



## Discounted Offerings for Universities

ACE Kits, Classroom Kits and Research Kits

## Specially-Priced Bundle Packages

dSPACE offers universities powerful hardware and software tools at discounted prices, giving students access to the latest industry-standard tools and methods for developing and testing complex control systems. These tools are ideal for teaching and research purposes and make it possible to learn complex control concepts with ease, from the initial design using block diagrams to final online optimizations of the controller in real time.

dSPACE university offerings are available in three specially-priced bundle packages:

- 1. Advanced Controls Education (ACE) Kits** - Most ACE Kits include the Control Development Package, which contains: Real-Time Interface, ControlDesk, and the Platform API Package with USB dongle. Additional package-specific software module add ons are also available (e.g. Ethernet, APMC blockset, CAN/LIN support).
- 2. Classroom Kits**
- 3. Research Kits**

**This document contains pricing and details for some of our most popular kits.**

**NOTE:** Pricing information is subject to change at the discretion of dSPACE and should always be verified for the latest information.

**NOTE:** Pricing can vary based on requirements for additional software and hardware components.

## ACE Kit 1104

This ACE Kit features a DS1104 R&D controller board, ideal for developing smaller control applications such as robotics, drives, medical engineering, etc. The DS1104 is a cost-effective entry-level system.

- Upgrades any PC to a development system for rapid control prototyping
- Single-board system with real-time hardware and comprehensive I/O
- With Real-Time Interface, you can run function models on the board and configure I/O graphically using Simulink® block diagram

DS1104



ACE Kit Base Price \$4000 - \$5300 USD (Compare to industry base price \$19,990 - \$21,755)

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## ACE Kit - MicroLabBox

With the MicroLabBox, dSPACE introduces a fully new system category: an all-in-one development system for the laboratory that combines compact size and low system costs with high performance and versatility. More than 100 I/O channels of different types make MicroLabBox a versatile system that can be used in mechatronic research and development areas such as: robotics, medical engineering, electric motors, electric drives, renewable energy, vehicle engineering, aerospace, active noise cancellation, etc.

- 2 GHz dual-core real-time processor
- More than 100 channels of high-performance I/O with easy access via integrated connector panel
- Simulink-programmable Xilinx Kintex-7 FPGA with purchase of additional software suites
- I/O functionality for E-motor control with purchase of RTI\_EMU blockset, interface for Ethernet and CAN bus (with purchase of additional blocksets)

MicroLabBox



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ACE Kit Base Price \$14,750 USD (Compare to industry base price \$31,295 USD)

## ACE Kit - MicroAutoBox II

The MicroAutoBox II is a compact and robust prototyping system for in-vehicle applications. This real-time system is designed for performing fast function prototyping. It can operate without user intervention, just like an ECU, and can be used for applications such as: powertrain, chassis control, body control, ADAS, electric drives control, x-by-wire applications, aerospace, etc.

- IBM PowerPC running at 900 MHz
- Comprehensive I/O including CAN, CAN FD, LIN, K-Line, FlexRay, Ethernet and LVDS/bypass interfaces (additional purchase of blockset may be applicable, please inquire)
- Robust and compact design ideal for in-vehicle use
- AC Motor Control Solution upgrades the 1513 and 1513/1514 variants to compact, flexible developments systems for electric motor control applications. Without any programming by the user, it uses the DS1553 (additional cost module), together with FPGA firmware and an easy-to-use MicroAutoBox II blockset (MABX II\_ACMC\_BS) at an additional cost, for controlling all kinds of electric drives

MicroAutoBox II



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ACE Kit Base Price \$6915 - \$10,615 USD (Compare to industry base price \$25,325 - \$33,965 USD)

## MicroAutoBox III - Next Generation In-Vehicle Prototyping System

The new MicroAutoBox III is the next generation of the established dSPACE MicroAutoBox, a real-time system for performing fast, in-vehicle function prototyping.

