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Find the *Measurement Computing / IOtech DBK70* at our website: *Click HERE*

DBK70™

PRELIMINARY

NEW

Vehicle Network Interface for DaqBook, WaveBook, LogBook, & DaqBoard Systems

Features

- **Measure up to 16 vehicle network parameters with one DBK70™**
- **Synchronously record vehicle network data along with analog and digital measurements made with IOtech's data acquisition systems**
- **Supports J1850 VPW, J1850 PWM, ISO-9141, CAN, SW CAN**
- **Up to 4 network types can be attached to one DBK70**
- **Attaches to any of IOtech's data acquisition products including:**
  - **DaqBook® Portable 100-kHz data acquisition for notebook PCs**
  - **WaveBook™ Portable 1-MHz data acquisition for notebook PCs**
  - **LogBook™ Portable, stand-alone, 100-kHz data logger**
  - **DaqBoard™ ISA and PCI-based 100- to 200-kHz data acquisition**
  - **Daq PC-Card™ Portable 100-kHz PCMCIA data acquisition for notebook PCs**
- **DBK70 can also be used with any data acquisition device in a stand-alone mode**



The DBK70 can easily be integrated with any of IOtech's data acquisition products

The DBK70™ vehicle network module allows IOtech's data acquisition products to record vehicle network parameters synchronously with measurements made by IOtech data acquisition systems. In contrast to other vehicle network recording systems, IOtech offers a unique solution that guarantees time correlation between vehicle network parameters and direct analog and digital measurements.

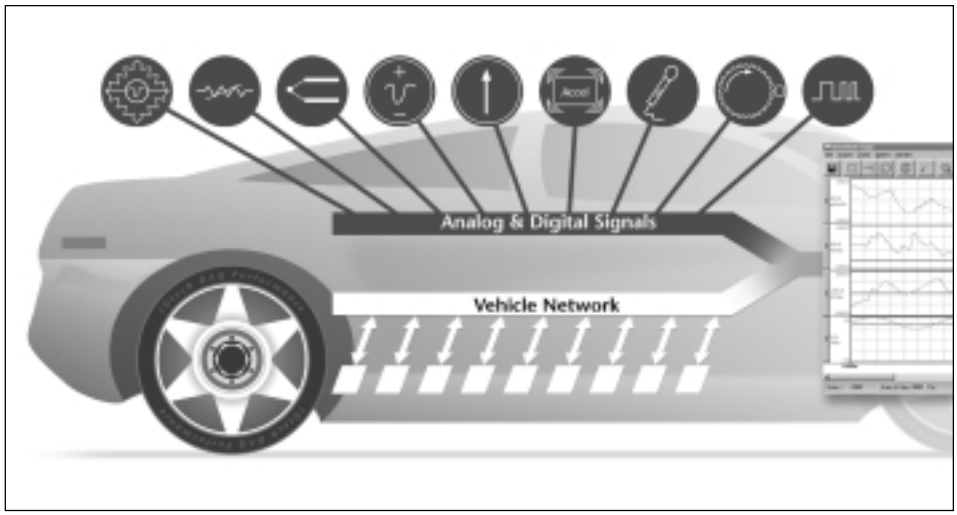
By attaching the DBK70 to the vehicle's OBD (on-board diagnostic) connector, network parameters of all kinds can be recorded along with measurements from transducers attached directly to IOtech's family of data acquisition products.

For example, when-combined with IOtech's WaveBook portable data acquisition device, up to 72 transducer or network channels can be read at up to 1Msample/s. When attached to a DaqBoard/2000™ PCI card, up to 407 channels of analog, digital, counter/timer, and vehicle network channels can be collected at up to 200 kHz. For stand-alone applications, the DBK70 can be used with IOtech's LogBook to collect hundreds of channels of transducers and network parameters at up to 100 kHz without the need for a PC. IOtech's solutions offer better performance than others costing significantly more.

