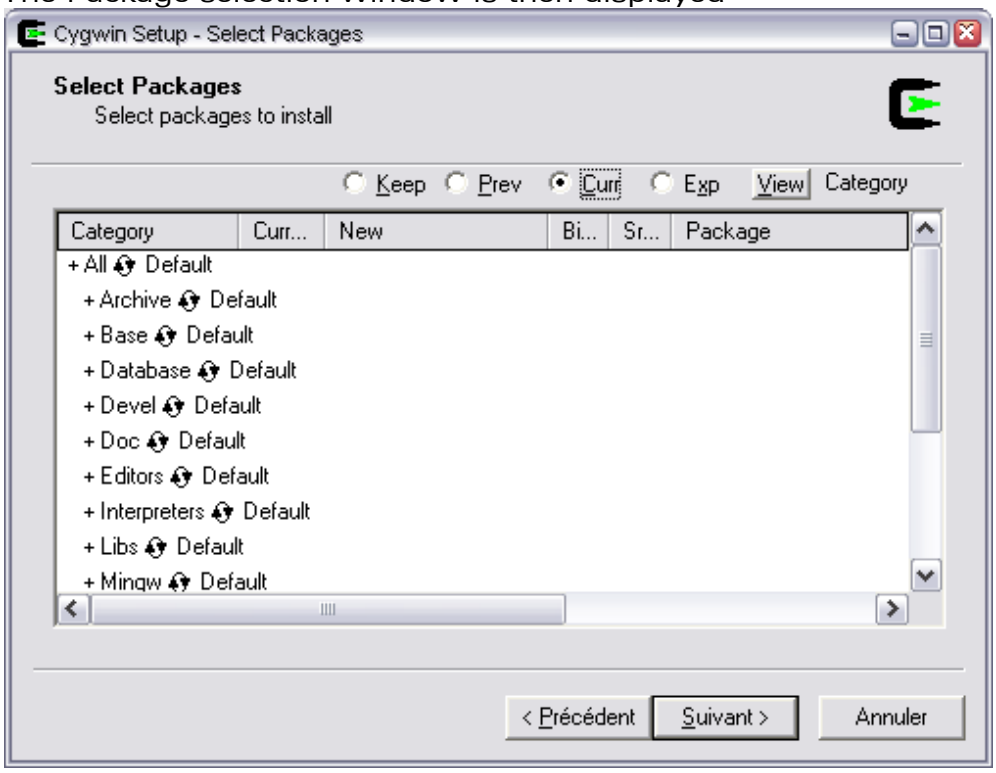

Figure 13 – Package selection window

- Then click the icon behind the "All" package title, to select and install all packages