The powerful system can be added to or replace an electronic control unit (ECU), and lets you experience and test control functionalities in a real environment. MicroAutoBox III is ideal for many different rapid control prototyping (RCP) applications either as a single demonstrator or for equipping entire test fleets.

The MicroAutoBox III uniquely combines high performance, comprehensive automotive I/O including bus and network support, and an extremely compact and robust design – all for a favorable price. The comprehensive software environment lets you configure, program and operate the system easily and with minimum effort.

- High computation power with quad-core ARM® processor
- Comprehensive bus and network support, including CAN, CAN FD, LIN, FlexRay, and (automotive) Ethernet
- Functional safety monitoring features

ACE Kit Base Price \$14,700 - \$17,610 USD (Compare to industry base price \$33,620 - \$38,825 USD)

MicroAutoBox III



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## ACE Kit - SCALEXIO with Real-Time PC or DS6001

The dSPACE SCALEXIO product line comprises flexible and modular systems in various sizes for hardware-in-the-loop (HIL) and rapid control prototyping (RCP) projects in various industries such as automotive, automation, aerospace, medical, transportation, or research.

Its powerful real-time technology and comprehensive bus support are ideally suited for the demanding applications of today and tomorrow, which include advanced driver assistance systems (ADAS), autonomous driving, electromobility, and increasing network communication.

Pricing shown below is reflective of processor and base software only, and will require a meeting with the dSPACE Academic Sales Representative and a technical engineer to discuss customer projects and qualify needs to determine what additional hardware and/or software may be required.

- Scalable to any required size
- High-performance processor technology for fast calculation of large and complex models.
- Flexible software-based system configuration

### SCALEXIO Real-Time PC (RTPC)

- Xeon E3-1275v6 Processor
- 4 cores, 3.8 GHz
- DS2502 IOCNET link board with 4 IOCNET Busses, 6 APU

\*\*ACE Kit SCALEXIO RTPC includes: DS2502 IOCNET link board with 4 IOCNET Busses, 6 APU, SCALEXIO Real-Time Library, SCALEXIO Real-Time Library Multicore, ControlDesk, ConfigurationDesk - Implementation Version (100), ConfigurationDesk - Implementation Version Multicore, Platform API and USB dongle.

SCALEXIO RTPC



ACE Kit Base Price SCALEXIO RTPC \$9700 USD (Compare to industry base price \$24,320 USD)

## SCALEXIO with DS6001 Processor Board

DS6001

- Compact dual-slot processor board for SCALEXIO LabBox (sold separately)
- Intel® Core™ i7-6820EQ, quad-core, 2.8 GHz
- High bandwidth and fast I/O access to SCALEXIO I/O boards
- Onboard Ethernet I/O and host interface

\*\*ACE Kit SCALEXIO DS6001 consists of: DS6001 SCALEXIO Processor Board, ControlDesk, ConfigurationDesk - Implementation Version (100), ConfigurationDesk - Implementation Version Multicore, Platform API, USB dongle.



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ACE Kit Base Price SCALEXIO DS6001 \$11,500 USD (Compare to industry base price \$24,320 USD)

## NEW: ACE Kit for Power Electronics

The Electrical Power Systems Simulation (EPSS) Package allows for the real-time simulation of electrical models developed in Simscape Electrical™ (Specialized Power Systems). The package provides various ways to integrate Simscape Electrical™ (Specialized Power Systems) models in a dSPACE hardware-in-the-loop (HIL) environment, e.g., for testing:

- Charging stations and onboard chargers
- DC/DC converters
- Active rectifiers and industrial inverters
- Wind and solar converters
- Smart grids



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The FPGA-based approach involves configuring a ready-to-use FPGA application according to the given Simscape Electrical™ (Specialized Power Systems) model. This achieves low latency HIL simulation. Using the processor-based approach, an extension library is available for modifying a Simscape Electrical™ (Specialized Power Systems) model to allow real-time-capable code generation on dSPACE real-time processors by means of Simulink Coder™.

