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DELTA TAU
Data Systems, Inc.

Advantage 900 CNC Control

Introduction

The Advantage 900 is a unique new product created to fill a void in the CNC and general automation markets today. Delta Tau recognized the industry's needs for a control which leverages the power and flexibility of the PC, the need for true real-time high performance motion control, software flexibility that includes a customizable GUI, and mainly the ability to deliver all of this to the customer at truly affordable prices.



The 900 Console

We started by searching the industrial PC market for a robust mainboard which could handle the punishment of the machine tool environment. We were successful in finding a mainboard which satisfied our industrial PC requirements, but also gave us many useful additional features which we pass on to the customer at no additional charge. The heart of the 900 interfaces utilizes a 1.0Ghz embedded CPU with 256MB of RAM (2.0Ghz with 512MB RAM Optional). Additional features include on-board Ethernet and USB2.0. These features can be used for adding peripheral devices, networking, and most importantly giving the customer the flexibility to choose how they wish to connect to the control hardware.

We didn't stop at choosing the right components on the inside. Delta Tau utilized a team of engineers specializing in man machine interface design and ergonomics to develop an operator console which is functional, comfortable, and modifiable by the customer. The display is a large 15" LCD with a high contrast ratio. The display properties are adjustable by the customer so that each console can be adjusted to maximize viewing comfort in different light situations. We integrated a touchscreen and mouse pad so the operator could choose an input device depending on their preference. The environmentally sealed elastomeric keyboard is suspended by an articulating mechanism which can be adjusted to match the users height and angle requirements. The console housing was designed in such a way as to accept optional accessories such as clipboards and tool trays. The extraordinary mobile operator pendant can be mounted on either side of the unit maximizing mounting flexibility or user preference.

The Mobile Operator Control Pendant

One of the highlights of the 900 is the mobile operator control pendant. Instead of offering an optional remote handwheel pendant with limited functionality, Delta Tau chose to invest engineering time in creating a fully featured mobile pendant with all the necessary functionality to operate a machine tool. The mobile pendant includes 15 function keys (6 are customizable with the standard unit), overrides for spindle, rapid, feedrate, axis select, speed increment select, feed hold, cycle start, jog buttons, emergency stop, and a true detented manual pulse generator. The mobile pendant with all of its functionality fits comfortably in the users hand. The pendant is offered to OEM's with a custom printed overlay for machine specific applications. The mobile pendant utilizes either a cabled USB2.0 to communicate to the control hardware or "Blue Tooth" wireless communication.

The Modular Concept

The 900 was designed in such a way to allow the customer to assemble individual components to create the specific control solution required by the application. The Advantage 900 console can be purchased without the mobile pendant for applications not requiring this type of input device. Conversely the mobile operator pendant can be purchased alone and combined with the customer's PC to create a complete machine control front end. The flexibility of the communication resources allows connection to the infinitely configurable Delta Tau PMAC line of DSP based motion controllers including the innovative intelligent GEO BRICK amplifier. From low-end stepper applications to the most demanding precision positioning applications, Delta Tau has you covered.

21314 Lassen Street Chatsworth, CA 91311 / Tel. (818) 998-2095 Fax. (818) 998-7807 / www.deltatau.com

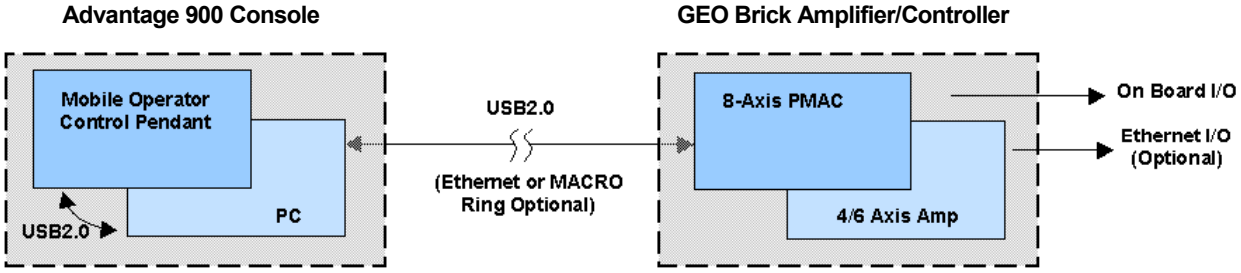
DELTA TAU
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The GEO BRICK Amplifier/Controller

In order to meet the demanding cost requirements of today's savvy customers we needed a Controller/Amplifier combination which could compete at the target price point. The GEO BRICK was born. In order to streamline the manufacturing process and minimize components we combined the control and amplifier into a single 4, 6, or 8 axis unit. By integrating these two units we were able to considerably minimize assembly time and components. Because of the assembly process the quality and reliability is improved as well. The combination of the 900 Console and GEO BRICK amplifier delivers unparalleled features, performance, and value. The BRICK amplifier comes in 5/10 Amp and 15/30 Amp combinations, at 20 to 230VAC 3ϕ. It can drive brushless DC, AC induction, and brush type motors.

The Software

In order to embrace the flexibility of the modular design concept we developed PMAC NC5.0. PMAC NC5.0 is a Windows based customizable GUI for PC based CNC control. NC 5.0 has all of the features of NC 4.0 with the added advantage of easy screen customization. The NC5.0 HMI object-oriented screen editor allows the end user to add/remove/customize the NC5.0 screens. Easily populate screens with a wide selection of built-in controls and ActiveX objects that includes buttons, indicators, strip charts, bar graphs, gauges, sliders and many more. NC5.0 even allows you to import bitmap images from a variety of popular graphics programs. This new release offers the most advanced and flexible CNC software package available. This new version builds on Delta Tau's previous G-code software package and leverages Delta Tau's legendary servo hardware performance to bring unprecedented levels of block throughput speed, cutting accuracy, and the flexibility of a PC based environment to the shop floor.



Compatible Delta Tau Software:

- PMAC NC32
- PMAC NC5.0 – PHMI Based

Hardware Features:

- 1.0 Ghz Industrial Mainboard (2.0Ghz Optional)
- 256MB RAM (up to 1 GB Optional)
- 40GB Hard Drive
- 15" LCD Display (Touchscreen Optional)
- Environmentally Protected Keyboard
- Touchpad Mouse
- Articulating Keyboard Position

Compatible Delta Tau Control Platforms:

- GEO BRICK 4/6/8 Axis USB2.0
- GEO BRICK 4/6/8 Axis Ethernet
- PMAC2 BRICK Controller

- UMAC – USB2.0
- UMAC – Ethernet
- Turbo PMAC2 Ultralite

Supported Communication Protocols:

- PCI Bus
- USB2.0
- Ethernet
- MACRO Fiber Optic Ring

Delta Tau Part Numbers:

500-603831-10x **Advantage 900 Console**

501-603831-OPT Option 1, 2.0 Ghz CPU
502-603831-OPT Option 2, Touchscreen Monitor
503-603831-OPT Option 3, Wireless Bluetooth Receiver
504-603831-OPT Option 4, 24VDC Input Power Option

500-603832-10x **Advantage 900 Mobile Pendant**

501-603832-OPT Wireless Bluetooth Transmitter

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