An advantage of IOtech's unique system is the ability to display scrolling waveforms of vehicle parameters *and* transducer channels concurrently in real time. The DBK70's unique architecture facilitates synchronization by converting vehicle network messages into analog values that are then digitized by the data acquisition system. In this way, the data acquisition system can measure vehicle network parameters along with other transducer signals, synchronous to one another.

The DBK70 was designed specifically for data collection tasks, so there's no need to learn complicated in-vehicle network analysis software. The DBK70 includes a software application that provides database management and setup services. Unlike other network devices, no costly software add-ons are required.

As part of vehicle bus protocol, all messages transmitted on the network carry a process identifier (PID). To setup the



Acquire data from transducers synchronously with network parameters such as RPM, speed, and throttle position

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DBK70™

General Information

DBK70, you can enter proprietary PIDs directly into the software application or import an existing PID database. The software is delivered with a database of 35 legislated PIDs. After the PIDs are entered, simply select the messages of interest, set the desired sample rates, and download the configuration into the DBK70's nonvolatile memory via its serial configuration port.

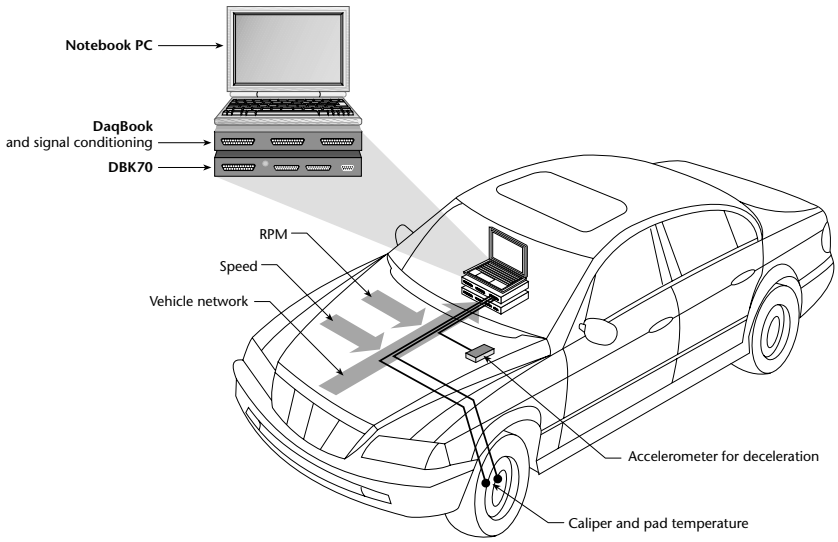
Each DBK70 can monitor up to 16 vehicle parameters. The DBK70 has four internal slots into which parameter-capture cards (DBK70-P4s), can be installed. Each DBK70-P4 adds 4 vehicle parameters that can be monitored, for a total of 16 parameters for each DBK70.

One DBK70 can be connected to up to four different networks concurrently. The DBK70's multiple network interface allows the flexibility to use one device on multiple vehicle platforms, or to concurrently collect data from multiple networks on a single vehicle. Internal interface slots allow up to four network modules (DBK70-Is), to be inserted.

