UAD3+

Universal Access Device3 plus

Universal Debug Engine (UDE) is a modern windows based workbench for application oriented development of the latest microcontroller architectures. It supports multi-core, multi-system and high performance embedded target designs. The Universal Access Device (UAD) family describes a platform of hardware communication devices for embedded microcontroller systems which allow a highly flexible, high-performance access to the target system.

The **UAD3+**, a further development of the already established UAD2 family, was particularly optimized for use in multi-core and multi-target systems with high clock frequencies. Thanks to the flexible pod and connector designs, up to eight various cores and targets respectively can be controlled with different debug protocols. A consistent further development of the JTAG extender technology by PLS permits connection lengths of up to 5 meters to the base unit. The extenders are optionally available with galvanic electrical isolation. Furthermore, with the flexible design, the pods can also carry out tasks such as CAN interface or logic analyzer probe.

Access to the targets can take place with up to 100 MHz clock frequency optionally via various serial interfaces such as JTAG, Device Access Port (DAP) or Serial Wire Debug (SWD). Synchronization during debugging of several core/targets is achieved by the UAD3+ hardware and firmware. Two different input voltage ranges - 1.6 V to 5.5 V as standard or optionally 0.8 V to 3.3 V - cover all possible applications.

The UAD3+ not only sets new standards in multi-core/multi-target debugging, but also in high end real-time trace. For this application, the highly flexible pod and connector designs ensure a simple and, at the same time, efficient support of various trace protocols (e.g. CoreSight ETM, Nexus or OCDS LII). Here too, the distance between the trace pod on the target and the base unit may also be up to 5 meters. The recorded data can be complemented by automatically generated time stamps. With a trace memory of up to 4 GBytes, a maximal trace stream width of 32 bit and possible trace signals up to 500 MHz, the UAD3+ is also ideally equipped for future tasks.

Basic Features

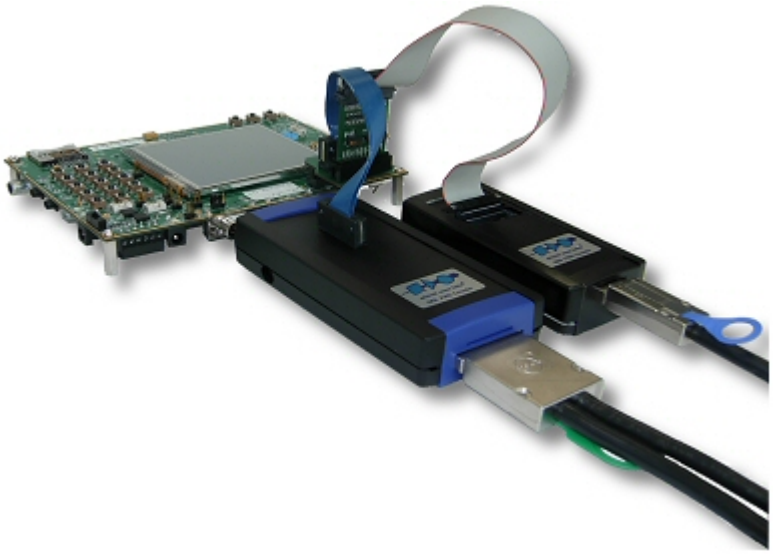
The **UAD3+** is based on a modular concept and offers high-speed debug access to PowerPC, ARM7/9/11, Cortex-M3/M4/R4/A8/A9 and further microcontrollers MCU architectures as a modular concept. Multiple JTAG extender pods can be connected via a long cable to ensure a flexible adaptation with the target connector. The UAD3+ is designed for best class performance.

- High-speed JTAG debug access with up to **100 MHz shift clock**
- **Multi Target / Multi System Access - Up to 8 multiple JTAG interfaces** supported (up to 4 JTAG extender pods possible, up to 2 JTAG interfaces per JTAG extender pod possible)

- Standard I/O ring voltage **1.6 - 5.5 Volts**, extended I/O ring voltage 0.8 - 3.3 Volts optional
- Supported debug connectors:
  - 10 pin and 20 pin **ARM CoreSight** connector
  - 20 pin **CoreSight Serial Wire Debug (SWD)** connector
  - Standard 20 pin **ARM JTAG** connector
  - **Nexus JTAG** connector
  - Additional customer specific debug connectors
  - Optional galvanic isolation
- Separate **JTAG extender pods** are connected to the UAD3+ by a Gigabit serial cables up to 5 meters long(0,5m, 1m - default, 2m and 5m)
- **Wide range of host interfaces**, USB2.0 HS, Gigabit-Ethernet (10/100/1000Mbps), IEEE1394b (FireWire-800)
- Automatic firmware update of UAD3+
- Standalone communication operating mode device without host PC.

Trace support up to 500MHz

The Universal Access Device 3+ allows the recording of real-time trace information up to **500MHz**.



- Maximum trace frontend bandwidth **800 MByte/s**
- Trace memory up to **4 GByte** available
- **Time-endless** trace for a continuous tracing and observation
- Trace up to 32 bit wide, Half Rate clock mode up to 250 MHz
- Wide range for I/O voltage on the target hardware, 0.8V - 3.3 Volts supported
- Variable time stamps possible, inserted by the trace board frontend
- Intelligent trace filter for optimal trace utilization, Automatic edge detection
- Separate **Trace pod** is connected to the UAD3+ by aGigabit serial multi-lane cable up to 5 meters long (0,5m, 1m - default, 2m and 5m)
- Supported Trace definitions:
  - **Nexus class 3 via Mictor connector**
  - **ETM via Mictor connector**
  - **OCDS L2**
- External Trigger Pins