

# Wintegra Development System (WDS)

## WINPATH™ ACCESS PACKET PROCESSORS

### Product Highlights

- Highly functional, integrated development systems for all WinPath processors.
- System can be utilized for ATM, Ethernet and TDM software development as well as demonstrations.
- Includes high performance 233 MHz WIN787.
- On-board support for dual 10/100/1000 Ethernet. Copper Gigabit support is supplied via RJ45 connectors. Fiber support is available via SFP receptacles. (Fiber modules are not available from Wintegra.)
- 128 MB of Packet Bus memory, 133 MHz SDRAM
- 2 MB of Parameter Bus memory, 133 MHz ZBT SRAM
- 128 MB of Host Bus memory, 80 MHz SDRAM
- 3 mezzanine-style connectors for use with WDS daughter cards, UTOPIA, or POS L2 or Reduced TDI, UTOPIA L2, and TDI
- Optional OC-3, OC12, Octal T1/E1 or PPC daughtercards
- Supports Wintegra UFE2 daughter card
- On-board Boot Flash
- Additional 10/100 Ethernet port available for debug support
- 2 UART ports
- I<sup>2</sup>C Serial EEPROM
- EJTAG connection
- WindRiver VxWorks or Linux BSPs available.



### Wintegra Development System:

WDS is the integrated development system for WinPath customers. It is organized as a stand-alone board with optional plug-in cards.

The WDS is shipped with a 233 MHz WinPath WIN787. This processor is the superset of all WinPath devices and can be software configured to represent any WinPath family member. It includes a MIPS 5Kc core for control path programming. Both the MIPS and datapath engines can operate at 233 MHz.

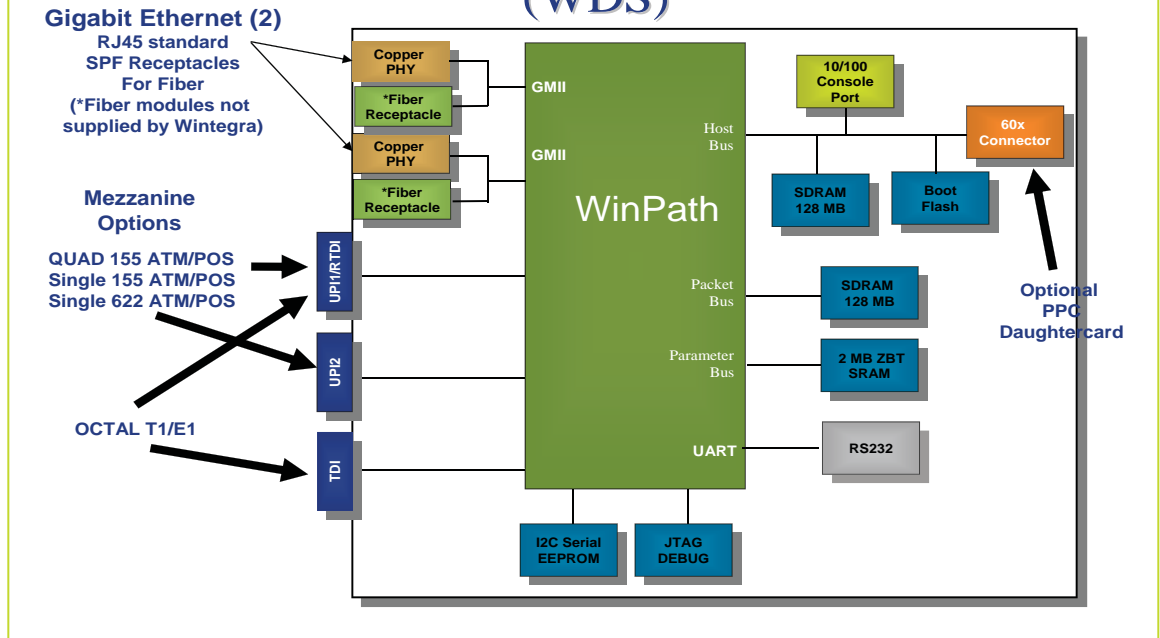
The WDS has on-board support for two 10/100/1000 Ethernet ports (copper connectivity supplied via RJ45 connectors), I<sup>2</sup>C, Boot Flash, EJTAG connectivity, 2 UARTS, a dedicated 10/100 ethernet console port, and is populated with all three available WinPath memory buses.

The WDS also has provisions to support mezzanine-style plug-in cards. There are three available ports. One supports UTOPIA/POS cards or Wintegra's Octal TDM cards. The second port supports Wintegra UTOPIA/POS cards. The third port supports Wintegra Octal TDM cards.

A PowerPC daughtercard is available. Using this card, the MIPS core in the WIN787 can be disabled for PPC-based Control Plane Software systems. The PPC card utilizes high density connectors connected to the WIN787 60x bus.

Control Path Software

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**Details:**

All three WinPath memory buses are populated on the WDS. The Packet Bus has 128 MB of 64-bit wide SDRAM operating at up to 133 MHz. The Parameter Bus has 2 MB of 64-bit ZBT SRAM also operating up to 133 MHz. The host bus is populated with 128 MB of 64-bit SDRAM, running up to 80 MHz.

The WDS is supplied with Gigabit Ethernet copper PHY connectivity via two RJ45 ports. Alternatively, there are two SFP receptacles that can be used with multi-mode or single mode fiber modules, instead of the RJ45 ports. SFP fiber modules are not available from Wintegra, but we can reference several suppliers.

16 MB of Boot Flash is provided on the Host Bus.

256 KB of I<sup>2</sup>C Serial EEPROM is available.

The dedicated 10/100 Ethernet port is useful as a console port, freeing up the other 10/100/1000 ports for datapath operations.

**WDS Daughtercards:**

Various mezzanine cards are available in two basic configurations, UTOPIA/POS L2 or TDM. On the

WDS, these ports are designated as UPI or TDI. There are three connections provided: a TDI, a UPI, and a combined UPI/TDI.

UPI cards: There are three ATM mezzanine cards compatible with the WDS UPI ports.

- OC-3 ATM/POS Serial Card utilizing a PMC5352.
- Quad OC-3 ATM/POS Serial Card utilizing a PMC5351
- OC-12 ATM/POS Serial Card utilizing a PMC5357

The WDS TDI ports are compatible with a Wintegra TDM board.

- Octal T1 or E1 Serial Card utilizing two Infineon Quad-FALC devices.

Optionally, there is a PPC daughtercard that utilizes high-density connectors on the WIN787 60x bus. This card utilizes an IBM PPC750FX processor and operates up to 650 MHz.

The WDS also supports the Wintegra UFE2 daughtercard. This card utilizes Wintegra's UFE2 FPGA, providing channelized STM1/OC-3, channelized E3/DS3 and up to 84/63 T1/E1 channels.



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