

DLI Watchman® DCX Hammerhead

Diagnostic Data Collector / Real Time Analyzer

DLI is pleased to introduce the DLI Watchman® DCX™ Hammerhead Diagnostic Data Collector / Real Time Analyzer. The DCX Hammerhead is a RUGGED, four channel, vibration data collector; it supports both triaxial and single axis sensors for acquiring data and performing spectrum analysis as applied to:

- Machinery Condition Monitoring
- Automatic Condition Diagnostics
- Bearing Detection
- Process Parameter Monitoring



The Software

Embedded in the DCX is a Windows® operating system and DLI's popular ExpertALERT™ vibration data management and machine diagnostic software. All traditional host system functionality is integral to the DCX. This means that at the point of data collection, you have all of your machinery history, trend data, analysis tools and automatic diagnostic results available to you!

The Hardware

The new DCX employs a touch screen computer built by Walkabout Computers, West Palm Beach, Florida. Walkabout is well-known for its "industrial strength" tablet computers. The DCX has magnesium housing and can withstand the toughest plant environment up to 55 degrees C. It is rated IP-64 (sealed against dust and rain) with an IP-67 option (vacuum sealed against dust and water). Data collection is performed by simply selecting the equipment/test location from a hierarchical tree, or by pressing a graphical button on a displayed machine image or drawing. Select tri-axial data and see all three axes update simultaneously.



Standard Features

- Four (4) Channel, simultaneous data Acquisition
- Embedded ExpertALERT™ software
- Database Setup Wizards
- Integrate other condition based technologies using our unique document linking
- Real Time Analysis
- Envelop Demodulation for Bearing Detection
- Bode Plots for Run-up / Coast Down Measurements
- Orbit Plots
- 128 megabytes RAM
- Shock Mounted 10 gigabyte internal hard drive
- IP-64, Sealed against dust and rain

Optional Features

- ExpertALERT Enterprise™ Upgrade for network applications
- Multi-plane Field Balancing
- IP-67, Vacuum sealed against dust & water/submersible in water
- Advanced Cross Channel Analysis with 3D Animation Software
- Online Data Acquisition Software
- Database Replication
- Stroboscope / Tachometer for Motion/Speed Analysis
- Current Clamp for Motor Current Signature Analysis
- Temperature / Pressure Monitoring
- Other process sensors available on request

Specifications

<p>Digital Signal Processing</p> <ul style="list-style-type: none">• Texas Instruments TMS320C51 Digital Signal Processor (DSP), running @ 40 MHz• Four 16 Bit delta-sigma A/D converters• Simultaneous sampling of all four inputs up to 41 KHz• Anti-aliasing via an analog RC filter plus a 64th order digital FIR filter• Dynamic range greater than 85 dB• Signal to noise ratio greater than 76 dB• Overall RMS amplitude detection from 10 Hz to 1 kHz per ISO 2954-1975 (E) <p>Spectral Analysis</p> <ul style="list-style-type: none">• Four channel, simultaneous FFT analysis of the analog input channels up to 16 kHz span• FFT Resolution of: 50, 100, 200, 400, 800, 1600, 3200, 6400, 12800 and 25600 lines• Spectral Windows: Hanning, Hamming, Flat top, and Uniform• Averaging Types: Linear, Exponential, Peak-hold, and Peak-hold continuous• Overlap processing; selectable overlaps of 0%, 25%, 50%, and 75% <p>Time Domain Analysis</p> <ul style="list-style-type: none">• Long time record capture greater than 50k samples per channel (more if RAM is available), four channels simultaneously• Orbit Plots• Sample rates from 1 Hz to 41 kHz Inputs• Four single-ended analog inputs• Selectable ICP accelerometer sources <p>Cable fault detection</p> <ul style="list-style-type: none">• Input signal clipping detection (25 Volts maximum input signal amplitude)• TTL-level tachometer input <p>Analog Signal Processing</p> <ul style="list-style-type: none">• Selectable DC coupling or 0.2 Hz or 10 Hz high pass analog filtering• Selectable single stage analog integration• No more than -76 dB inter-channel cross talk <p>Triggering</p> <ul style="list-style-type: none">• Internal• Selectable from any analog input channel• Level, slope, rising or falling edge• External TTL trigger, rising or falling edge• Pre or Post-triggering: 0 to 100% of capture <p>Physical</p> <ul style="list-style-type: none">• Size: 11.25" x 8" x 1.5"• Weight: 4.6 lbs including battery• Fully machined from aircraft grade aluminum• Sealed airtight and dust proof (vacuum tested, IP-67)• Chemically strengthened display cover glass• Unique system for clamping circuit boards into position for improved durability• Easy grip matte finish <p>Processor System Memory</p> <ul style="list-style-type: none">• Intel Pentium III processor - 400 MHz• 128 MB RAM (optional 256 MB RAM)• 256 KB L2 cache	<p>Video & Display</p> <ul style="list-style-type: none">• 10.4" 800x600 active matrix TFT color display• Rich color saturation and good contrast even in direct sunlight• Full 32 bit local bus video and flat panel controller 1MB• 2 MB video memory• High visibility display glass <p>Hard Disk Storage</p> <ul style="list-style-type: none">• Standard 10 GB shock mounted hard drive• Drives use Ultra ATA interface with transfer rate up to 33.3 MB/sec• All hard disk drives are shock mounted for maximum field reliability <p>Carrying Case</p> <ul style="list-style-type: none">• Durable, shock-absorbing, insulating, molded foam case• Computer fully dockable without removing case• Shoulder and hand straps• Rugged carrying handle• Will not absorb fluids, fully washable <p>Power Consumption & Battery Life</p> <ul style="list-style-type: none">• 2 1/4 hours continuous data collection (data acquisition card energized)• 4 - 5 hour battery life with power management (without data acquisition card energized)• Full MS Advanced Power Management• Photo sensor automatically turns off back light• Will accept 12V DC direct input from vehicle• Battery fast charge from empty in 2 hours• Uses long-lasting low memory Lithium batteries• Universal AC power adapter 110-250 volts, 50-60 Hz <p>BIOS & Software Compatibility</p> <ul style="list-style-type: none">• Software compatibility assured using SystemSoft™ BIOS• Source code maintained by WalkAbout Computers• Standard with Windows(r) 98 and CIC HRS(r) 5.0• Digitizer Technology• Proximity sensing high resolution electromagnetic digitizer• No surface coatings can be damaged or wear with use• More than 1000 dpi resolution• Proximity sensing pen with right mouse button• Highly transmissive tempered glass for superior viewing• Finger or passive pen stylus input <p>Environmental Specifications</p> <ul style="list-style-type: none">• Temperature:<ul style="list-style-type: none">◦ Operating 0°C to 55°C◦ Operating -20°C with optional LCD heater◦ Storage -40°C to 70°C• Shock: 100 G, 2 ms• Three foot drop with rotating drive (in case)• Vibration: 17 Grms (random vibration 6 axis)• Enclosure (IP-64/67):<ul style="list-style-type: none">◦ Sealed against rain & dust◦ Submersible to 6 inch for five min. (IP-67)• Humidity: 0 to 100% condensing humidity Humidity: 0 to 100% condensing humidity <p><i>Specifications are subject to change without notice</i></p>
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