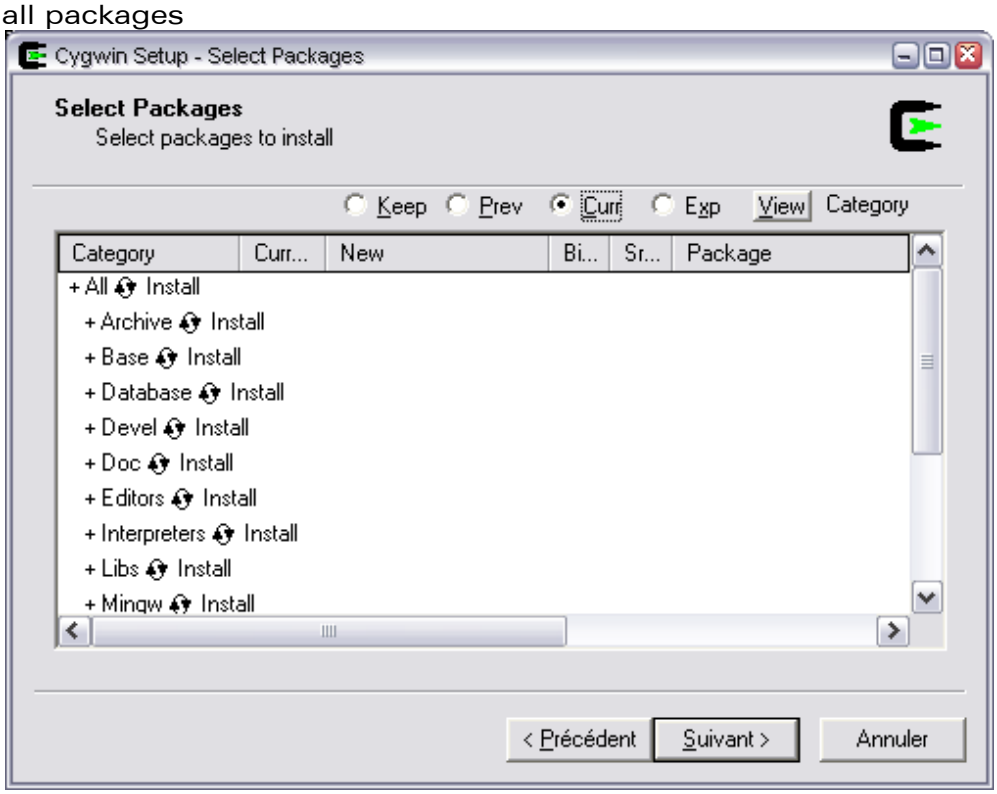

Figure 14 – All packages are selected

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- Then the Cygwin setup will install all the packages in the selected directory.

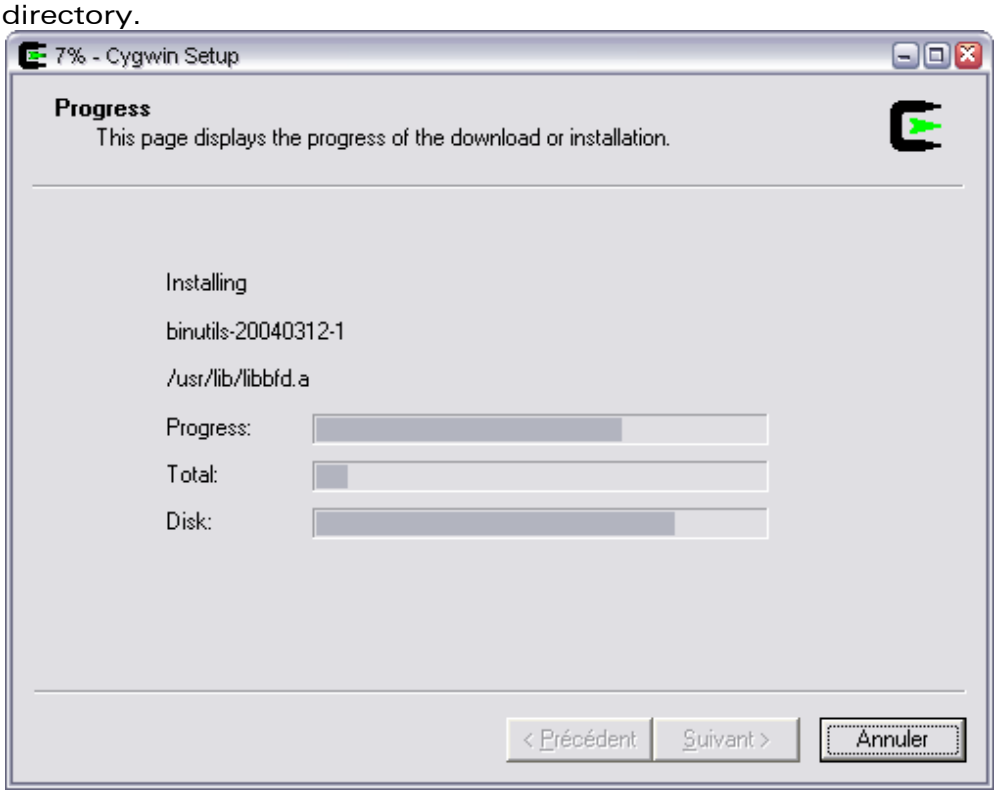

Figure 15 – Cygwin setup is running

- Finally, the Cygwin setup prompts for Icon creation options...

