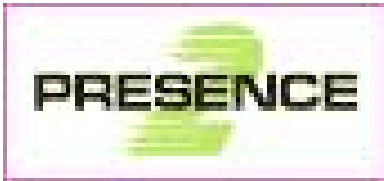


# CYBULA

high performance pattern recognition systems



## PRESENCE II

*"Built for complex data and speed"*

### Brief Description

The Presence II card is a unique hardware platform for developing novel high-performance high-speed embedded computing architectures. Ideal applications would be pattern recognition systems and ultra-fast data search and match engines for example:

**Processing Radar data for image & target identification,**

**Processing Sonar data for image and target identification,**

**High speed solutions for "Identify Friend or Foe",**

**Biometrics verification and identification solutions,**

**High speed command, control and decision support solutions,**

**Communications and multi-media monitoring,**

**Signature recognition solutions i.e. thermal signatures,**

**Health monitoring systems i.e. engine diagnostics,**

**Image analysis i.e. satellite surveillance,**

### Overview

At the heart of the card is a large Field Programmable Gate Array. The FPGA interfaces to a fast Digital Signal Processor, up to 4 G-bytes of PC133 SDRAM memory, two independent fast Zero-Bus-Turnaround memories, dual high-speed data channels, Sundance digital I/O header and a mezzanine expansion card connector. With each on-board resource given an independent interface to the FPGA, the designer is able to implement bus structures of choice, rather than the board itself imposing a fixed wiring scheme. Additional host system resources (system memory, I/O devices etc) are accessible via the PCI bus as bus master.

Presence II can be supplied a development card or with Cybula's advanced pattern recognition software (see [www.cybula.com](http://www.cybula.com) for more details).

## Presence-2 Features;

- PCI v2.2 compliant 64-bit universal PCI card
- 3, 4, or 6 million system gate Virtex-II FPGA
- 250 MHz 'C6203 DSP offering 2000 MIPS
- high-speed 32-bit FPGA-DSP link
- two PC133 DIMM sockets supporting up to 4 G-bytes of memory
- 32 Mbyte external DSP memory
- two independent 133 MHz 9 Mbit synchronous ZBT memories
- mezzanine expansion slot for video and audio processing
- compatible Sundance Data Bus header for fast off-board digital I/O
- two independent 4-bit bi-directional LVDS channels for high-speed board-to-board / chassis-to-chassis communication
- FPGA reconfigurable 'on-the-fly' via PCI bus
- embedded DSP code loaded via PCI bus
- embedded AURA API for DSP RTOS/BIOS
- DSP BIOS driver
- Host Windows NT/2000/Linux/Solaris driver

## Block Diagram.

