

DLI ENGINEERING CORPORATION



Product Catalog Spring 2003

(Effective: March 1, 2003)



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B L A N K

P A G E

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B L A N K

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Terms & Conditions

- MINIMUM ORDER: \$100.
- RUSH ORDER: \$100 handling charge (or 10% of the total order whichever is greater).
- Specifications and prices are subject to change without notice.
- Delivery: From stock to 30 days ARO unless specified otherwise.
- FOB point: Bainbridge Island, Washington, U.S.A. (Vibration Products)
- Shipping method: UPS Ground unless specified otherwise.
- Shipping charges: Added and invoiced.
- Currency: U.S. dollars.
- Terms: MasterCard® and Visa® are accepted. Payment terms for purchase orders are net 30 days unless specified otherwise in writing. Payment in advance or letter of credit may be required for foreign sales.
- Overdue accounts will be charged a 1% surcharge per month on the amount overdue.
- Validity of orders: No order is valid until accepted by DLI Engineering Corporation.
- Duration of quotations: Quotations are valid for 60-days from the signature date of the quotation unless specified otherwise in writing.



Trademarks and Copyrights

ExpertALERT™, DLI Watchman® DCX™, DLI Watchman® DCX Online™, Web Connect™ and **PdM Express®** are registered trademarks of DLI Engineering Corporation. MS-DOS® is a registered trademark of Microsoft Corporation. Windows® is a trademark of Microsoft Corporation. IBM® is a registered trademark of IBM Corporation. ICP® is a registered trademark of PCB Piezotronics, Inc. Loctite® is a registered trademark of Loctite Corporation. Speed Bonder® is a trademark of Loctite Corporation. ZOOMfaxMODEM® is a trademark of Zoom Telephonics, Inc. Procomm Plus® is a registered trademark of Datastorm Technologies, Inc. Keyphasor® is a registered trademark of the Bently Nevada Corporation.

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Warranty Policy

Software:

For a period of 1-year after shipment of the software, DLI Engineering Corporation warrants that (i) the software will substantially perform the functions and generally conform to the software's specifications published by DLI and (ii) the diskettes on which the software is furnished will be free from defects in materials and workmanship under normal use.

EXCEPT AS SPECIFICALLY STATED IN THIS WARRANTY STATEMENT, THE SOFTWARE IS PROVIDED AND LICENSED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT WILL DLI BE LIABLE TO THE USER FOR ANY DAMAGES INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE SOFTWARE EVEN IF PREDICT/DLI OR AN AUTHORIZED DLI REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR FOR ANY CLAIM BY ANY OTHER PARTY.

The remedies described below are accepted by the user as the user's only remedies, and shall be available to the user only if the user or the user's agent return the Registration Certificate to DLI within 10-days after the user receives the software, or 30 days after the software is shipped from DLI to the user, whichever occurs first.

- In case the software does not substantially perform the functions or generally conform to the specifications published by DLI, and if (i) within 1-year after the user receives the software the user notifies DLI in writing to report a significant defect, and (ii) DLI is unable to furnish a cure for that defect within thirty days after receipt of the report, the user may terminate the software license agreement and receive a refund of the price paid for the software by returning the CDs and manual(s)
- In case the software CDs are defective, and if they are returned to DLI, DLI will replace them or if a replacement cannot soon be delivered, the user may terminate the software license agreement and receive a refund of the price paid for the software by returning the balance of the CDs and manual(s).

Instruments and Hardware:

DLI brand instruments are protected by a limited warranty on parts and labor for 1-year from the date of shipment from DLI. Operational enhancements of PROM firmware (embedded software) are available as no charge updates during the first year of ownership provided that the equipment is shipped prepaid to DLI prior to the expiration of the warranty period. Repair or replacement of batteries or damage to external instrument components such as sensors, cables and bar-code readers is excluded. The Walkabout Hammerhead DCX-HH is provided with a one year limited warranty by Walkabout Computers, West Palm Beach, FL.

EXCEPT AS SPECIFICALLY STATED IN THIS WARRANTY STATEMENT, THE INSTRUMENTS AND EQUIPMENT ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT WILL DLI ENGINEERING CORPORATION BE LIABLE TO THE USER FOR ANY DAMAGES INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE INSTRUMENTS AND EQUIPMENT EVEN IF DLI ENGINEERING OR AN AUTHORIZED DLI REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR FOR ANY CLAIM BY ANY OTHER PARTY.

Continuing Support

With the purchase of a predictive maintenance system consisting of at least one vibration data collector and one PdM software product, the user is entitled to:

- **FREE** 1-year of product application support (vibration and machine condition analysis and engineering consulting are specifically excluded) by telephone or Fax is available during the first year at no charge. *Telephone support for networked systems is limited to one designated primary system user.* Support is available Monday through Friday between the hours of 7:00 AM to 5:00 PM U.S. Pacific.
- **FREE** updates of software products purchased for a period of 1-year to the current versions of PC software, as updates become available.
- **FREE** recalibration of Data Collector and accelerometer.
- **FREE** PROM and firmware updates as necessary.

The support may be continued beyond the first year by the purchase of an Extended Warranty. Extended Warranty Programs are described and priced elsewhere in this product catalog.

