

MDIS5™ – MEN Driver Interface System

- **MDIS™ device drivers support:**
- **Binary and analog I/O**
- **Instrument functions**
- **Motion controllers**
- **Fieldbus controllers**
- **Watchdogs, hardware monitors etc.**

- **Typical hardware:**
- **M-Modules™**
- **PMC, XMC and PC-MIP®**
- **Other PCI hardware**
- **Components on CPU boards**
- **FPGAs on CPU and I/O boards**



MDIS5™ is the latest implementation of MEN's MDIS™ concept and will gradually succeed MDIS4™. MDIS™, the MEN Driver Interface System, is a framework to develop device drivers for almost any kind of I/O hardware. MDIS™ is independent of the architecture, platform and bus system. The driver source code is interchangeable between operating systems. A properly written driver runs on all operating systems supported by MDIS™. The system currently supports Linux, Windows®, QNX® and VxWorks®.

MDIS™ drivers can be used for all types of hardware as listed above, because in these cases the driver function can be presented to the application using the MDIS™ standard API (Application Programming Interface). The MDIS™ API is a function interface for the user defining the function calls to access an MDIS™ driver. It is written in ANSI C and is the same on all operating systems. Under Windows® it is available as a static library as well as a DLL and is therefore usable from almost any Windows® programming language (e. g. C/ C++, Delphi, Visual Basic).

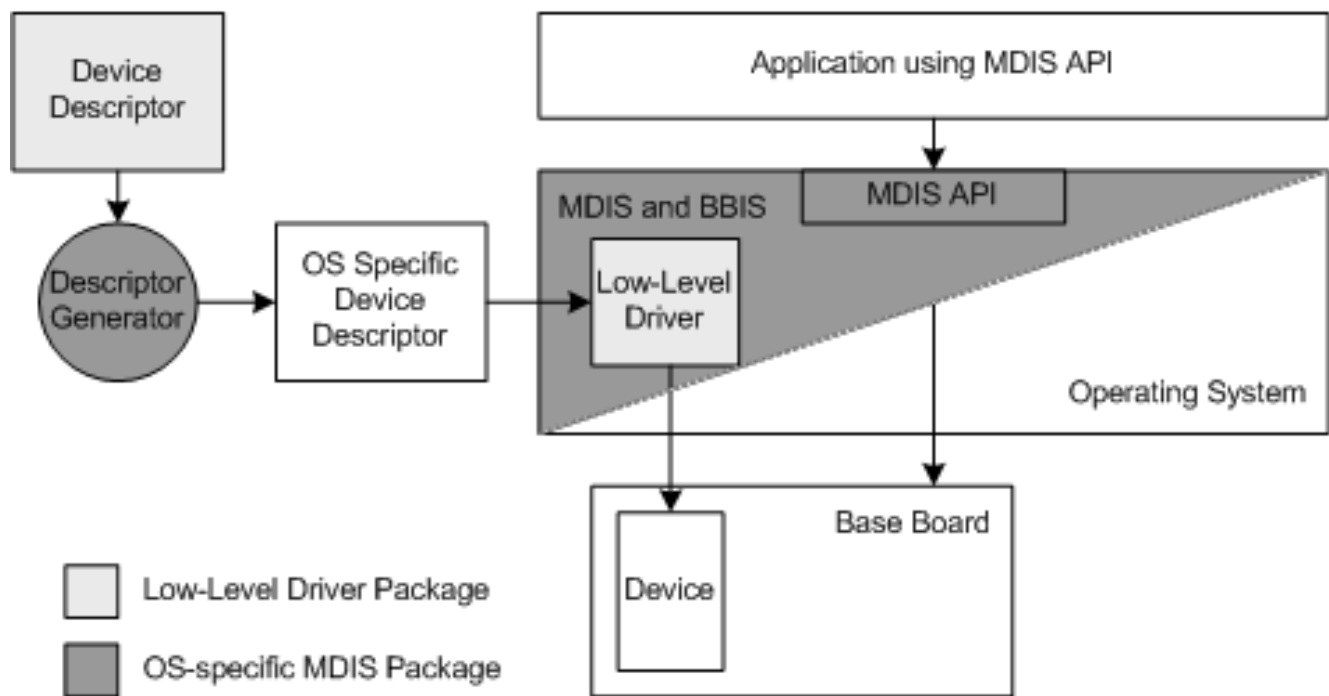
There are some device types like network and disk I/O, where the MDIS™ API cannot be used because the operating system already supports this kind of device. For those devices it is still necessary to develop a dedicated driver.

