

# PCAN Basic API for LabVIEW 2011, API version 1.1.11.1 and higher

## Purpose and scope

Design of an easy to use LabVIEW API for the PEAK CAN BASIC driver.

## Installation

Install the PCAN Basic driver first. If asked let the installer copy the API DLLs to the correct locations. If you have an older version try to download the current version from [www.peak-system.com](http://www.peak-system.com).

In case that your computer is offline and you have an older version put the:

### 64bit Systems:

32bit PCANBasic.dll into the /Windows/SysWOW64 folder

64bit PCANBasic.dll into the /Windows/System32 folder

### 32bit Systems:

32bit PCANBasic.dll into the /Windows/System32 folder

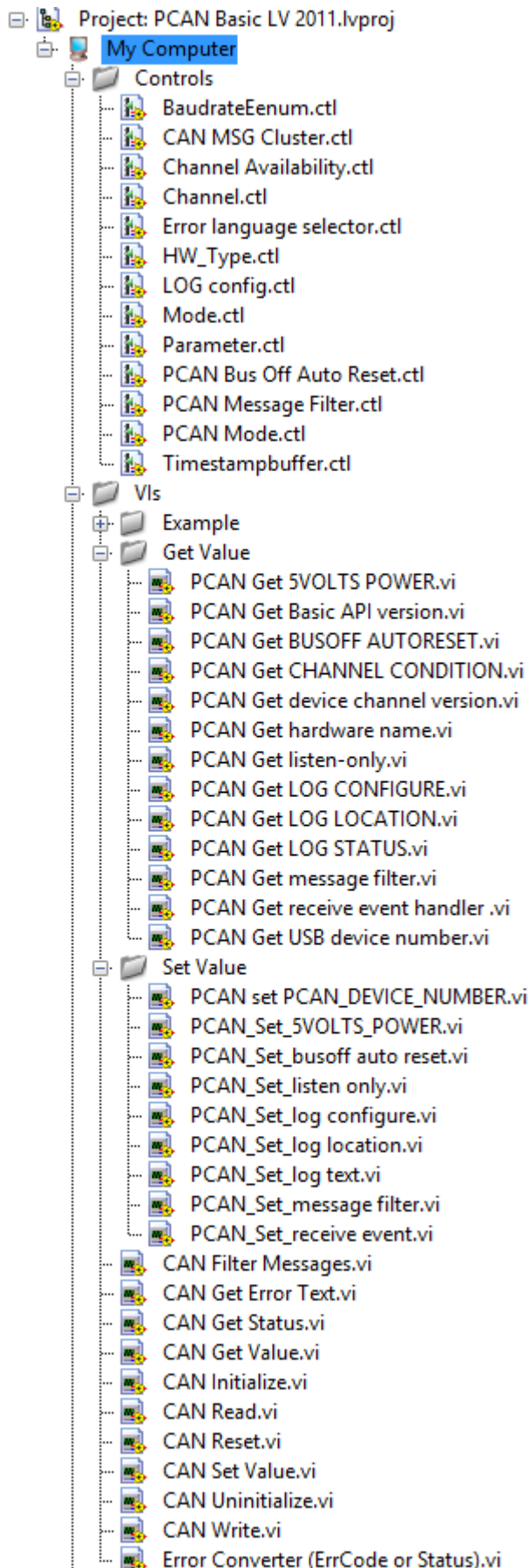
Once this is done you can install the LabVIEW PCAN Basic API.

Since the installation has been changed you must have the VI Package installer (VIP) from JKI. The installer is part of LabVIEW since several years now.

Perform a double click on the file name "kdi\_labview\_api\_for\_pcab\_basic-x.x.x.x.vip". A pop up window will open and guide you through the installation. Using the VIP gives you the option to install the API into the LabVIEW version of your choice by selecting one of the LabVIEW versions you have already installed on your computer.

Use the VIP if you want to uninstall the API too.

