

Prox Development Kit

User's Guide

REVISION HISTORY

Date	Release	Comments
April 2005	A	First release for the Prox-x2 & Prox-x5 readers
October 2008	B	Upgrade for the Prox-xU readers 3 samples of each smart card is delivered The application notes are added
November 2008	C	ISO14443 type B card is a GemCombi CD Lite

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1. Introduction

This manual lists the contents of the **Prox Development Kit**.

Contact Our Hotline

If you do not find the information you need in this manual or if you find errors, contact the Gemalto hotline at <http://support.gemalto.com>, or send an email to hotline@gemalto.com.

Please note the document reference number, your job function, and the name of your company. (You will find the document reference number at the bottom of each page of the document.)

2. Kit Overview

The Prox Development Kit contains the following items:

- 1 x Prox-P2 reader/writer
- 1 x Prox-PU reader/writer without its stand and with its USB cable
- 1 x USB/RS232 adapter with its CD ROM
- 1 x Universal Power Supply with 3 different plugs
- 1 x Prox Development Kit CD ROM
- 1 x Smart Card Set including:
 - 3 GemEasy 8000 smart cards
 - 3 GemCombi Xpresso PRO R4 EMV E72 PK smart cards
 - 3 GemCombi CD Lite smart cards

The Gemalto reference for the Prox Development Kit is HWP112141.

This document is applicable to the following Gemalto references:

Model	Reference	Comments
Prox-Module	HWP113579	Miniature Coupler without the antenna TTL serial interface. An external RS232 interface should be used.
Prox-CU	HWP113580	OEM coupler including the antenna USB and RS232 interface
Prox-PU	HWP113581	Packaged desktop reader/writer USB and RS232 interface
Prox-C2	HWP111510	Small OEM coupler including the antenna RS232 interface
Prox-P2	HWP111508	Small packaged desktop reader/writer RS232 interface
Prox-C5	HWP111511	Small OEM coupler including the antenna RS485 interface
Prox-P5	HWP111509	Small packaged desktop reader/writer RS485 interface

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Figure 1 : Prox-Module top view and bottom view

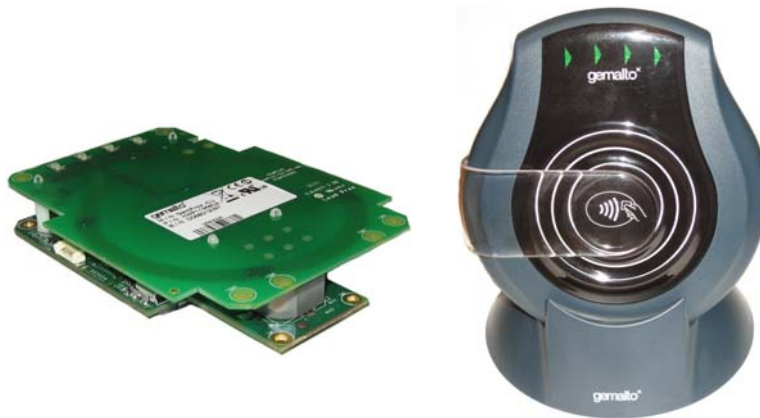


Figure 2 : Prox-CU and Prox-PU views



Figure 3 : Prox-C2 and Prox-P2 views

3. CD ROM Contents

The "Prox Development Kit" CD ROM contains the following items:

- Gem_PCSC
- Prox API & Library
- Prox Demo
- Prox Documentation
- Prox Driver
- Prox Loader
- Prox Manager
- Prox PayPass Demo
- Prox VB6 Examples
- Smart Card Documentation

This document (Prox Development Kit User's Guide) is in the root directory.

3.1. System Requirements

To run the software included in the kit the following system configuration is needed:

- PC with Pentium or compatible processor
- Windows 2000 or XP
- 10 Mbytes RAM minimum
- 2 Mbytes free disk space
- 15" VGA 800x600 display

Acrobat Reader is required to read the PDF documents included in the kit.

Internet Explorer is required to read the HTML documents included in the kit.

3.2. Gem_PCSC

The "Gem_PCSC" folder contains the following:

- "Setup.msi"
 - An installation file for Gem_PCSC, a PC/SC application that can send and receive information from an ISO14443 smart card.
- "Gem_PCSC User's Guide.pdf"
 - Documentation for the Gem_PCSC software.

