

SIXNET IPm Application Development Kit (IADK)

Introduction

Welcome to the SIXNET IPm Application Development Kit. Here you will find all the files needed to start writing your own custom applications. This kit contains the following files:

- Documentation for installing and running the IPm Application Development Kit
- SIXNET libraries that allow access to an IPm station's I/O registers
- GCC cross compiler toolchain
- Sample programs for accessing an IPm station's I/Omap and serial ports

This kit has sample IPm applications that illustrate how to read/write the IPm's I/O registers and serial ports. Please see [iadc_tutorial.pdf](#) for detailed instructions on how to compile these sample programs.

The documentation in this kit is written under the assumption that the reader has some familiarity with Linux. You should be comfortable navigating from a terminal ('cd' and 'ls' commands) and have a basic understanding of what GCC is for. We do not cover how to install Linux. Those wishing to run the Linux IADK should have a computer running Red Hat Linux 7.0 or higher. These guides are intended for people who know how to write programs in C, and wish to use this skill towards developing custom applications for the IPm environment.

System Requirements:

- x86 PC (IBM compatible) running either Windows, Red Hat 7.0, or newer Linux. (You may be able to use the IADK on other versions of Red Hat or distributions of Linux, but it has not been tested). This is needed for program development.
- A SixTRAK IPm or VersaTRAK IPm controller. (Certain OEM agreements allow other IPm-based SIXNET RTUs and controllers to be programmed as well. Products such as the ST-GT-1210 may run programs you develop but development on any SIXNET product that does not contain "IPM" in its part number is not supported.) An Ethernet connection to the IPm station is required.
- A Windows PC running Windows 95, 98, NT, 2000, ME or XP. This is needed in order to run the SIXNET I/O Tool Kit program. This can be the same PC if virtual machine software, such as VMware, is used.
- The SIXNET Tool Kit with a license for the "IPm Advanced" feature set. To verify this, run the Tool Kit and select Help → Registration. "IPm advanced (access to add or view LINUX related features)" must have a checkmark next to it.

Getting Started:

- Install the SIXNET IPm Application Development Kit (IADK) files on your Linux computer. Refer to the document [iadc_install_guide.pdf](#) for installation instructions.
- Compile, load and run the supplied sample program, `oem_ioadb.c`. This program allows you to read and write the IPm station's I/O registers. Refer to the document [iadc_tutorial.pdf](#) for instructions.
- When you are ready, write your own program, compile it and load it into your IPm station. Refer to the document [iadc_use_guide.pdf](#) for instructions. Refer to the document [ipm_io_calls.pdf](#) for details on each library call to access the IPm's I/O registers.
- If you will be programming your IPm station to perform serial port communication to third party devices, refer to the document [ipm_serial_ports.pdf](#).

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Here is a list of the documentation files provided with this kit:

<code>iadk_install_guide.pdf</code>	This is the first step, installing the files you need to make your own programs.
<code>iadk_tutorial.pdf</code>	This is a step-by-step look at turning a sample C file into a running application.
<code>iadk_use_guide.pdf</code>	This is a description of how to use the IADK to compile an application, and how to load the application into the IPm station.
<code>ipm_io_calls.pdf</code>	This document details each library call to access the IPm I/O registers. A C example is included for each library call.
<code>ipm_serial_ports.pdf</code>	This document shows the names that map to each port, and what serial modes the port should be set to in the SIXNET Tool Kit.