System Commissioning, Training, Engineering and Condition Monitoring Services

As a professional engineering consulting firm, DLI Engineering Corporation offers complete client support. A machine condition assessment service, *PdM Express*, provides periodic machine vibration testing and analysis and is available through DLI's engineering consulting service group. Also, DLI offers complete turnkey commissioning and training services, plus ongoing support for condition monitoring programs through periodic program audits, database reviews, and automated diagnostic system rule setup and maintenance. DLI also offers public or customized private training sessions on vibration analysis, predictive maintenance, machinery balancing, and condition monitoring software operations. Please call DLI Customer Support (support@dlengineering.com / 206-842-7656 / 1-800-6544) for more information.

Engineering consulting service is available from DLI Engineering's professionally licensed consulting service group at published rates in the fields of marine, mechanical, and electrical engineering with particular expertise in machine condition analysis, vibration testing, and acoustic consulting. Please contact DLI's engineering consulting group (info@dlengineering.com / 206-842-7656 / 1-800-6544) for further information or for a quotation.

On-Site Commissioning and Training

Customer site training and system installation includes selection of a representative cross section of machines to be monitored, installation of barcodes and attachment pads on the machines, installation of the PdM software on the customer's computer, setup of the measurement database for the selected machines in the computer, collection of a first set of vibration data, and training of a selected person or small group (not more than six persons) on how to do all of the above operations. Some limited flexibility exists in the above scenario to accommodate specific customer requirements. Contact your local DLI representative (refer to www.dliengineering.com) or DLI's corporate office (info@dlengineering.com / 206-842-7656 / 1-800-6544) for a price quotation for on site commissioning and training.

Extended Warranty Programs

Extended Warranty Programs are available separately for each DLI data collector and software product. The extended warranty program grants full warranty and support coverage according to the terms of the original 1-year warranty for an additional year beginning at the time of the expiration of the original product warranty (refer to Warranties on page 4 for details of coverage). Extended warranty programs should be purchased prior to expiration of the warranty period.

Extended warranties for software may be purchased after expiration of the warranty period by purchasing a Software Version Upgrade. Extended warranties for data collectors may be purchased after expiration of the warranty period by returning the instrument to DLI for a separately purchased firmware update and re-calibration service. The sale of the extended warranty is also contingent on the data collectors being in acceptable condition (not damaged by misuse or neglect) and only warranted parts being used. Installation of replacement data collector components not approved by the OEM may void the warranty.

Warranty and Repair Returns

Warranty Returns

Instruments returned under warranty will be repaired or replaced at no charge if returned shipping prepaid within the time period and conditions of DLI Engineering Corporation's warranty policy. If no fault is found, the instrument will be re-calibrated to factory specifications, the firmware updated, and the instrument will be returned freight prepaid.

Out-of-Warranty Returns

DLI maintains repair and calibration support for out-of-warranty instruments as long as parts are available. Repair and shop time charges are shown in the price list. Out-of-warranty items must be sent to DLI shipping prepaid. Return shipping will be prepaid and added to the service invoice.

How to Return Equipment for Repairs

To obtain calibration or repair services, **FIRST CALL DLI CUSTOMER SUPPORT AT PHONE NUMBER LISTED BELOW AND OBTAIN A RETURNED MATERIALS AUTHORIZATION (RMA) number.** Then, carefully pack the instruments (DLI will charge for repair of damage that in DLI's judgment is the result of improper packing), and send the instrument with shipping and insurance prepaid to DLI. It must include a statement with a clear explanation of the service desired, and a purchase order for the appropriate amount showing the ship-to and bill-to addresses. Equipment returned for repair should be accompanied by a full explanation of the failure or symptom(s) observed, and the telephone number of the user in case more information is needed should be sent to:

DLI Engineering Corporation

Customer Support Department

Attn: (insert RMA number)

253 Winslow Way West

Bainbridge Island, WA 98110

U.S.A.

Phone: (206) 842-7656

(800) 654-2844

Email: support@dlengineering.com

ITEM	DESCRIPTION	LIST PRICE
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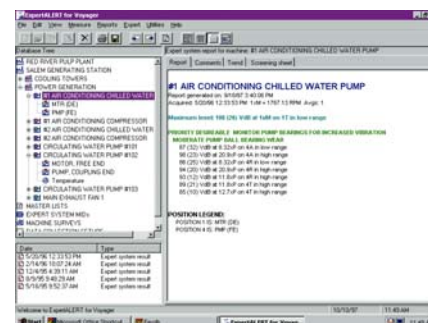
Condition Assessment Software

Stand-alone, Single User Software

1110 ExpertALERT Intelligent Condition Assessment Software, 1st User License

Intelligent machinery condition monitoring software featuring single layer, intuitive interface featuring database management, trending, automated data screening/analysis/diagnostics and report generation:

- Download data from any Watchman Data Collector
- Database management and setup using intuitive "Wizard"
- Perform automated data screening and analysis
- Process raw data using automated machine fault diagnostic system
- Report generation of data trends, spectral and waveform plots as well as machine fault analysis summaries
- Includes Sybase SQL, Item 1090 and User Manual, Item 1119



1114 ExpertALERT Intelligent Condition Assessment Software, 2nd User License

Includes Sybase SQL

1118 ExpertALERT, Additional User Licenses (>=3)

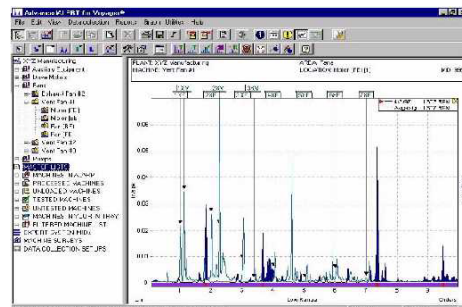
Includes Sybase SQL

1119 User Manual for ExpertALERT Software

1140 AdvancedALERT 1 Condition Assessment Software, 1st user license

Machinery condition monitoring software featuring single layer, intuitive interface featuring database management, trending, manual data screening/analysis and report generation. Includes Sybase SQL

