"The Chief" –Tidal's Embedded Control Framework

Tidal Engineering has developed a state-of-the-art embedded control framework incorporating Microsoft Windows ™ CE for OEM test & measurement and data acquisition and SCADA applications. "The Chief" offers a powerful set of features that include; Graphical User Interface, data acquisition and control, communications and data logging. The Chief can be easily applied to any OEM application and supplied turnkey.

This framework incorporates the capabilities to take test into the 21st century. The controller incorporates communication capabilities for the "Connected Factory" of the future. The **"Connected Factory"** is a global enterprise where data is gathered from **around the globe** via the Internet through the World-Wide-Web, from **around the factory floor** via Ethernet, and from **around the test lab** via IEEE 488 and RS-232/485.

To support global deployment, the "The Chief" supports multiple languages with its built-in on-line help system. This product offers end users and their organizations a high performance controller with advanced programming and communications capabilities.

"The Chief" utilizes Microsoft's advanced Windows™ CE operating system. Windows CE is a compact modular OS that utilizes the popular Win32 API and features:

- Powerful and familiar Windows Graphical User Interface.
- **Built-in help system** and international language support.
- Built-in peripheral support expansion available via USB and PCMCIA interfaces.
- The Universal Serial Bus (USB) provides a powerful and flexible interface. Customers can add "plug and play" keyboards and mice.
- Advanced Ethernet (10/100) communications capabilities using TCP/IP networking protocols.

"The Chief" Features:
- Storage and retrieval of programs and test data from/to **floppy drive**, **local Flash disk**.
- **Color LCD 320x240 with touch screen**.
- Separate I/O Controller (Olympic) for machine interface; machine diagnostics and **IEEE 488** communications.
- Floppy drive.
- Pentium class processor.
- Flash Disk on Chip storage.
- RS-232 and RS-485 Serial Communications.
- Parallel Printer Interface (Optional).
- **Networking with 10/100BaseT**.
- **WebTouch ™ Remote, a Built-in Web Server** for Internet access over the Internet for monitoring/control and diagnostics using a standard Web Browser.
- Multi-channel **16-bit A/D converter for process data** (e.g. temperature, humidity, voltage, power and pressure data.)
- 10-bit machine diagnostics interface for **advanced remote troubleshooting**.

The Chief
Typical Configuration

TEST EQUIPMENT INTERFACE

- Heating
- Cooling
- Sensing
- Power

OLYMPIC PROCESSOR

- 8 Chan. 8 Bit A/D
- 24 Bits Digital Out
- 8 Bits Digital In
- RTD Signal Conditioning
- 8 Chan. 16 Bit
- 128K SRAM
- Micro-Controller
- 128K FLASH
- Serial Interface B
- Serial Interface A
- Serial Interface C
- Serial Interface D
- IEEE 488 Interface
- RS-485
- RS-232
- IEEE 488

APOLLO PROCESSOR

- 16MB SDRAM
- Pentium Class Processor
- Ethernet 100BaseT
- PCI Bus
- North Bridge
- IDE
- C&T Graphic
- South Bridge
- COM 3
- COM 4
- COM 2 Serial
- ISA Bus
- COM1 Serial
- DOC 2000
- Floppy Controller
- WinCE Debug
- Floppy Drive
- Ethernet
- 320 x 240 LCD
- LCD Panel and Touch Screen Controller
- Touch Screen