Another tool included is the MDIS™ configuration wizard for Linux and VxWorks®. It has a user-friendly "Windows®-like" GUI that allows for a fast and easy system configuration independent of the platform (e. g. VMEbus or CompactPCI®, PowerPC® or Pentium®). The MDIS™ wizard can also be used for hardware settings, e. g. to select resolution, amplification or signal conditioning modes of analog channels. Thus it is possible to generate executable MDIS™ projects which can be loaded in the application.

MDIS™ system packages for Linux and VxWorks® are delivered in source code under the GNU General Public License. MDIS™ low-level driver packages are mostly provided in source code under the GNU General Public License. All MDIS™ system packages and most of the low-level and Windows® driver packages are free of cost.

MDIS5™ for Windows® provides ready-built 32-bit and 64-bit PnP drivers and supports Windows® XP, Windows® Vista™/Vista 64-bit and Windows® 7. It also makes driver installation easier through [MEN Installsets](#). In general, MDIS5™ low-level drivers are compatible with MDIS4™ system packages, while MDIS4™ low-level drivers are compatible with MDIS5™ system packages (with the exception of 64-bit support). For more information on compatibility of the individual operating systems, please refer to the OS-specific MDIS5™ user documentation.

Diagram



Technical Data

Basic API Functions	■ M_open □ open path to device ■ M_read □ read a single value from current channel ■ M_write □ write a single value to current channel ■ M_getblock □ read multiple values (data block) from device ■ M_setblock □ write multiple values (data block) to device ■ M_getstat □ get parameter from device ■ M_setstat □ set parameter of device ■ M_close □ close path to device
MDIS™ Functional Parts	■ Low-level driver for device hardware handling ■ Board handler for base board hardware handling ■ MDIS™/BBIS Kernels □ Management of the initialization and deinitialization sequences □ Routing of the API calls to the appropriate low-level driver and board handler calls
Content of MDIS™ System Package	■ MDIS™ libraries required by the low-level drivers, including documentation ■ MDIS™ libraries required by applications ■ All BBIS handlers supported by this operating system ■ MDIS™ user guide ■ Low-level driver installation tool, if necessary ■ Example BBIS handlers in source code ■ Tools to access the MDIS™-API and to view debug messages, if necessary
Content of MDIS™ Low-Level Driver Package	■ Low-level driver source code including a generic makefile ■ Example descriptors ■ Example programs and tools ■ HTML and ASCII-text documentation ■ API library for easier driver access (only some packages)
Content of MDIS™ Windows® Driver Package	■ Signed 32-bit and 64-bit Windows® drivers and installation files ■ Ready-built example programs and tools (.exe) ■ Some packages: ready-built API library (.lib, .dll)

Ordering Information

For operating systems not mentioned here [contact MEN sales](#).

Documentation	21MD05-60	MDIS™ under VxWorks® User Manual
	21MD05-70	MDIS™ under Windows® User Manual
	21MD05-71	MDIS™ under Windows® QuickStart Guide
	21MD05-90	MDIS™ under Linux User Manual
	21SW001ER	MDIS™ under Linux Errata

Contact Information

Germany

MEN Mikro Elektronik GmbH
Neuwieder Straße 3-7
90411 Nuremberg
Phone +49-911-99 33 5-0
Fax +49-911-99 33 5-901

info@men.de
www.men.de

France

MEN Mikro Elektronik SA
18, rue René Cassin
ZA de la Châtelaine
74240 Gaillard
Phone +33 (0) 450-955-312
Fax +33 (0) 450-955-211

info@men-france.fr
www.men-france.fr

USA

MEN Micro, Inc.
24 North Main Street
Ambler, PA 19002
Phone (215) 542-9575
Fax (215) 542-9577

sales@menmicro.com
www.menmicro.com

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