- Download data from any DLI Watchman Data Collector
- Database management and setup using intuitive "Wizard"
- Perform manual data screening, analysis and review
- Report generation of data trends, spectral and waveform plots



1142 AdvancedALERT 1 Condition Assessment Software, Additional license (2nd & up)

Includes Sybase SQL

1149 User Manual for AdvancedALERT Software

1120 ExpertALERT Express Condition Assessment Software

This software is intended for viewing data only; the user cannot add, delete or edit machine/measurement locations in the database. Includes Sybase SQL

- Download data from any DLI Watchman Data Collector
- Perform manual data screening, analysis and review
- Report generation of data trends, spectral and waveform plots

1121 ExpertALERT Express Condition Assessment Software, Consultant's Package

Allows unlimited use at a single plant site or over a single LAN/WAN.

Includes Sybase SQL Anywhere Database (5 user licenses).

1124 ExpertALERT Express Condition Assessment Software (additional user licenses)

Includes Sybase SQL Anywhere Database, Item 1090.

1090 Sybase SQL, Anywhere, Single User License

Included with all ExpertALERT, AdvancedALERT & ExpertALERT Express software

1095 Sybase 7.0 SQL, Anywhere Upgrade from a previous version of Sybase

ITEM	DESCRIPTION	LIST PRICE
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Condition Assessment Software

Network Software

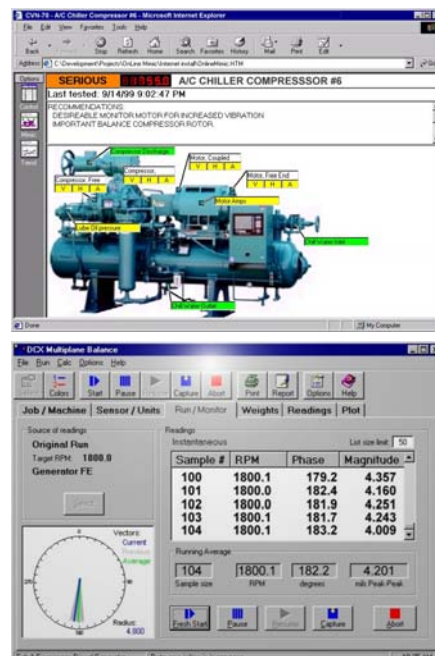
- 1128 **ExpertALERT Intelligent Condition Assessment Software, Enterprise Edition**
 Network Version of ExpertALERT offering 4 fully functioning ExpertALERT user licenses at a single plant site or over a single LAN/WAN
- Allows simultaneous access to a central network database for up to 4 users with read/write access
 - Handles unlimited number of read-only users with access to machine condition status via standard web browser
 - Includes automated e-mail alerts, text message alerts via cell phone, and/or page alert notification based on user defined criteria
 - Supports use of Personal Data Assistants (PDAs) to view machine condition information
 - Four Sybase licenses included
- 1129 **ExpertALERT Condition Assessment Software, Enterprise Network Upgrade**
 Upgrade existing Stand-alone ExpertALERT software version to network software version. ExpertALERT user license(s) NOT INCLUDED.
- Allows simultaneous access to a central network database. ExpertALERT user licenses must be purchased separately
 - Handles unlimited number of read-only users with access to machine condition status via standard web browser
 - Includes automated e-mail alerts, text message alerts via cell phone, and/or page alert notification based on user defined criteria
 - Supports use of Personal Data Assistants (PDAs) to view machine condition information

Network Version and Additional User License Policies

- Applies to any multiple software license purchased for the same site or company when a single point of contact is identified to coordinate with DLI Engineering. This contact will be responsible for distributing all software upgrades to individual users.
- Site/Corporate license pricing is also available when there are more than four users requiring complete "read/write" access operating on a LAN/WAN and the Enterprise Network version of ExpertALERT software is purchased. Please call DLI Technical Support or your local representative for site/corporate license configuration options.

Other Software Options

- 1150 **DCX Online Scanning & Automated Diagnostic Software**
 Scans & automatically screens multiple channels of data from 4 Channel PC Data Acquisition Card, AQ204, DLI Watchman DCX or 16 Channel Remote Multiplexer, AQ216 for online vibration monitoring applications
- 8820 **DCX Multiplane Balancing Software**
 Field balancing software with manual data entry, interfaces to 4 Channel PC Data Acquisition Card, AQ204 for laptop and/or DLI Watchman DCX



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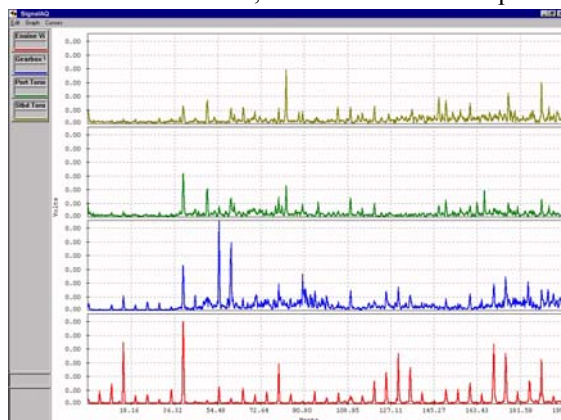
Condition Assessment Software

Advanced Vibration Analysis / Database Synchronization Software

1160 SignalAQ, Four Channel Data Acquisition & Advanced Analysis Software

Measures and displays the following for up to four channels of data:

- Spectrum, Time Waveform, Unfiltered Orbits & Envelop Demodulation
- Time Synchronous Spectrum
- Transfer Functions, Coherence & Cross Spectrum



1122 SignalAQ, User Manual

2720 SignalAQ Software with Four Channel PC Data Acquisition Card

Transforms a laptop PC into a dynamic signal and spectrum analyzer.