3.3. Prox API & Library

The "Prox API & Library" folder contains source, documentation and examples to facilitate the development of proprietary applications for the PC or non PC environment:

- Prox API documentation folder
 - "GCLSRAPI.chm": Compiled HTML help file
- Prox API srcs folder

- GCLSRAPI folder: API for contactless reader
 - Sources: C implementation files
 - Headers: C header files
 - "GCLSRAPI.dsw": Microsoft Visual C++ 6.0 Workspace file, configured to generate the contactless Prox library.
 - "GCLSRAPI.dsp": Microsoft Visual C++ 6.0 Project file, configured to generate the contactless Prox library
- ISP_GPX folder: API for firmware download
 - Sources: C implementation files
 - Headers: C header files
 - "ISP_GPX.dsw": Microsoft Visual C++ 6.0 Workspace file, configured to generate the download Prox library.
 - "ISP_GPXI.dsp": Microsoft Visual C++ 6.0 Project file, configured to generate the download Prox library
- TILib folder: Protocol and communication layer for Windows operating systems
- Prox ISP_GPX Demo folder
 - Microsoft Visual C++ 6.0 Win32 firmware download application project that demonstrates the use of the ISP_GPX Prox Library.
- Prox library folder- GCLSRAPI sub folder
 - "GCLSRAPI.lib": Win32 Static Library
 - "GCLSRAPI.h": Global
 - "GCLSRAPIDefines.h": Error Codes
 - "GemcoreCardI.h": GemCore Card Interface
 - "ISO14443_3.h": Common parameters for the ISO 14443 level 3 Type A layer.
 - "ISO14443_3_A.h": ISO 14443 level 3 Type A layer commands
 - "ISO14443_3_B.h": ISO 14443 level 3 Type B layer commands
 - "ISO14443_4_A.h": ISO 14443 level 4 Type A layer commands
 - "ISO14443_4_A_B.h": ISO 14443 level 4 Types A & B layer commands
 - "Mifare.h": MIFARE[®] layer commands
 - "OSLibrary.h": OS library abstraction layer
 - "Reader.h": Reader/writer configuration commands
 - "RF.h": Radio frequency reader/writer control commands
 - "Serial.h": RS232 communication layer
- Prox library folder- ISP_GPX sub folder
 - "ISP_GPX.lib": Win32 Static Library
 - "ISP_CommandsI.h": download commands
 - "ISP_Flow.h": download flow
- Prox library console folder
 - Microsoft Visual C++ 6.0 Win32 Application console project that

demonstrates the use of the GCLSRAPI Prox Library.

3.4. Prox Demo

The “Prox Demo” folder contains an application that demonstrates the Prox reader/writer’s capability to read ISO14443 smart cards. It also contains the related documentation:

- “ProxDemo.exe” : Application
- “Prox Demo User's Guide.pdf”: Documentation

The Prox Demo should be used with Prox reader/writer including a RS232 serial interface.

3.5. Prox Documentation

The “Prox Documentation” folder contains documentation for the Prox reader/writer:

- “Prox Installation Guide.pdf” : Installation guide
- “Prox Reference Manual.pdf”: Reference manual

A subfolder is dedicated to the application notes.

3.6. Prox Driver

The “Prox Driver” folder contains the drivers that interface the Prox reader/writer with a Windows based application. It also contains the related documentation.

- Prox PCSC Driver folder
 - USB PC/SC driver files for the Prox-xU reader/writer
 - USB PC/SC Driver user’s guide documentation
- Prox Serial Driver folder
 - Serial PC/SC driver files for the Prox-x2_x5 reader/writer
 - Serial PC/SC Driver user’s guide documentation
- Prox VPC Driver folder
 - USB VPC driver files for the Prox-xU reader/writer
 - USB VPC Driver user’s guide documentation

3.7. Prox Loader

The “Prox Loader” folder contains a user-friendly PC application that download a new firmware into the Prox-xU reader/writer. The related documentation is integrated into the software.

- “GPXLoader.exe” : Application
- “GPXLOADERHELP.HLP”: Help file documentation
- “xxx.OCX”: OCX files
- “Readme.txt”: information file

The Prox Loader should be used only with Prox-xU reader/writer including a RS232 serial interface.

3.8. Prox Manager

The "Prox Manager" folder contains a user-friendly PC application that explores all the features of the Prox reader/writer. It also contains the related documentation.

- "ProxManager.exe" : Application
- "Prox Manager User's Guide.pdf": Documentation

The Prox Manager should be used with Prox reader/writer including a RS232 serial interface.

3.9. Prox PayPass Demo

The "Prox PayPass Demo" folder contains an PC/SC application reading the MasterCard or Visa contactless PayPass™ smart cards.

- "PayPass Demo.CAB": cabinet file
- "Readme.txt": information file
- "Setup.exe": installation file
- "Setup.lst": list file used during the program installation

That demo should first be installed running the setup.exe file.

The Prox PayPass Demo should be used with Prox-x2 or Prox-xU reader/writer using its associated PC/SC driver.

3.10. Prox VB6 Examples

The "Prox VB6 Examples" folder contains Microsoft Visual Basic 6.0 projects including source code written for the Prox reader/writer interface.

The "ProxCom Exemple" subfolder contains a VB6 project that demonstrates how to use and interface a Prox reader/writer.

- "ProxCom" is the name of the VB6 project
- The "Sources" sub folder includes all the source files required by the project

The Prox VB6 Examples should be used with Prox reader/writer including a RS232 serial interface.

3.11. Smart Card Documentation

The "Smart Card Documentation" folder contains documentation on the smart cards delivered with the kit:

- Smart Card User's Guide
 - "Smart Card Users Guide.pdf": Documentation
- GemEasy8000 Technical Specifications
 - "GemEasy8000_Technical_Specifications.pdf": Documentation

End of Document