

## Ashling Vitra, Genia and Opella Emulator and Debugger Product Selection Guide

### ■ Vitra Universal Networked Emulator with Trace and Genia Universal Networked Emulator

Ashling's **Genia Networked Emulator**, pictured right, is a powerful Universal Emulator Platform for 32-bit RISC Embedded Microprocessors that incorporate On-Chip Debug. Built-in host interfaces for Ethernet, USB and RS232 make Genia the ideal choice for large, intensive embedded development projects.

With the addition of an optional Real-Time Trace Capture module (built-in to the enclosure), the unit becomes the **Vitra Networked Emulator with Trace**. Vitra provides a real-time Trace Display, time-stamped and back-annotated with the user's source-code.

Vitra and Genia both use Ashling's "PathFinder" Source-Level Debugger. Vitra and Genia support a wide range of embedded microprocessor architectures:

- Motorola PowerPC MPC56x (NEXUS and BDM debugging)
- Motorola PowerPC MPC53x (NEXUS and BDM debugging)
- Motorola PowerPC MPC555 (BDM debugging)
- ARM7, ARM9 cores
- MIPS cores
- ARCTangent cores
- Infineon TriCore



### ■ Ashling Opella Universal Entry-level Emulator



Ashling's Opella entry-level JTAG emulator (see picture left) is a compact, entry-level Universal Emulator for RISC Embedded Microprocessors that incorporate On-Chip Debug. Opella includes a USB or a parallel-port host interface.

Opella communicates with a variety of different target microprocessor interfaces (JTAG, BDM, OCDS1, EJTAG); appropriate target connection cables are supplied with the emulator.

Opella uses Ashling's **PathFinder** Source Debugger, and supports a wide range of embedded microprocessor architectures:

- Motorola PowerPC MPC56x
- Motorola PowerPC MPC53x
- Motorola PowerPC MPC555
- ARM7, ARM9 cores
- MIPS cores
- ARCTangent cores
- Infineon TriCore

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## Opella, Genia and Vitra Emulator Features-Summary

Product	Description	Devices Supported	Target Debug Connection	Target Trace Connection	Hardware	Program Trace and Timestamp	Debugger Software	Host interface
<b>Vitra</b>	Networked Emulator with Trace	MPC53x MPC555 MPC56x ARM7 ARM9 TriCore TC17xx MIPS ARctangent	NEXUS Cl. 2 or BDM BDM NEXUS Cl. 2 or BDM EmbeddedICE EmbeddedICE OCDS1 EJTAG JTAG-15 or JTAG-20	NEXUS Cl. 3 NEXUS Cl. 3 ETM ETM OCDS2 Extended- EJTAG RTT-38	Vitra-v2 Unit	Yes Yes Yes Yes Yes	PathFinder*      SeeCode	Ethernet, USB and RS232
<b>Genia</b>	Networked Emulator	MPC53x MPC555 MPC56x ARM7 ARM9 TriCore TC17xx MIPS ARctangent	NEXUS Cl. 2 or BDM BDM NEXUS Cl. 2 or BDM EmbeddedICE EmbeddedICE OCDS1 EJTAG JTAG-15 or JTAG-20	n/a	Vitra-v2 Unit		PathFinder*      SeeCode	Ethernet, USB and RS232
<b>Opella</b>	Entry-level Run-Time Control Emulator	MPC53x MPC555 MPC56x ARM7 ARM9 TriCore TC17xx MIPS ARctangent	BDM BDM BDM EmbeddedICE EmbeddedICE OCDS1 EJTAG JTAG-15 or JTAG-20	n/a	Opella-v2 Unit		PathFinder*      SeeCode	PC parallel port  or USB port

\* use appropriate PathFinder software for target microprocessor (such as PathFinder-MIPS for MIPS targets)

### ■ MPC53x, MPC555, MPC56x PowerPC Debug Support

- Motorola MPC555 devices contain a BDM™ (Background Debug Mode) debug-port.
- Motorola PowerPC MPC53x (MPC533, MPC535), MPC56x (MPC561, MPC563, MPC565) devices contain a NEXUS™ Class 3 Debug and Trace Port, *and* a BDM™ (Background Debug Mode) debug-port.
- You can debug and trace MPC53x and MPC56x applications in NEXUS mode using the Vitra-PPC Emulator and PathFinder-PPC Debugger software
- You can debug MPC53x and MPC56x applications in NEXUS mode using the Vitra-PPC *or* the Genia-PPC Emulators, and PathFinder-PPC Debugger software
- You can debug MPC53x, MPC56x and MPC555 applications in BDM mode using the Vitra-PPC *or* the Genia-PPC *or* the Opella-PPC Emulators, and PathFinder-PPC Debugger software

### ■ MPC53x, MPC555, MPC56x PowerPC Target Probe Options

- Vitra-PPC and Genia-PPC target probe options:
  - TPA-PPC-MD-51: Debug and Trace Probe Assembly for NEXUS D51 Robust Microway 51-pin target connector
  - TPA-PPC-NEXUS-50: Debug and Trace Probe Assembly for NEXUS 50-pin target connector (Motorola/Axiom)
  - TPA-PPC-NEXUS-40: Debug and Trace Probe Assembly for initial Motorola/Axiom 40-pin 8MDO/2MDI target connector
  - TPA-PPC-BDM-10: Debug Probe Assembly for BDM 10-pin target connector
- Opella-PPC uses:
  - TPA-PPC-BDM-10: Debug Probe Assembly for BDM 10-pin target connector

### ■ Upgrading: To upgrade Genia to Vitra:

- Install new Real-time Trace Module upgrade kit into the Genia unit to upgrade it to Vitra. New PathFinder software is *not* required for this upgrade; the PathFinder software for each target microprocessor (for example, PathFinder-MIPS for MIPS targets) supports Vitra, Genia and Opella.

### ■ Upgrading: To change Target Device supported (applies to Opella, Genia, Vitra):

- Install new PathFinder Source Debugger Software appropriate for target device
- Install new Target Debug Connection Cable (and Target Trace Connection Cable) appropriate for target device

BDM and Background Debug Mode are trademarks of Motorola Semiconductors. NEXUS 5001 Forum is a trademark of IEEE-ISTO.