Example Applications

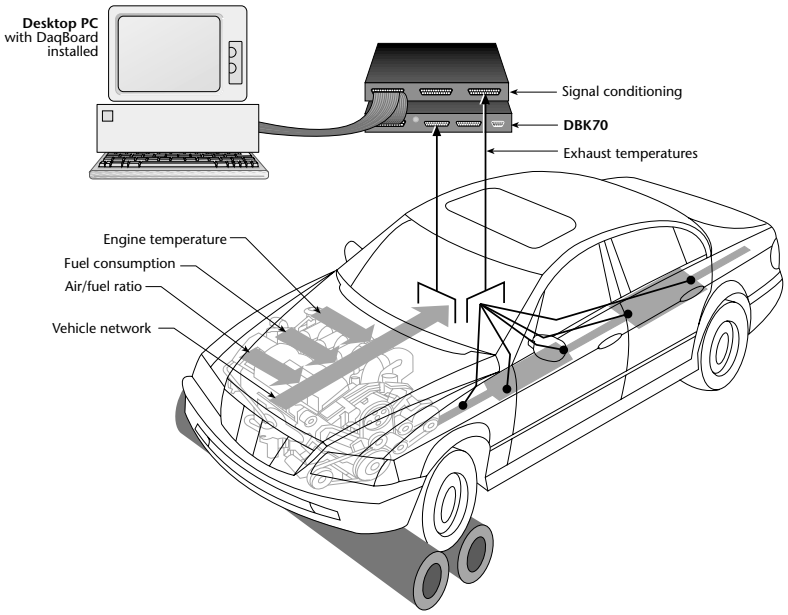
Brake Performance Testing

While a DaqBook® data acquisition system directly measures thermocouples, strain gages, and accelerometers, the DBK70 can provide important vehicle network parameters such as speed and RPM. Using the DBK70 to monitor vehicle parameters eliminates the need to connect redundant transducers and measurement equipment.



Dynamometer Emissions Testing

When used with the DaqBoard™ data acquisition plug-in card, the DBK70 can enhance emissions testing by providing vital parameters including engine temperature, fuel consumption, and air/fuel ratio. Multiple exhaust temperatures can be monitored directly using thermocouples or RTDs.



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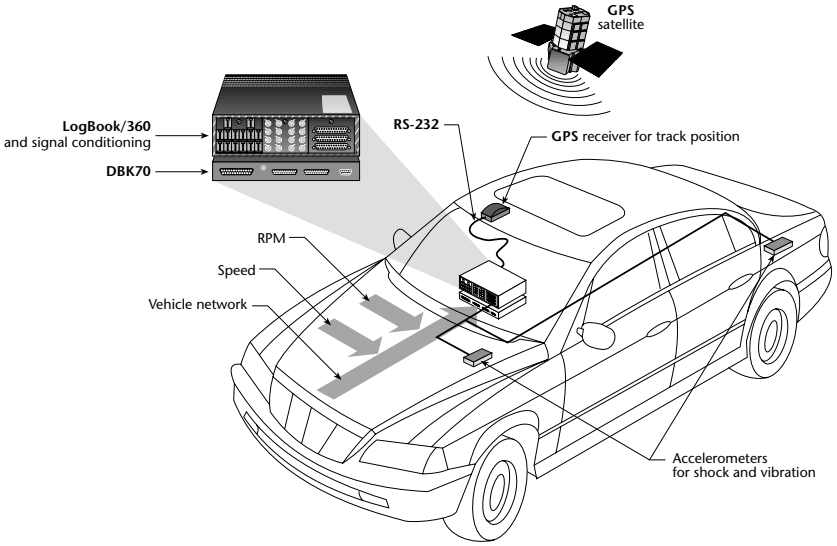
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DBK70™