Includes:

- 4 Channel PCMCIA (Type III) Data Acquisition Card¹ (AQ204) for customer supplied laptop computer
- 4 Channel Signal Input Adapter Box with BNC input plugs, Item 2719
- SignalAQ Software, Item 1160
- Signal AQ User Manual, Item 1122

Note: ¹AQ 204 PC Data Acquisition Card requires Windows 98 (Windows 2000 compatibility available Summer 2003)



2719 4 Channel Signal Input Adapter Box with BNC input plugs

3472 Extended Warranty Program for Signal AQ/AQ204 (1 yr)

3473 Extended Warranty Program for Signal AQ/AQ204 (3 yrs)

Database Synchronization Software

1127 Database Replication Software with Setup Wizard, Sybase 7, two license pair

One copy of database replication software is required for EACH computer that has a replicating database

1137 Database Replication Software, Sybase 7, additional license

1138 Database Replication Manual

ITEM	DESCRIPTION	LIST PRICE
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Condition Assessment Software Software Upgrades

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|------|---|
| 1095 | Sybase 7.0 SQL, Anywhere Upgrade from a previous version |
| 1129 | ExpertALERT, Enterprise Network Upgrade
Upgrade existing Stand-alone ExpertALERT software version to network software version. ExpertALERT license(s) NOT INCLUDED. <ul style="list-style-type: none"> ▪ Allows simultaneous access to a central network database (ExpertALERT user licenses must be purchased separately) ▪ Handles unlimited number of read-only users with access to machine condition status via standard web browser ▪ Includes automated e-mail alerts, text message alerts via cell phone, and/or page alert notification based on user defined criteria ▪ Supports use of Personal Data Assistants (PDAs) to view machine condition information |
| 2104 | Upgrade to latest version of ExpertALERT software
Includes Sybase SQL, Anywhere |
| 2108 | Upgrade from ExpertALERT Express to AdvancedALERT 1
Adds database management capabilities such as add, delete or edit machine/measurement locations to your condition monitoring program |
| 2110 | Upgrade from AdvancedALERT 1 to ExpertALERT
Adds the following capabilities to your condition monitoring program: <ul style="list-style-type: none"> ▪ Automated data screening, analysis and review ▪ Processing of raw data using automated machine fault diagnostic system ▪ Report generation of machine fault analysis summaries |
| 2112 | Upgrade DCA-31, Single Channel, Handheld Data Collector to Two Channels |

Notes:

1. Upgrades provide a means to convert from one version of DLI Condition Monitoring software to a later version with more powerful features.
2. DLI Engineering provides a service to convert an existing StandardALERT, AdvancedALERT-II, or ExpertALERT database to the latest version of ExpertALERT. Please call Technical Support for a quotation for conversion of an existing StandardALERT database. Machine test setups and most spectral data can be converted from StandardALERT. Spectral data and machine test setups remain intact for all other model upgrade conversions and do not require assistance from DLI for the conversion.
3. Upgrades carry a full 1-year warranty and support the same as a newly purchased software product.
4. Includes Sybase SQL Anywhere, Single User License.

ITEM	DESCRIPTION	LIST PRICE
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Condition Assessment Software

Extended Warranty Programs

ExpertALERT, Intelligent Machinery Condition Assessment Software

- 1310 Extended Warranty Program for ExpertALERT, single license (1 yr)
- 1311 Extended Warranty Program for ExpertALERT, single license (3 yrs)
- 1314 Extended Warranty Program for ExpertALERT, 2nd license (1 yr)
- 1315 Extended Warranty Program for ExpertALERT, 2nd license (3 yrs)
- 1318 Extended Warranty Program for ExpertALERT, 3rd license and more (1 yr)
- 1319 Extended Warranty Program for ExpertALERT, 3rd license and more (3 yrs)

ExpertALERT Enterprise Network Software¹

- 1330 Extended Warranty Program for ExpertALERT, Enterprise (1 year)
- 1331 Extended Warranty Program for ExpertALERT, Enterprise (3 years)

Note: ¹Extended warranty covers entire network; each individual user license is covered separately by ExpertALERT or AdvancedALERT warranties

AdvancedALERT, Machinery Condition Assessment Software

- 1320 Extended Warranty Program for AdvancedALERT 1, single license (1 yr)
- 1321 Extended Warranty Program for AdvancedALERT 1, single license (3 yrs)
- 1324 Extended Warranty Program for AdvancedALERT 1, additional user licenses
- 1325 Extended Warranty Program for AdvancedALERT 1, additional user licenses

ExpertALERT Express, Machinery Condition Assessment Data Viewing Software

- 1326 Extended Warranty Program for ExpertALERT Express, single license (1 yr)
- 1327 Extended Warranty Program for ExpertALERT Express, single license (3 yrs)
- 1328 Extended Warranty Program for ExpertALERT Express, additional user licenses
- 1329 Extended Warranty Program for ExpertALERT Express, additional user licenses