- Ready-to-use, FPGA-based power electronics simulation
- Integration of SimScapeElectrical into dSPACE real-time simulation
- Free programmable FPGA platform for rapid control prototyping and HIL use cases
- SCALEXIO LabBox set-up is flexible and expandable

\*\*ACE Kit for Power Electronics consists of: ConfigurationDesk, ControlDesk, Platform API, Electrical Power Systems Simulation Package, RTI FPGA Programming Blockset, SCALEXIO LabBox, DS6001 Processor Board, DS6602 FPGA Base Board, 2x DS6551 Multi-I/O Module, Integration of SimscapeElectrical (Specialized Power Systems) into dSPACE real-time simulation

ACE Kit Base Price: Power Electronics \$31,550 USD (compare to industry price of \$74,960 USD)

## NEW: ACE Kit for Smart Charging

The Smart Charging Solution is a key solution for developing and testing technologies involved in the electric vehicle charging process. The combination of hardware and software components offer comprehensive testing options.

- Develop and test smart charging applications
- Charging of vehicles, vehicle-to-grid applications
- Support for all common charging standards, such as ISO 15118, DIN SPEC 70121, IEC 61851-1, CHAdeMO, ChaoJi-1, and GB/T

\*\* ACE Kit for Smart Charging consists of: DS5366, SMART\_CHARGING\_IF\_SOL\_SW, DS5366\_CAB.

\*\* A real-time system with at least one CAN FD channel is needed in addition.

ACE Kit Base Price: Smart Charging \$14,040 USD (compare to industry price of \$27,360 USD)



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## RTMaps for Students - Develop Free of Charge

Students can try RTMaps for free! Design and develop innovative applications. Prepare your career as software engineer.

RTMaps™ stands for Real-Time Multisensor Applications. It is a high-performance and reliable software development tools for critical real-time applications.

With RTMaps, you can design, develop, test, benchmark and validate multisensor applications for Advanced Driver Assistance Systems (ADAS) and Highly Automated Driving (HAD) software functions. It can also be used for advanced features in other domains such as autonomous and mobile robotics, energy, system monitoring, complex instrumentation and human factors.

RTMaps for Students is fully functional and is shipped with numerous examples and datasets to work in playback mode.

If you need help in utilizing the software tool, you can discuss, ask questions and get answers from RTMaps users all over the world by joining the [RTMaps Forum](#).

RTMaps



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## ClassRoom Kits

### Software Package Licenses for Classroom Instruction

With ClassRoom Kits, dSPACE offers universities high-quality software products in license packages at a greatly reduced price. This gives universities the cost-effectiveness to use these products in the classroom for hands-on lectures or teaching purposes.

ClassRoom Kits offer a real-world experience of industry standard model-based design. For automotive applications, this experience is further enhanced by the wide range of plant models available with the Automotive Simulation Models (ASM) Library that covers all domains – from powertrain to vehicle dynamics.

**\*\* Must be ordered in quantities of 10.\*\***

## Research Kits

### Individual Software Licenses for Academic Research

Research Software Kits provide affordable, individual workstation licenses of various software products. With these kits, dSPACE specifically aims to support university research.

Research Software Kits let scientists at universities also benefit from the newest, most modern dSPACE software tools. These tools offer the same functionalities as ClassRoom Kits, but with the additional capabilities to investigate and modify existing ASM models and conduct research in software quality issues using the automatic code generator TargetLink.