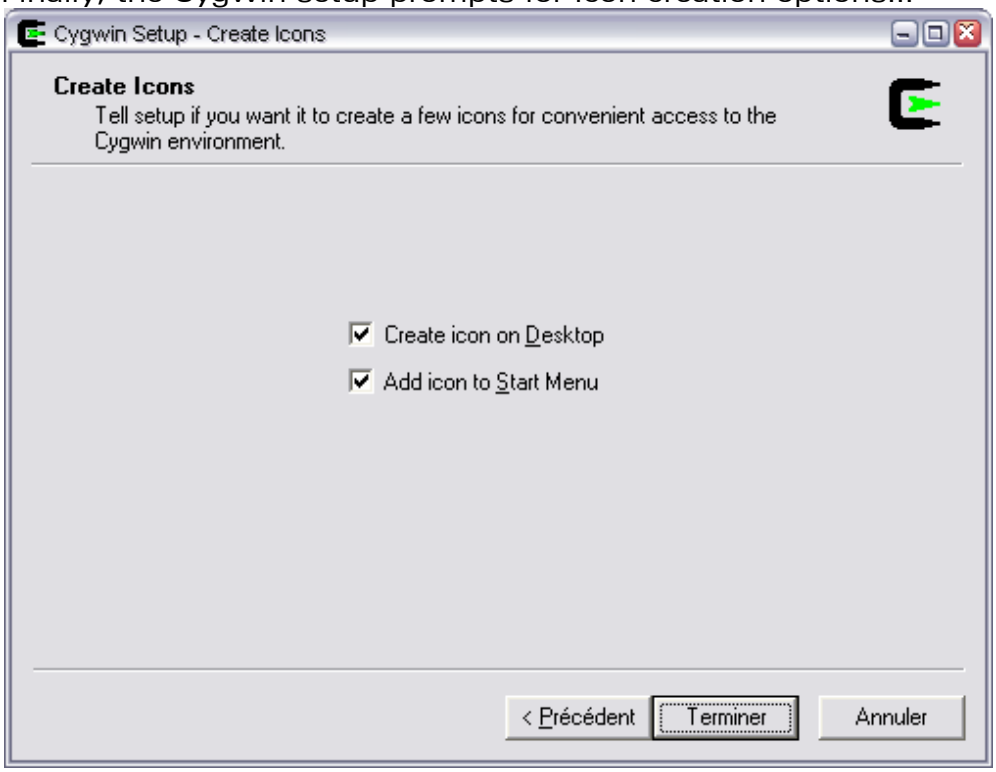

Figure 16 – Cygwin icons options

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- ... and Cygwin setup is done

Figure 17 – Cygwin setup is done

3.6. File copy and system update

The setup program will now copy the Open AT® SDK files on your hard drive.

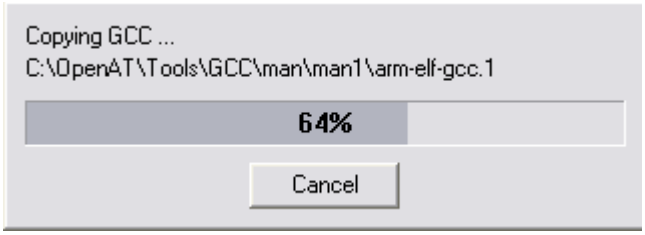

Figure 18 - Open AT® SDK files copy

When the copy is complete, the setup program updates your system. Then, on Windows NT/2000/XP systems, a simple message box will be displayed ; on older systems, the user will be prompted to restart the computer, since environment variables were modified.

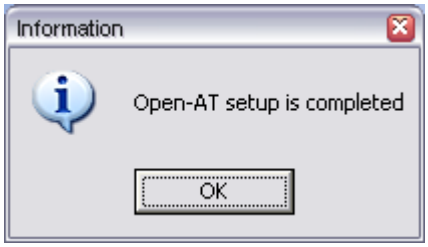

Figure 19 – Setup is completed

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3.7. Installed shortcuts in the Start Menu

The Open AT® setup installs three shortcuts in the **Start\Wavecom\Open AT®** menu :

- Open AT® settings application (cf. Tools Manual) ;
- Open AT® Project Wizard application (cf. Tools Manual) ;
- Open AT® HTML Read Me, which allows to browse the Samples HTML files, and the provided Documentation PDF files.

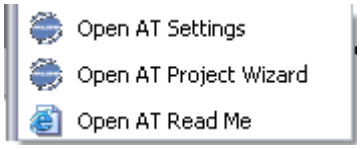

Figure 20 – Open AT® shortcuts

3.8. Wavecom Development Toolkit

The Wavecom Development Toolkit is a tools set usable to display debug information, exchange AT commands with the Wavecom products, and handle the serial ports in order to run the remote task environment.

On the Open AT® startup screen (cf. §3, figure 1), select the **"Install Development Toolkit"** option. This starts the Wavecom Development Toolkit Setup program. Please follow the displayed indications to complete this installation.

On Windows 98/ME systems, at the end of the Setup program, please select the **"Yes"** option when you are asked to restart your computer, in order to update your configuration.

3.9. ARM Compiler

In order to build Open AT® application with the ARM compiler, this one must be installed separately on your computer.
After the end of Open AT® and Development Toolkit set up, insert the ARM compiler CD-ROM and run the Setup program. Please follow the indications displayed to complete this installation.

Important Note :
Wavecom SGT browse the directory defined by the **ARMDLL** environment variable to find the ARM compiler binaries (**tcc.exe** and others...).
This environment variable should be set by the ARM compiler setup.
If the **ARMDLL** environment variable is not set, compilation processes with the ARM compiler will fail.

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3.10.Cygwin bash shell settings

The bash shell settings will be automatically updated by the Open AT® setup.