SignalAQ, Four Channel Data Acquisition & Advanced Analysis Software

- 1340 Extended Warranty Program for Signal AQ, single license (1 yr)
- 1341 Extended Warranty Program for Signal AQ, single license (3 yrs)
- 1342 Extended Warranty Program for Signal AQ, additional user licenses
- 1343 Extended Warranty Program for Signal AQ, additional user licenses

DCX Online Intelligent Condition Monitoring and Assessment Software

- 1350 Extended Warranty Program for DCX Online Engine, single license (1 yr)
- 1351 Extended Warranty Program for DCX Online Engine, single license (3 yrs)
- 1352 Extended Warranty Program for DCX Online Engine, additional user licenses
- 1353 Extended Warranty Program for DCX Online Engine, additional user licenses

SignalAQ Software with Four Channel PC Data Acquisition Card

- 3472 Extended Warranty Program for Signal AQ/AQ204 (1 yr)
- 3473 Extended Warranty Program for Signal AQ/AQ204 (3 yrs)

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Condition Assessment Services

PdM Express

9501 PdM Express On Site/Remote Condition Assessment Service

PdM Express is a vibration monitoring and analysis service that includes flexible data collection options. These options include end user data collection or contracting this important collection process to experienced DLI technicians. Whichever option is chosen an experienced DLI analyst will review all data and provide severity, diagnostic results and specific repair recommendations on all machines tested. The report will be available within 5 working days on our secure web server which can be accessed 24 hours a day with any standard web browser or mobile Personal Data Assistant (PDA); a written copy will also be forwarded.

Initial program setup/data collection/data analysis/report

Subsequent data collection/data analysis/report

¹ Prices may vary depending on machine complexity and specific customer requirements
Customer is also responsible for an equipment rental fee for each
data collection period (2 weeks maximum)

9502 PdM Express On Site/Remote Platinum Condition Assessment Service

Same program as Item 9501 with the addition of providing a vibration data collector on site for use as needed and ExpertALERT Express software (Item 1120) to allow plant personnel to view data and manually analyze data immediately after data collection. Data Collector would also be available for immediate troubleshooting of any problem machine between scheduled data collection periods.

Note: Platinum PdM Express Services require a minimum of a 1 year contract with a minimum of 240 machine tests/analyses within 12 month period.

Initial program setup/data collection/data analysis/report

Subsequent data collection/data analysis/report

1120 ExpertALERT Express Software

This software is intended for viewing data only; the user cannot add, delete or edit machine/measurement locations in the database.

- Download data from any DLI Watchman Data Collector
- Perform manual data screening, analysis and review
- Report generation of data trends, spectral and waveform plots

1127 Database Replication Software with Setup Wizard, Sybase 7, two license pair

One copy of database replication software is required for EACH computer that has a replicating database

1137 Database Replication Software, Sybase 7, additional license

9461 Off-Site Database Review/Audit

Review of Database to include machine setup, MID setup, review of average files

9462 Off-Site Database Review/Audit with Analyst Review of Machine Condition

Review of Database to include machine setup, MID setup, review of average files plus a review of the machine's condition by an experienced analyst based on the latest available data

ITEM	DESCRIPTION
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Condition Assessment Services**Web Connect**9601 **Web Connect Services**

Web Connect Services integrates several different technologies into a comprehensive web-based analysis and documentation tool. These technologies are Database Replication, Web enabled active database servers, and ExpertALERT Express software.

This service includes:

- Hosting of secure web pages
- Encrypted and password protected access to a secure web site
- Database Replication software with setup wizard (Item 1127)
- Local subscription database(s) that will replicate to DLI Engineering network
- Configuration and management of the replication network
- Secure backups of all databases
- ExpertALERT Express software for local data viewing (Item 1120)

9602 **PdM Express Web Access**

Combine web enabled database access of your machine condition information with either the standard PdM Express Condition Assessment Service (Item 9501) or the Platinum PdM Express Condition Assessment Service (Item 9502).

This service includes:

- Hosting of secure web pages
- Encrypted and password protected access to a secure web site
- Secure backups of database located on DLI Engineering server
- Standard or Platinum PdM Express Condition Assessment Service

ITEM	DESCRIPTION
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Condition Assessment Services

On-Site Training & System Commissioning

- 9431 **On-site Training and System Installation or Commissioning**
Initial training and system commission on a newly purchased system is the most important step to insure the program's success. In order to maximize the investment in the system our customer on-site training and system commissioning includes the following:
- Selection of a representative cross section of machines to be monitored
 - Installation of barcodes and attachment pads on selected machines
 - Installation of all software
 - Setup of the measurement database for selected machines
 - Collection of initial set of vibration data
 - Training of a selected person or small group (maximum of 6 people) on how to perform all of the above tasks
- Notes: (1) Some limited flexibility exists in the above scenario to accommodate specific customer requirements
(2) It is required that a representative from the facility's information system (IS) group be available for consultation on specific network issues related to the installation of DLI software and compatibility with other plant systems.
(3) Travel & living expenses are additional
(4) The following are recommended training programs:
- (a) 9431-2: Two (2) days refresher/program optimization training
 - (b) 9431-3: Three (3) days follow-up training 90-180 days after initial training/program implementation/system commissioning
 - (c) 9431-4: Four (4) days initial training/program implementation of portable vibration system
 - (d) 9431-5: Five (5) days initial training/system commissioning of online vibration monitoring system

Database Support

- 9461 **Off-Site Database Review/Audit.**
Review of database to include machine setup, MID setup, review of average files
- 9462 **Off-Site Database Review/Audit with Analyst Review of Machine Condition**
Review of database to include machine setup, MID setup, review of average files. In addition, review of the machine's condition by an experienced vibration analyst based on the latest available data.