# ClassRoom Kits - Pricing Sheet

<b>Description</b> - dSPACE Classroom Kits are for university academic use only (e.g. lectures, hands-on training). Research activities and post-graduate research are not allowed.	<b>Order No.</b>	<b>Pricing</b>
<b>SystemDesk</b>		
<b>SystemDesk Classroom Kit</b> - Includes 1 network license for: <ul style="list-style-type: none"> <li>SystemDesk Modeling Module</li> <li>SystemDesk V-ECU Generation Module</li> </ul>	CRK_SYD_NLT_FNL	\$396
<b>Offline Simulator</b>		
<b>Offline Simulator Classroom Kit</b> - includes 1 network license for: <ul style="list-style-type: none"> <li>ControlDesk</li> <li>ControlDesk ECU Interface</li> <li>VEOS Basic</li> <li>VEOS ECU</li> <li>VEOS CAN</li> </ul>	CRK_VEOS_NLT_FNL	\$396
<b>TargetLink</b>		
<b>TargetLink Base Suite Classroom Kit</b> - includes 1 network license	CRK_TBS_NLT_FNL	\$396
<b>TargetLink AUTOSAR Module Classroom Kit</b> - includes 1 network license (* requires base)	CRK_TAS_NLT_FNL	\$118.80
<b>TargetLink Simulation Module Classroom Kit</b> - Includes 1 network license (*requires base)	CRK_TSM_NLT_FNL	\$95.40
<b>Automotive Simulation Models (ASM)</b>		
<b>ASM Electric Components Classroom Kit</b> - includes 1 network license of ASM Electric Components	CRK_ASM_EC_NLT_FNL 1)	\$198
<b>ASM Engine Classroom Kit</b> - includes 1 network license for: <ul style="list-style-type: none"> <li>ASM Engine Gasoline Library (runtime version)</li> <li>ASM Engine Diesel Library (runtime version)</li> <li>ASM Drive Train Basic Library (runtime version)</li> <li>ModelDesk</li> </ul>	CRK_ASM_ENG_NLT_FNL 1)	\$396
<b>TurboCharger Classroom Kit</b> - includes 1 network license (runtime version) NOTE: ** Requires purchase of ASM Engine Classroom Kit **	CRK_ASM_TC_NLT_FNL 1)	\$54
<b>ASM Vehicle Dynamics Classroom Kit</b> - includes 1 network license for: <ul style="list-style-type: none"> <li>ASM Environment Library (runtime version)</li> <li>ASM Vehicle Dynamics Library (runtime version)</li> <li>ModelDesk</li> <li>MotionDesk</li> </ul>	CRK_ASM_VD_NLT_FNL 1)	\$396
<b>ASM Brake Hydraulics Classroom Kit</b> - includes 1 network license (runtime version) NOTE: ** Requires purchase of ASM Vehicle Dynamics Classroom Kit **	CRK_ASM_BH_NLT_FNL 1)	\$90
<b>ASM Traffic Classroom Kit</b> - includes 1network license (runtime version) NOTE: ** Requires purchase of ASM Vehicle Dynamics Classroom Kit **	CRK_ASM_TRF_NLT_FNL 1)	\$252

1) The course instructor is allowed to use a license for course preparation and code generation (e.g. for VEOS) on a separate dongle. This dongle can be provided without additional cost. The network license for students supports Simulink simulation, as well as VEOS simulation (VEOS is needed in addition, e.g., CRK\_VEOS). It is possible to parameterize the model, but not to generate code for VEOS.