## Project tree and components



### Controls

Some ENUM- and cluster-controls are defined to simplify usage. They are all created according to the PCAN API description.

### Examples

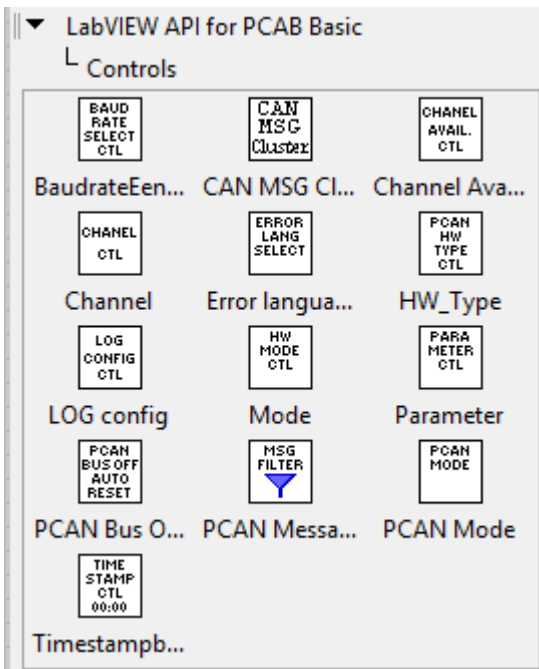
Two examples are included to demonstrate how to send and receive CAN messages.

Get and Set Value VIs are stored in separated directories while there functionalities and input / output values are different according to the requested or set value. For easy usage they are combined into two polymorphic VIs called 'CAN Get Value.vi' and 'CAN Set Value.vi'

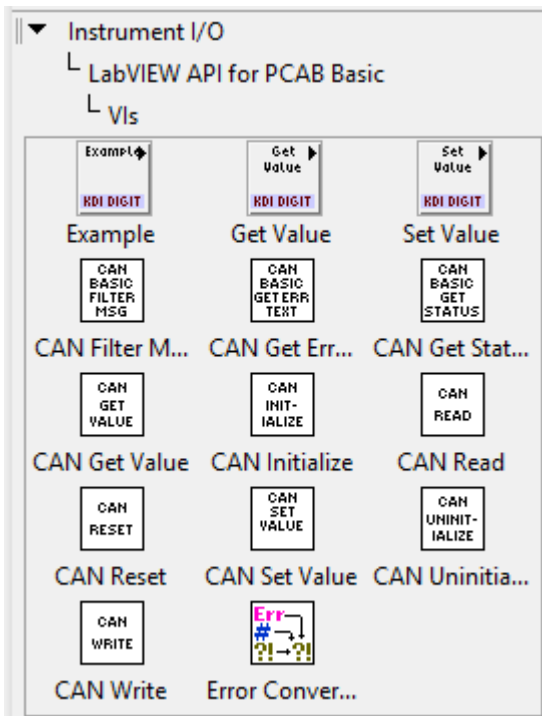
The top level VIs are shown on the left hand side: Each and every VI has a context help for the purpose, usage, and return values.

All Vis and controls reside within the LabVIEW Instrumentation.lib

Access the PCAN Basic controls by opening the ^LabVIEW API for PCAN Basic pallet in the front panel.



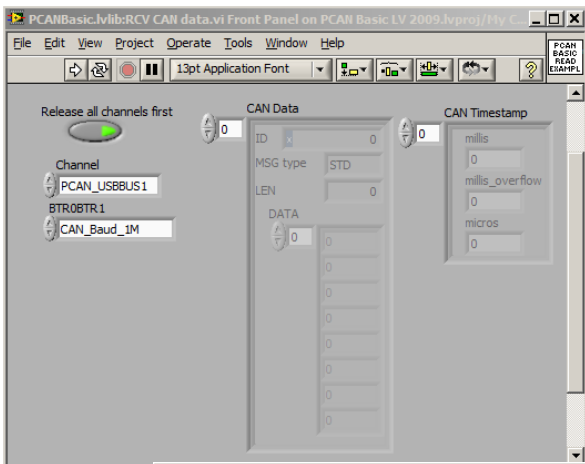
Access the PCAN Basic Vis by opening the instrument I/O pallet in the block diagram.



