ELECTRONIC VISIONS, INC.

Model EVI-8800

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The Electronic Visions, Inc. Model 8800 is a high performance, flexible data acquisition system designed for distributed process monitoring and control applications. The 8800 Data Acquisition System consists of a STD Bus chassis and switching power supply, processor card, network interface card, and process I/O cards.

The standard chassis configuration is a 16 slot, 0.750 inch spacing, rack mount version. Other configurations, such as 12 slot or table mount versions are available. The processor card configuration is a 33 MHz 486SLC based single board PC for the STD Bus. The card is configured with 4 Mb dynamic RAM and 512Kb EPROM. The network interface card is a PC-104 based 8 bit ethernet controller which plugs onto the CPU card. This configuration does not require any additional slots for the network card, freeing the slot for additional process I/O cards.

Process I/O hardware is dependent on the configuration of the system. The Model 8800 DAS supports analog, digital, and pulse input signals as well as analog and digital outputs. A total of 512 points per system can be supported. Point types may be mixed, that is inputs and outputs may be in the same chassis and analog and digital signals may be present.

Analog inputs are supported using any 12 bit analog to digital converter. The analog converter is used in conjunction with Electronic Visions, Inc. AM-32 or AM-32X Analog Multiplexer cards to extend the 16 channel capacity to a maximum of 512 analog inputs. The standard configuration provides gains of 1, 100, 500, and 1000 for input ranges of +/-10 volts, +/-100 millivolts, +/-20 millivolts, and +/-10 millivolts, respectively, using 4 separate A/D cards. Optional configurations would include programmable gain or higher (16 bit maximum) resolution analog to digital converters.

Analog outputs are supported using an 8 channel 12 bit analog output card. The standard output voltage is 0-10V or +/- 10V.

Digital inputs are supported using a 64 channel digital input card connected to one or two Opto-22 PB32DEC Quad Pack Mounting Racks. The PB32DEC provides for 8 quad input optically coupled signal conditioning and isolation modules. Typical configurations include modules for 12-32 V and 90-140 V. The modules may be configured as required for maximum flexibility.

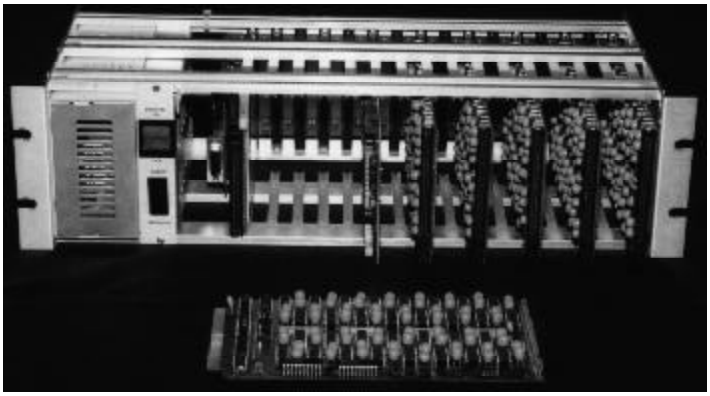

Figure 1, Typical EVI-8800 Configuration

Digital inputs are supported using a 64 channel digital output card connected to one or two Opto-22 PB32DEC Quad Pack Mounting Racks. The PB32DEC provides for 8 quad output optically coupled signal conditioning and isolation modules. Typical configurations include modules for 12-32 V and 90-140 V. The modules may be configured as required for maximum flexibility.

Pulse inputs are supported using a multi-channel counter card connected to optional signal conditioning and isolation equipment.

Engineering Unit Conversions, a wide range of conversions are available for the analog input signals. Current conversion types include:

> Linear.

> Ratio of Polynomials.

> Resistive Temperature Devices (RTD).

> Square Root and Exponitial.

> Thermocouple (Types: B, E, J, K, N, R, S, T).

Alarm Processing

Alarm Processing, provides a flexible alarming mecha-

nism. Key features of alarm processing include:

> Eight sets of alarm limits. The alarm limit set in use is set by a system plant mode point. The eight sets may be used to tailor the alarm limits to particular plant operating modes such as startup, shutdown, or normal operations.

> Six standard analog alarm levels - High Critical, High Alert, High Warning, Low Warning, Low Alert, Low Critical.

> High and low deadband limits

> Alarm and normal states for digitals points.

> Rate of Ascent and Rate of Descent alarms for analog input points.

> High and Low Validity Limits for analog points. These limits determine what the acceptable input levels for a given analog point are. Points with input signals outside of the validity limits are marked as Invalid.

> Scan and mathematical exception reporting. A scan exception occurs when the conversion cannot be completed due to a hardware failure. A mathematical exception occurs when the conversion can not be completed due to something else.

Data acquired and processed by the 8800 is transmitted to other systems based on significant changes. A significant change occurs when:

> The value of the point changes by an amount greater than a defined threshold.

> The value changes by an amount that causes the point to make an alarm transition, either into or out of alarm.

> A change in quality of the point occurs. This can be due to the point being or having been taken off-line, manually entered by an operator, validity limit violation, scan exception or mathematical exception.

Data is also transmitted at periodic intervals, defined on a point by point basis. The periodic refresh ensures that systems that have just come on-line will receive point information in a predetermined period of time.

Two types of significant change checking are performed on analog input points. A Raw Value significant change test is made as well as an Engineering Units significant change test. Certain types of points, notably the radiation monitors at nuclear power plants, have a logarithmic scale. An engineering units significant change appropriate at one portion of the instruments span may not allow changes at a lower portion of the scan to be transmitted. The Raw Value significant change allows the significant change to be expressed in input signal levels as well.

HARDWARE (SUPPLIED)

Site Dependent

HARDWARE (PREREQUISITES)

None

Electronic Visions, Inc's products are of the highest quality and designed with the customers needs in mind. All products are delivered with a one year, return to factory warranty.

If you would like more information on this or any of the other products offered by Electronic Visions, Inc. please contact us at any of our offices listed.

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