Specifications

	Universal Control Panel	Boss Bear
Analog In	8 channel, 12 bit, O-5 VDC Available Configurations: Eight channels of 4-20 mA Eight channels of 0 to 5 VDC Four RTD's and four 4-20 mA	8 channel, 10 bit, 0-5 VDC. Also plug-in modules for unit with up to 16 analog inputs single ended or 8 differential and 4-20 mA channels per module. Input: 0-5 VDC, 0-10 VDC, ±5 VDC, ±10 VDC, 4-20 mA
Analog Out	2 channel, 12 bit, O-10 VDC or 4-20 mA	Plug-in module with up to 4 channels independently selectable outputs of 0-5 VDC, 0-10 VDC, ±5 VDC, ±10 VDC or 4-20 mA.
Digital I/O	Up to 128 in and 128 out using standard Divelbiss I/O cards.One HDIO card can be mounted on back of enclosure. None on analog unit.	Up to 128 in and 128 out using standard Divelbiss I/O cards. Direct interface to BEAR BONES I/O Bus.
High Speed Counter	24-bit binary up/down counter. Up to 100 kHz pulse rate. Inputs: A, B, Reset support for quadrature X1 and X4 mode. Differential inputs and sinking or sourcing inputs. High speed output controlled by internal comparator.	24-bit binary up/down counter. Inputs: A, B, Reset (open collector operation). Input filtering: 20 Hz, 5 kHz, or 100 kHz. Direct Output: open collector operation Sensor Power Supply: +5 VDC reg. or 12 VDC unreg. Optional Plug-in modules are available with up to 4 channels of counting per module.
Serial Ports	2 Serial Ports: RS-232, RS-422, or RS-485. Baud rate 300 to 9600 bps. Communication settings: 7 or 8 data bits, 1 or 2 stop bits, None, even, or odd parity, XON/XOFF handshaking.	
	Both ports configurable to RS-232, RS-422, or RS-485.	Port 1 configured to RS-232. Second port configurable to RS-232, RS-422, or RS-485.
Display Options	Vacuum Fluorescent, Liquid Crystal Display (LCD) with back light, and LCD without backlight. Also available in subplate unit with no display or keypad.	
Display Size	2 rows of 20 characters each	2 rows of 40 characters each
Keyboard	Membrane: 20 keys (0-9, Enter, Clear, Programmable Function Keys F1-F8)	
Size	**Panel Mounted Unit:** 8" x 6.5" x 3" (H x W x D) **Subplate mounted unit:** 8" x 5.38" x 3" (H x W x D)	**Panel Mounted Unit:** 8" x 12" x 2" (H x W x D) **Subplate mounted unit:** 8" x 11" x 2" (H x W x D)
Power Requirements	115 VAC or 12 VDC	
Operating Temperature	0 to 60° C	
Programming Language	Bear Basic - Extended, Multi-tasking Compiled BASIC "C" Language Optional	
Memory	**System PROM:** 128K **System RAM:** 128K optional battery backup **User EPROM:** 128K Flash EPROM	**System PROM:** 128K **System RAM:** 128K optional battery backup **User EPROM**: 32K/128K EPROM, with PROM burner **EEPROM:** 2K bytes, optional 8K bytes
Real Time Clock	Time of Day, Day, Month, Year, Day of Week with 496 bytes battery backed RAM	Time of Day, Day, Month, Year, Day of Week
Interrupts	One, external	Module with 4 external. Also 24-bit input for absolute encoder and 4/8 input/output optically isolated modules

Specifications are subject to change without notice.