For information, the .bashrc configuration file will be created in the /home/$USER/.bashrc (by default, /home is the C:\Cygwin\home directory under Windows). This file will be updated to start the SGT environment on each bash shell start-up.

3.11.Environment variables setup

Once installed, the environment variables should be modified by the Open AT® Settings application (cf. Tools Manual).

For information, the Open AT® Settings handles the following environment variables on your system.

Variable name	Use
WMATHOME	Location where Open AT® is installed, in Cygwin format (by default /cygdrive/c/OpenAT/V303)
WMATHOME_DOS	Location where Open AT® is installed, in Windows format (by default C:\OpenAT\V303)
WMGCCHOME	Location where the GCC cross-compiler is installed, in Cygwin format (by default /cygdrive/c/OpenAT/Tools/GCC)
WMLIBHOME	Location where additional libraries are installed, in Windows format, but with '/' character instead of '\' one (by default c:/OpenAT/OtherLibs)
WMTOOLS	Location where common Open AT® tools are installed, in Cygwin format (by default /cygdrive/c/OpenAT/Tools
SGT_DIR	Location where the Wavecom Software Generation Toolkit in installed, in Cygwin format (by default /cygdrive/c/OpenAT/Tools/SGT/v1.2.11
PATH	The PATH variable has always to include the %WMATHOME_DOS%\TgtGen\WmGen directory

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4. Additional Libraries packages

Add-on libraries (as TCPIP for example) are installed in the Add-on directory (by default C:\OpenAT\OtherLibs).
Once installed, each package architecture is :

```
LibName\                                    Library package name
        vX.YY\                              Version sub-directory
              rte_Name.lib                  Library for Visual C++ compilers
              arm_Name.lib                  Library for ARM compiler
              gcc_Name.lib                  Library for GCC compiler

              inc\          *.h             Library header files
              doc\          *.pdf           Library API documentation and
                                            release note
```

5. Support

Our goal is to provide you with professional assistance in the use of the Open AT® software.

5.1. Contact Us

We are pleased to support you via e-mail, phone or fax. You can also get some support material from our web site.

Depending on your location, please contact:

For Europe / Middle East / Africa	For Asia Pacific	For Americas
: Wavecom SA Technical Support 3, esplanade du Foncet 92442 Issy Les Moulineaux FRANCE : + 33 (0)1 46 29 08 00 : + 33 (0)1 46 29 56 70 : OpenAT-support@wavecom.com	: Wavecom Asia Pacific Ltd Technical Support 5/F, Shui On Centre 6/8 Harbour Road - Wan Chai HONG KONG - PRC : + 852 2824 0254 : + 852 2824 0255 : OpenAT-support-APAC@wavecom.com.hk	: Wavecom Inc Technical Support 610 West Ash Street, Suite 1400 SAN DIEGO, CA 92101 - USA : + 1 619 235 9702 : + 1 619 235 9844 : OpenAT-support@wavecom.com

5.2. World Wide Web

You can get general information and support material on Open AT® at: http://www.wavecom.com

The MUSE Platform section you will allow you to access the Open AT® dedicated section from the Wavecom web site. Through this, you will be able to get and share technical and marketing knowledge about Open AT® .

Registered customers will also have access to the Customer Support section to download the latest updates on Open AT® .

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5.3. GCC compiler support

Wavecom does not offer any support on the GCC cross-compiler provided with the Open AT® SDK. To get assistance on this compiler, please refer to the http://gcc.gnu.org website.

6. Warranty

Caution: All products under warranty that are sent back to Wavecom for repair must be free of any embedded application.

Wavecom will return all Open AT® compatible products under warranty with the default factory configuration.

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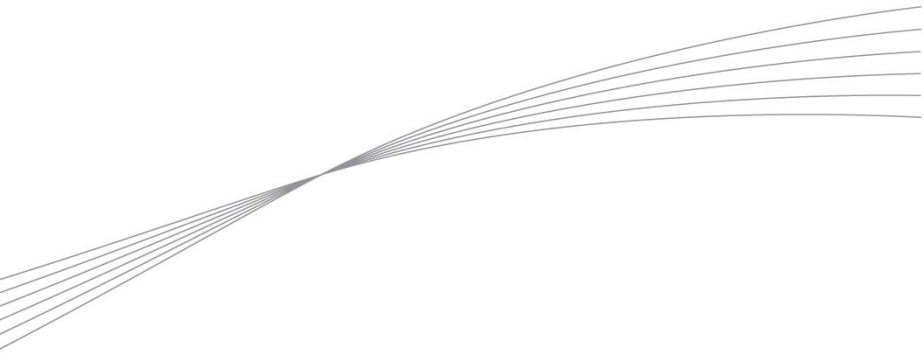

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