ITEM

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ITEM	DESCRIPTION
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Condition Assessment Training Programs

Classroom Training - Introductory / Balancing Training Programs

9412-16 Combine both Item 9412 & 9416 during same week

9412 Vibration Principles and PdM Practices (2 days – Monday, Tuesday)¹

This course is intended for individuals who have had little or no exposure to Predictive Maintenance practices in general, and vibration analysis in particular. Although the analysis of the vibration spectra for fundamental machine fault recognition will be emphasized, the various methods and practices of Predictive Maintenance and Operating Deflection Shape (ODS) analysis will also be discussed.

Course highlights:

- PdM Methods and Practices
- Spectral (Vibration) Analysis
- Introduction to ODS Analysis

Note: ¹Certification Testing (Level 1) is available after completion of the Vibration Principles and PdM Practices course. Call for pricing.

9416 Introduction to ExpertALERT (2 days – Wednesday, Thursday)

This course is intended for individuals who are new to the PdM team and will be using the ExpertALERT software. It is recommended that attendees have experience in standard computer operations. Windows based operating systems, and working knowledge of their data collectors. *Primary emphasis will be placed on operation of the software:*

Course Highlights:

- Overview of Software Commands and Functions
- Machine Preparation
- Creating the Database Fields
- Data Collector Communications
- How the Expert System Works
- Analyzing, Fine Tuning Data, and Manipulation of the Various Plotting and Display Functions
- Utilities, Schedules, and Report Generation

On-site Balance Training Program

**9420 On-site Balance Theory and Practice
(2 1/2 days – Tuesday PM, Wednesday, Thursday)**

This course will take place at the customer site. This is intended for individuals who have a desire to understand unbalance and how to correct it. By hosting the class on site, the students will learn the theory behind the causes of unbalance and how they can be corrected. The students can then apply that new knowledge to the real life machines that they are familiar with.

ITEM	DESCRIPTION
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Condition Assessment Training Programs

Classroom Training - Advanced Training Programs / Textbook / CD

9418-14 Combine both Item 9418 & 9414 during same week

9418 Advanced ExpertALERT

(2 1/2 days – Monday, Tuesday, Wednesday AM)

This course is intended for individuals who are familiar with the ExpertALERT software. The Automated Diagnostic System and its related components, such as average baseline data and the rule-base, will be discussed in greater detail.

Primary emphasis will be placed on operation of the software:

Course Highlights:

- Overview of the Automated Diagnostic System
- Maturing the Average Baseline
- Report Generation
- Adding New Users
- Creating New Reports with Crystal Reports

9414 Advanced Vibration Analysis Techniques

(2 1/2 days – Wednesday PM, Thursday, Friday)

This course is intended as a follow-on course to the basics learned in course 9412. Although the focus will be on the spectral analysis of more complex vibration problems, other analysis techniques such as waveform analysis, demodulation and time synchronous averaging will be discussed.

Students are encouraged to bring their personal laptop with SignalAQ software.

Course highlights:

- Complex Spectral Analysis
- Waveform Analysis
- Time Synchronous Averaging
- Demodulation

Textbook / CD

8569 Textbook, Introduction to Machine Vibration

Covers the essentials of machine vibration analysis.

Hardbound, 197 pages, Authored by Glenn D. White, DLI Engineering.

Chapters covered by *Introduction to Machine Vibration* are: Overview of Maintenance Practice, Introduction to Vibration, Vibration Transducers, The FFT Analyzer, Machine Vibration Monitoring, Manual Vibration Analysis, Estimation Vibration Severity, and a Vibration Terminology Glossary.

Note: Spanish translation of this Textbook is available by special order

8571 CD-ROM, Introduction to Machine Vibration

Covers the essentials of machine vibration analysis.

Authored by Glenn D. White, DLI Engineering.

Chapters covered by *Introduction to Machine Vibration* are: Overview of Maintenance Practice, Introduction to Vibration, Vibration Transducers, The FFT Analyzer, Machine Vibration Monitoring, Manual Vibration Analysis, Estimation Vibration Severity, and a Vibration Terminology Glossary.

ITEM	DESCRIPTION
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Condition Assessment Training Programs

Interactive CD-based Training

- 8671 **iLearnVibration (Standard)** (Mobius 511431)
A step-by-step training system for condition-based maintenance and vibration analysis. The main focus of this CD-based training is vibration analysis. The system begins with the fundamentals and covers measurement collection, analysis and machine fault diagnosis.
Note: Includes a security module (dongle). Specify either Parallel (LPT) or USB security module
- 8676 **iLearnVibration (Professional)** (Mobius 511432)
In addition to the standard iLearnVibration (Standard) training system this package bundles several other valuable information modules together. These additional modules are:
- iLearnCaseHistories – a library of virtual machines with vibration measurements and documentation of the specific machinery problem(s)
 - iLearnMachineFaults - a machinery fault simulator where the user can create machines from basic machine components
 - iLearnSignals – a virtual signal generator and vibration analyzer that the user controls the measurement setup to fully understand the entire FFT process
 - iLearnHandsOn - a database of vibration recordings and simulations from an advanced “machinery fault test rig”
- Note: Includes a security module (dongle). Specify either Parallel (LPT) or USB security module
- 8677 **iLearnInstructor** Instructor package (Mobius 511433)
A tool for the person involved with teaching vibration analysis. Includes all components contained in iLearnVibration (Professional) plus a supplemental Instructor CD