Top level Vis are accessible from here. Vis for set and get value are separated into sub pallets due to the fact that they are not needed very often, because two polymorphic top level Vis are available to call these Vis.

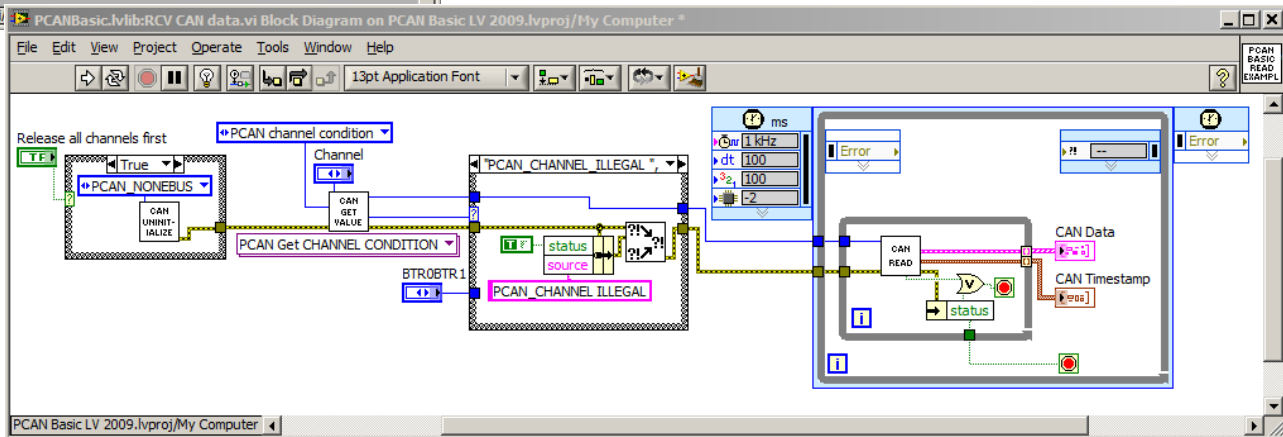
Additionally there is a sub pallet available for the example Vis. The examples are created to demonstrate how to receive and send data using the API.

## Receive data example



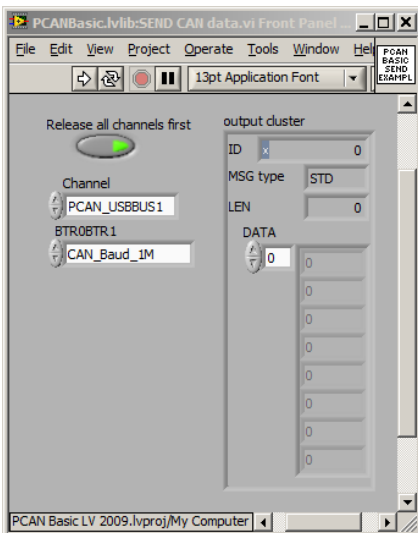
On the left hand side are the input variables like 'release all channels first' .. BTR0BTR1 listed. Outputs are CAN Data array and CAN Timestamp array.

The block diagram illustrates the API usage. The inner loop is ended if an error occurred or the receive queue is



empty. Receive queue empty is not an error and will be suppressed by CAN READ. While receive queue empty doesn't lead to a program abort the occurrence of a real existing error will stop the program. In this case the user has to decide what to do if an error occurs. The example just demonstrates what could be and not what should be.

## Send Data example



On the left hand side are the input controls listed while on the right hand side the send data cluster is visible.