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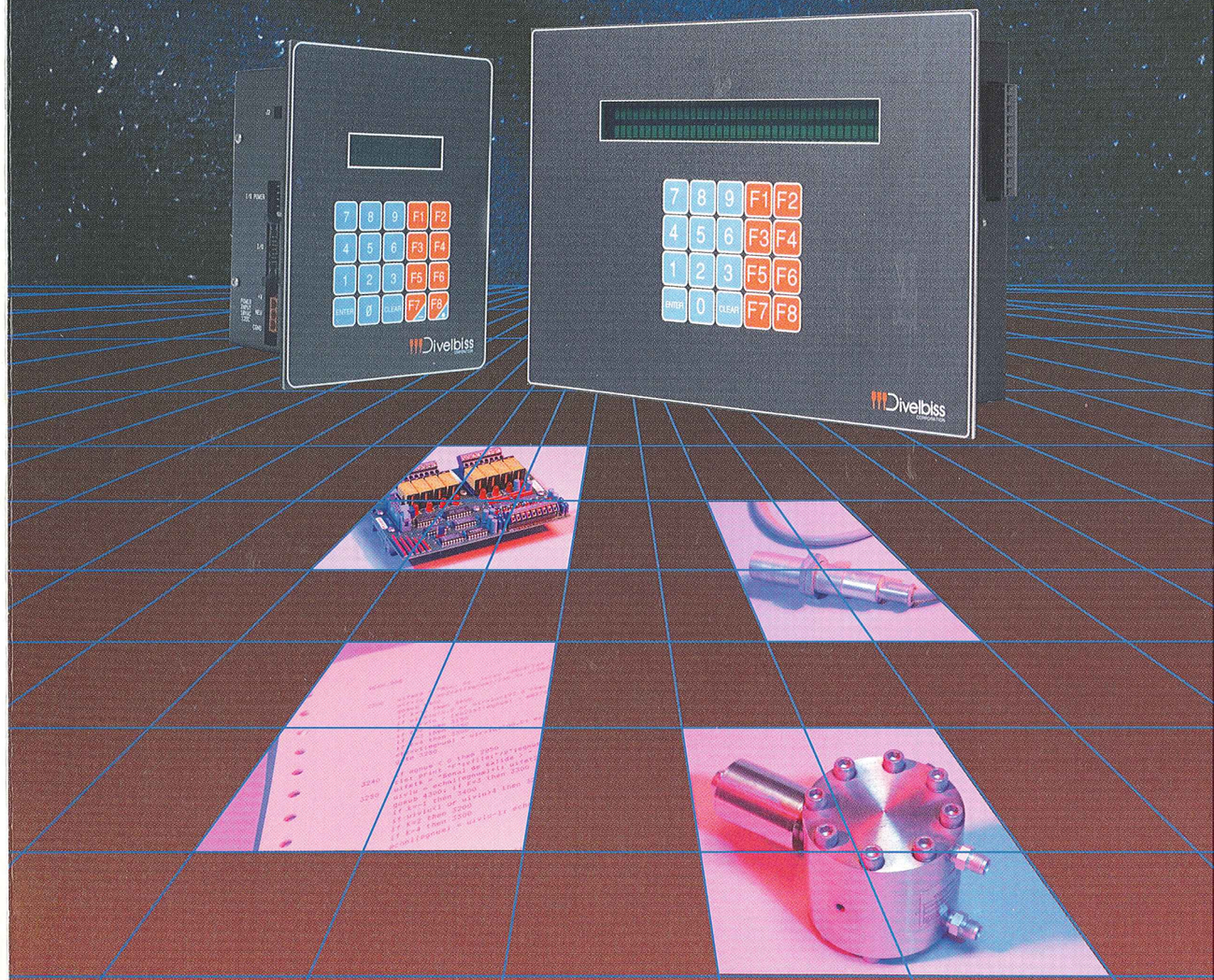
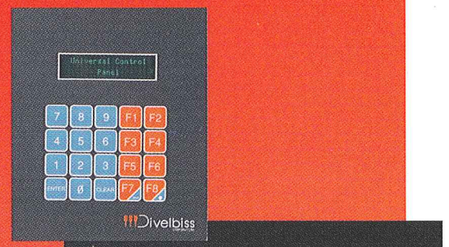
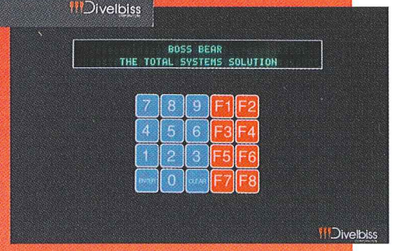
Control Your World



With Universal Controllers From Divelbiss

Divelbiss CORPORATION





Universal Control Panel and the Boss Bear

Universal Control Panel (UCP) and its companion, the Boss Bear™ are powerful microcomputers specifically designed for process control, monitoring and automation. Each unit offers complete power over most data acquisition and control functions: temperature, pressure, speed, position, and batch counting. A basic keypad and display panel are provided to accept input from operators and deliver messages to plant personnel. Best of all, the UCP and the Boss Bear can be completely integrated with other information systems.