General Information

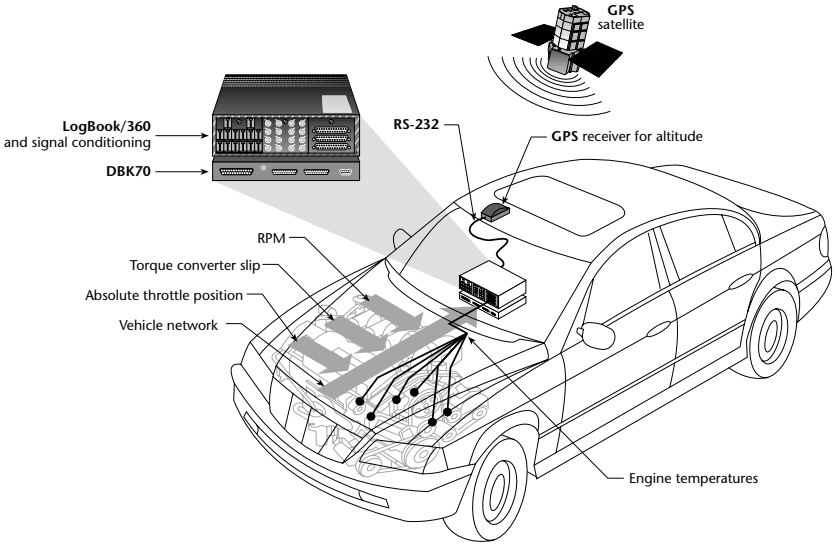
Test Track Suspension Testing

The LogBook™ stand-alone data acquisition system collects data into its internal PC-Card memory without requiring an attached PC. Using the LogBook's accelerometer signal conditioning module, vibration and shock can be measured while synchronously capturing speed and RPM from the vehicle network using the DBK70. The LogBook/360™ can also synchronously collect location information from any GPS receiver, allowing vibration data to be correlated to track position. In addition, acquired data can be accessed remotely via a cellular modem attached to the LogBook.



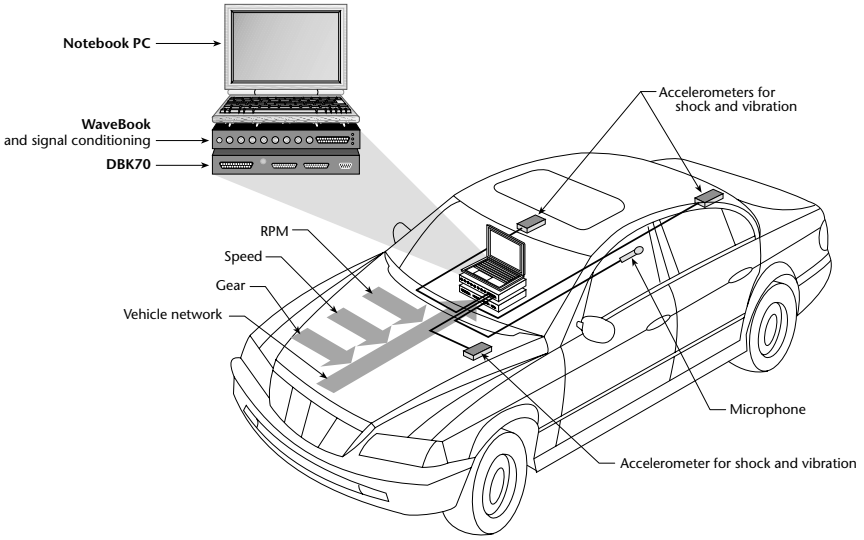
Engine Performance Testing

Using the LogBook with signal conditioning, the DBK70 and a GPS receiver, engine performance relative to altitude, speed, throttle, and engine temperatures can be captured — all without a PC attached.



Noise/Vibration/Harshness (NVH)

Using a WaveBook™ to monitor accelerometers and microphones along with a DBK70 to record speed, gear, and RPM information from the vehicle network, the PC can show real-time waveforms correlating all of the collected parameters, plus real-time storage to disk.



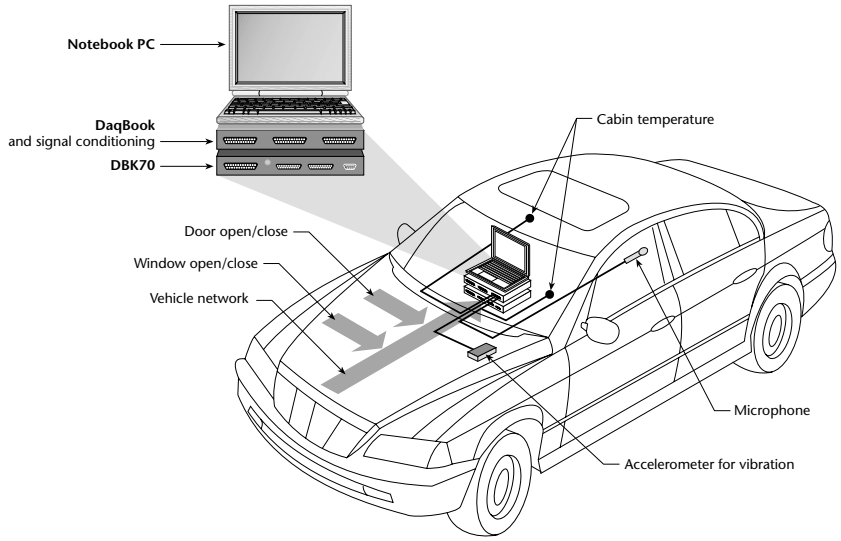
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DBK70™