# University Campaigns and Research Kits - Pricing Sheet

Description	Order No.	Pricing
<b>University Upgrade Campaigns</b> - Options for upgrading existing software licenses to the most current release		
<b>University Upgrade Campaign</b> Upgrade existing software to the most current release available at the time of purchase.	UUC	\$300
<b>University Software Maintenance Campaign</b> Upgrade existing software to the most current release available and any future releases that are issued during the year of purchase.	UUC_YEAR	\$324
<b>Research Kits</b> - Special pricing and dongle-protected license for research kits and university campaigns		
<b>SystemDesk Research Kit</b> SystemDesk Modeling Module and SystemDesk V-ECU Generation Module	UC_SYD	\$3600
<b>Offline Simulation Research Kit</b> ControlDesk Basic, ControlDesk ECU, VEOS Base, VEOS ECU, VEOS CAN	UC_VEOS	\$3600
<b>TargetLink Research Kit</b> TargetLink Base Suite, TargetLink AUTOSAR Module, TargetLink Simulation Module	UC_TL	\$3600
<b>µC-Based Hardware Platform</b> Evaluation Module Motor Control Education Kit	EVM_MEDKIT_ARMSTM32 <sup>1)</sup>	\$1620
<b>Automotive Simulation Models (ASM) Research Kit - Vehicle Dynamics</b> Developer version licenses of: ASM Vehicle Dynamics Library, ASM Environment Library, ModelDesk, MotionDesk	UC_ASM_VD <sup>2)</sup>	\$5400
<b>Automotive Simulation Models (ASM) Research Kit - Engine Gasoline</b> Developer version licenses of: ASM EngineGasoline Library, ASM DriveTrainBasic Library, ModelDesk	UC_ASM_EG <sup>2)</sup>	\$3600
<b>Automotive Simulation Models (ASM) Research Kit - Engine Diesel</b> Developer version licenses of: ASM EngineDiesel Library, ASM DriveTrainBasic Library, ModelDesk	UC_ASM_ED <sup>2)</sup>	\$3600
<b>Automotive Simulation Models (ASM) Research Kit - Engine Incylinder Gasoline</b> Developer version licenses of: ASM EngineIncylinderBasic Library, ASM Engine Incylinder Gasoline Library, ASM DriveTrain Basic Library, ModelDesk	UC_ASM_EGIC <sup>2)</sup>	\$5400
<b>Automotive Simulation Models (ASM) Research Kit - Engine Incylinder Diesel</b> Developer version licenses of: ASM EngineIncylinderBasic Library, ASM Engine Incylinder Diesel Library, ASM DriveTrain Basic Library, ModelDesk	UC_ASM_EDIC <sup>2)</sup>	\$5400

1) Requires TargetLink Base Suite and TargetLink Simulation Module (UC\_TL)

2) This Research Kit is not allowed to be used on test benches. In this case, please refer to the University Price List. The software is dongle protected and allows code generation and simulation on Simulink, VEOS and dSPACE Real-Time Platforms.

## Research Kits - Pricing Sheet (cont'd)

Description	Order No.	Pricing
<b>Additional Libraries</b> - Add-on options for Vehicle Dynamics, Engine Gasoline and Engine Diesel ASM research kits		
<b>ASM Traffic Library</b> NOTE: ** Requires purchase of ASM Research Kit - Vehicle Dynamics **	UC_ASM_L_TRF	2) \$3600
<b>ASM Truck Library</b> NOTE: ** Requires purchase of ASM Research Kit - Vehicle Dynamics **	UC_ASM_L_TRU	2) \$1800
<b>ASM Trailer Library</b> NOTE: ** Requires purchase of ASM Research Kit - Vehicle Dynamics **	UC_ASM_L_TRA	2) \$1800
<b>ASM Electric Components Library</b>	UC_ASM_L_EC	2) \$1800
<b>ASM Diesel Exhaust Library</b> NOTE: ** Requires purchase of ASM Research Kit - Engine Gasoline or Engine Diesel **	UC_ASM_L_DEXH	2) \$1800
<b>ASM TurboCharger Library</b> NOTE: ** Requires purchase of ASM Research Kit - Engine Gasoline or Engine Diesel **	UC_ASM_L_TC	2) \$900
<b>ASM BrakeHydraulics Library</b> NOTE: ** Requires purchase of ASM Research Kit - Vehicle Dynamics **	UC_ASM_L_BH	2) \$900
<b>ASM Kinematics and Compliance Test Bench Library</b> NOTE: ** Requires purchase of ASM Research Kit - Vehicle Dynamics **	UC_ASM_L_KNC	2) \$900

1) Requires TargetLink Base Suite and TargetLink Simulation Module (UC\_TL)

2) This Research Kit is not allowed to be used on test benches. In this case, please refer to the University Price List. The software is dongle protected and allows code generation and simulation on Simulink, VEOS and dSPACE Real-Time Platforms.

Discontinued Products	
ACE Kit 1005, 1006, 1007	The recommended replacement product is ACE Kit SCALEXIO with Real-Time PC (or DS6001)
ACE Kit 1103	ACE Kit 1103 was discontinued in December of 2016. The recommended replacement product is the ACE Kit MicroLabBox.

**For more information, please contact:**

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