Control Programming

The control function is programmed in a resident multi-tasking complied BASIC language called Bear Basic™. Bear Basic is an easy-to-use programming language with logic and mathematical operators. If-then statements and an extended function set for input/output operations, square roots, trigonometric and log functions, real time clock, counting, and more are also provided. Bear Basic source code is developed using a personal computer and a text editor, connected in terminal mode. Bear Basic is compiled directly on the UCP or Boss Bear. The compiled code is then loaded directly into memory for fast execution. C programming language is also available. Both units have the ability to store set points or variables in a portion of retained memory that is protected against power loss. In addition 128k bytes of RAM, reserved for program development and operation, can also be battery backed-up.

Operator Interface

The UCP and Boss Bear provide a keyboard and a digital display for operator interaction. The keyboard is a tactile-feel membrane with numeric keys 0-9, CLEAR, ENTER, and function keys F1-F8. The function keys are assigned their function in the control program. The standard keyboard can be customized to include special key names and colors and even your company's name and logo. When no operator interaction is required, subplate units can be ordered with no display or keypad.

Input/Output Capabilities

Both the Universal Control Panel and the Boss Bear have extensive analog and digital input and output capability. The UCP supports up to 8 analog inputs (see specifications on back for configurations) and up to 2 channels of analog output. The Boss Bear will support up to 56 analog inputs and up to 12 analog outputs. Both units can support up to 128 digital inputs and 128 digital outputs using standard Divelbiss I/O boards. The I/O boards are offered in a wide variety of voltages, currents, and configurations. The Boss Bear provides a direct interface with the Bear Bones and Baby Bear Bones programmable logic controller family. This allows the logic system to operate in parallel with the Boss Bear for extremely fast system response.