Specifications & Ordering Information

Cabin Comfort

To monitor passenger comfort and usage patterns, a DaqBook and DBK70 can be combined to measure cabin temperatures, shock and vibration, sound, door and window states.



Portable Data Acquisition Products

IOtech's data acquisition products, to which the DBK70 attaches, are capable of collecting data from a wide variety of inputs including low and high voltages, currents, thermocouples, RTDs, accelerometers, strain gages, bridge devices, pulse train sources, and digital signals.

Out-of-the-Box™ software, included with most IOtech products, combines an easy-to-use interface with a powerful set of features that include hardware setup, trigger definition, real-time indicators like scroll charts and bar graphs, sample rate setup, direct-to-disk acquisition, and data format conversion for popular analysis packages like DIA*dem*®, DASYLab®, DADiSP™, MATLAB™, and Excel. Also included is DIA*dem*®-View, an extensible, full-featured post-acquisition waveform display and inspection package.

For users that prefer programming, drivers for C++, Visual Basic®, and LabVIEW® are also included. For developing custom applications without programming, these devices are supported by DASYLab, the easy-to-use icon-oriented development application.

Specifications

Dimensions: 280 mm W x 216 mm D x 44 mm H
(11″ x 8.5″ x 1.75″)
Weight: 1.1 kg (2.5 lbs)
Operating Temperature: -20 to +70
Connectors:
Serial Configuration Port: DB9
Network Port: HD44
Direct Parameter Outputs: (2) DB25
Data Acquisition Cascade Port: DB37
Power: DIN5
Power Consumption: 0.11A @ 12 VDC
Supply Voltage: 9 to 30 VDC, sourced by the vehicles OBD connector or the auxiliary input; AC supply also included
Operating System: Windows® 95/98/2000*/NT
Driver Compatibility: Windows® 95/98/2000*/NT, C++, Visual Basic, LabVIEW

* Contact factory for Windows® 2000 driver availability

Ordering Information

The DBK70 has eight internal slots into which configuration cards can be installed. Four slots are reserved for Network Interface cards, and four slots are for Parameter Capture cards. If only one network is to be used (such as J1850), then only one Network Interface card is required. If multiple networks are to be attached to one DBK70, then up to four Network Interface cards can be installed.

Each Parameter Capture card enables the simultaneous capture of up to four parameters, such as four different temperatures within the vehicle. To capture more than four parameters simultaneously, additional Parameter Capture cards can be installed. Up to four cards, or a total of 16 network parameters, can be simultaneously captured by one DBK70. If more than 16 parameters need to be captured, then additional DBK70 units can be cascaded to achieve the desired number or parameters.

Description	Part No.
In-vehicle network converter chassis, CA-47 serial-port cable, AC power supply, user manual, and setup software	DBK70
Network interface card (up to four per chassis):	
J1850 Variable Pulse Width	DBK70-I-SAE-J-1850-VPW
J1850 Modulated Pulse Width	DBK70-I-SAE-J-1850-PWM
ISO-9141	DBK70-I-ISO-9141
CAN	DBK70-I-CAN
4 Parameter Capture card (up to four in one chassis for a total of 16 measured parameters)	DBK70-P4
Additional vehicle connection cable	CA-210
Cable for attaching to WaveBook products	CA-208

DaqBook, DaqBoard, Daq PC-Card, DBK70, LogBook, and WaveBook are trademarks of IOtech, Inc. All other trademarks are the property of their respective holders. Prices and specifications are subject to change without notice. 000207. Printed in the U.S.A.

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