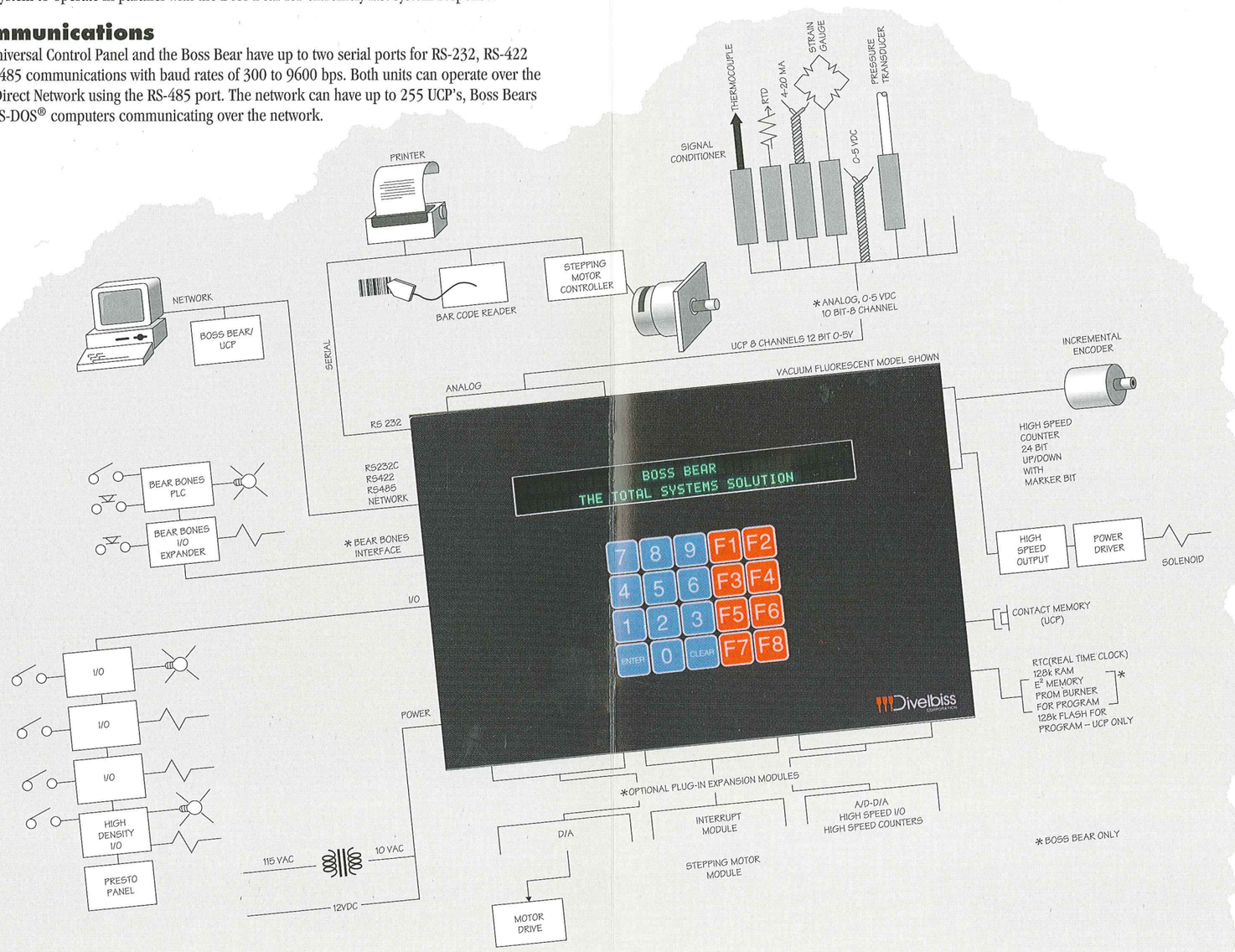
Communications

The Universal Control Panel and the Boss Bear have up to two serial ports for RS-232, RS-422 or RS-485 communications with baud rates of 300 to 9600 bps. Both units can operate over the Bear Direct Network using the RS-485 port. The network can have up to 255 UCP's, Boss Bears and MS-DOS® computers communicating over the network.

High-Speed Counters – The UCP has a high speed counter input that handles sinking, sourcing, and differential devices. The counter can accept input pulse trains as well as quadrature inputs from optical encoder devices. The Boss Bear has one built-in high speed counter, and up to 12 additional counters can be added via the three plug-in module positions.

Interrupt Handling – The UCP has one external input for interrupts. The Boss Bear has a module that can be plugged in that will allow up to 4 external interrupts. Also on this module is an input for a 24-bit absolute encoder. In addition, there are 4 or 8 optical module positions for input and outputs.

Contact Memory – The UCP has an input to read and write to contact memory devices. The contact memory devices can carry information with a product in process as it moves through a plant and be read from or written to by the UCP when required on contact with the device.



Stepping Motor Control

– The Boss Bear has a module which can control three stepping motors up to 10,000 Hz. The module will supply a pulse train and direction to the stepping motor drives. The module will control ramp up and ramp down to a count and also ratio drives to each other. All output to the drives are optically isolated.

Divelbiss Support

– Complete application development support is provided by Divelbiss. If you should have a problem, simply call our help line at (800) 245-2327. We will walk you through the solution. Also, Divelbiss can customize these controllers to your exact needs, so you can have proven technology in a custom product for your application.

Applications

The UCP and Boss Bear are powerful and versatile. Their design is a perfect fit for a wide variety of applications.

- Machine and Process Control
- Machine Monitoring
- Data Acquisition
- Production Counting
- Network Communications
  - Interface with printers or other computers
  - Provide plant production data for management analysis
  - Change part set-ups, batch sizes without costly additional components
- Production Reporting (reports daily, hourly, or shift totals)
- Length Measurement
- Batching
- Packaging
- Roll Forming
- Blending
- Dispensing
- Telemetry
- Remote & Mobile Field Applications
- Engine Control (powered by 12 VDC)

Despite the off-the-shelf versatility of the UCP and Boss Bear, we are often requested to provide a customized design for special requirements. Divelbiss experience and proven technology will help you solve your toughest manufacturing problems.