ExpertALERT / iLearn Training Packages

- 8670 **iLearnExpertALERT with iLearnVibration (Standard)**
Combines all the features of iLearnVibration (Standard) with a fully narrated overview of using ExpertALERT, Intelligent Condition Assessment software with “movie” tutorials that demonstrate the most important and useful functions of ExpertALERT
Note: Includes a security module (dongle). Specify either Parallel (LPT) or USB security module
- 8680 **iLearnExpertALERT with iLearnVibration (Professional)**
Combines all the features of iLearnVibration (Standard) with a fully narrated overview of using ExpertALERT, Intelligent Condition Assessment software with “movie” tutorials that demonstrate the most important and useful functions of ExpertALERT
Note: Includes a security module (dongle). Specify either Parallel (LPT) or USB security module

ITEM	DESCRIPTION
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Condition Assessment Training Programs

Interactive CD-based Training – Network Packages

8686	iLearnVibration (Professional) (Mobius 511434) Single-user Network License
8687	iLearnVibration (Professional) (Mobius 511435) Two-user Network License
8688	iLearnVibration (Professional) (Mobius 511436) Five-user Network License
8689	iLearnVibration (Professional) (Mobius 511437) Ten-user Network License

ITEM	DESCRIPTION
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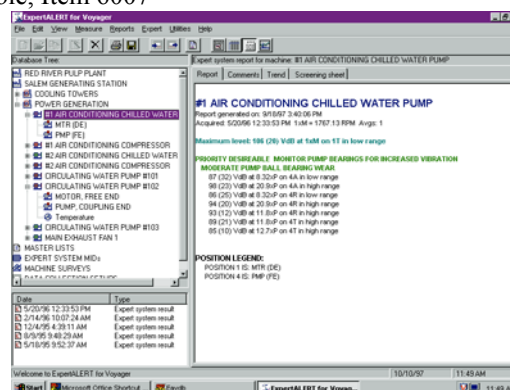
Portable Data Collection / Field Analysis

DLI Watchman DCX

2703 DCX-3, DLI Watchman Diagnostic Data Collector / Real Time Analyzer

The DCX is a modular, platform independent vibration data collector utilizing the patented AQ204, 4 channel data acquisition PC card, embedded in a rugged Hammerhead industrial PC. The system includes:

- Rugged industrial tablet-style computer
 - Minimum specifications:
 - 400 MHz processor, 128 MB RAM & 10 GB hard drive
- Windows 98 (Windows 2000 available Summer 2003)
- Sybase SQL Anywhere, Item 1090
- 4 Channel Data Acquisition PCMCIA Card
- Embedded ExpertALERT single user license, Item 1110
- Triaxial Accelerometer with integral 6 ft (2 m) cable, Item 6007
- 5/32-inch Ball Driver, Item 8573
- AC Power Adapter / Internal Battery Charger, Item 8832. Charges both internal battery packs (while inside the unit)
- Provides AC Power to the Unit
- Two (2) Lithium Batteries, Item 8835
- External Battery, Item 8845
- Protective cover & bag with shoulder strap, Item 8837
- Port Replicator, Item 8844
- CD-RW External Drive (USB), Item 8858
- USB-USB PC Connection Cable, Item 8859
- USB Hub (4 ports), Item 8860
- DCX User Manual, Item 2772
- ExpertALERT User Manual, Item 1119
- Transit Case, Item 2765
- Keyboard and Mouse



Quantity Discount Schedule for DCX-3 (Item 2703):

- 3 - 6 DCX-3 Units: 5%
- 7 - 10 DCX-3 Units: 10%
- 11 or more: Call

Notes:

- (1) Different data collectors / analyzers may be combined for quantity discount.
- (2) Quantity discounts apply only to single purchase orders or on multiple purchase orders received by DLI from the same company on the same day

DLI Watchman DCX - Balancing / ExpertALERT Packages

2706 DCX-3, DLI Watchman Diagnostic Data Collector / Real Time Analyzer with Multiplane Balancing Kit. Package includes:

- DCX-HH, Diagnostic Data Collector / Real Time Analyzer, Item 2703 with all Standard Accessories & Embedded ExpertALERT license, Item 1110
- DCX Multiplane Balancing Package, Item 8800

2950 DCX-3, DLI Watchman Diagnostic Data Collector / Real Time Analyzer with 2nd Copy of ExpertALERT and Database Replication. Package includes:

- DCX-HH, Diagnostic Data Collector / Real Time Analyzer, Item 2703 with all Standard Accessories & Embedded ExpertALERT license, Item 1110
- ExpertALERT, 2nd User License, Item 1114
- Two Copies of Data Replication Software with Setup Wizard for ExpertALERT
- USB Micro-Drive (256 MB) for database replication between DCX-HH and PC, Item 8861
- 100 attachment pads for Triaxial Accelerometer, Item 4300-1
- 2 Adhesive Kits for installing attachment pads, Item 4350
- 100 Barcode Labels, Item 4320-1

ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCX - Balancing / ExpertALERT Network Packages

- 2952 **DCX-3, DLI Watchman Diagnostic Data Collector / Real Time Analyzer with 2nd Copy of ExpertALERT, Database Replication & Multiplane Balancing Kit**

Package includes:

Includes all items in Item 2950 (on previous page) plus

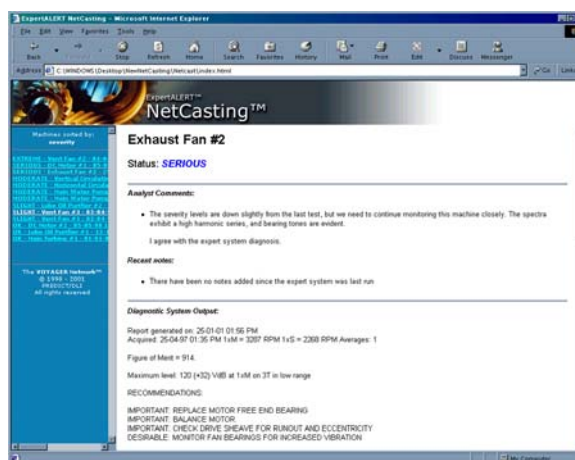
- DCX Multiplane Balancing Package, Item 8800

- 2954 **DCX-3, DLI Watchman Diagnostic Data Collector / Real Time Analyzer Network Package with 2nd Copy of ExpertALERT, Enterprise Network Upgrade, Database Replication, Multiplane Balancing Kit, Signal AQ & CD-based Training**

Package includes:

Includes all items in Item 2952 (above) plus

- ExpertALERT Enterprise Network Upgrade with NetCasting, Item 1129
- SignalAQ, Four Channel Data Acquisition & Advanced Analysis Software
- iLearn ExpertALERT with iLearnVibration (Standard) Interactive Training Program, Item 8670



Hammerhead – Advanced Analysis Package

- 2724 **Hammerhead Four (4) Channel Data Acquisition Platform with Advanced Analysis Software.** Package includes:

- Rugged industrial tablet-style computer
(Minimum specifications: 400 MHz processor, 128 MB RAM & 10 GB hard drive)
- Loaded with Windows 98 (Windows 2000 available Summer 2003)
- Four Channel Data Acquisition PCMCIA Card, Item 2721
- SignalAQ, Four (4) Channel Data Acquisition & Advanced Analysis Software
- Four (4) Single Axis Accelerometers, Item 6040
- Four (4) Single Axis Cables, Item 6141
- Sensor & Tachometer cable assembly, Fischer to 4-BNC, Item 8857
- AC Power Adapter / Internal Battery Charger, Item 8832
Charges both internal battery packs (while inside the unit)
Provides AC Power to the Unit
- Two (2) Lithium Batteries, Item 8835
- Extended Life External Battery, Item 8845
- Protective cover & bag with shoulder strap, Item 8837
- Port Replicator, Item 8844
- Keyboard and Mouse
- Signal AQ User Manual, Item 1122
- Transit Case, Item 2765

- 3474 **Extended Warranty Program for Hammerhead with Signal AQ (1 yr)**

- 3475 **Extended Warranty Program for Hammerhead with SignalAQ (3 yrs)**

ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCX - Accessories - Balancing / Current / Speed

8800 DCX Multi-Plane Balancing Kit

Single, two or four plane field balancing kit for DCX.

Kit includes:

- Infrared Tachometer with DCX Power Supply, Item 4401-DCXHH
- DCX Multi-plane Balancing Software, Item 8820
- Electronic Scale, Item 8578
- Balancing User Manual, 2773
- Reflective Tape, 24 in (9.5 cm) long
- Carrying Case, 8583

8525- AC Motor Current Clamp

DCXHH Use with DCX for motor current signature analysis to detect motor bar problems in AC induction motors and monitor distribution power line waveforms for harmonic analysis. Includes 3 ft (1 m) cable. Up to three units may be used for simultaneous measurement of three-phase current.



4100- Stroboscope /Tachometer Kit with digital readout, DB-115

DCXHH NOTE: Requires input cable, Item 8580, for DCX-HH

Includes 115-volt Battery Charger

- Use to manually measure machine speed
- Connect strobe output (TTL pulse) to DCX to log machine speed automatically



4105- Stroboscope /Tachometer Kit with digital readout, DB-230

DCXHH NOTE: Requires input cable, Item 8580, for DCX-HH

Includes 230-volt Battery Charger

- Use to manually measure machine speed
- Connect strobe output (TTL pulse) to DCX to log machine speed automatically

8580 Stroboscope /Tachometer Input Cable for DCX-HH, 6 ft (2 m) long

4401- Infrared Tachometer with Power Supply

DCXHH Includes

- IR Tachometer Connection Cable, 4 ft (1.2 m), BNC to BNC, Item 4430
- Tripod Clamp, Item 4410



4430 Infrared Tachometer Extension Cable for DCX-HH, BNC to BNC, 6 ft (2 m) long

Extends the distance between Infrared Tachometer and DCX

4430-12 Infrared Tachometer Extension Cable for DCX-HH, BNC to BNC, 12 ft (4 m) long

4430-25 Infrared Tachometer Extension Cable for DCX-HH, BNC to BNC, 25 ft (8 m) long

4430-50 Infrared Tachometer Extension Cable for DCX-HH, BNC to BNC, 50 ft (16 m) long

ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCX - Accessories - Calibration / Temperature / Structural Test

4010- PR-1 - Precision Reference - Tamper Proof

DCXHH Use to verify calibration of data collectors and instrument systems to a traceable standard.

Includes manual and Item #8586 mini-din cable for connection to DCX

- Provides four simultaneous channels of identical complex signals to simulate low impedance ICP accelerometers.
- Provides one precision 1-volt dc output.
- Selectable complex waveforms.
- Highly precise amplitude and frequency content.
- Fixed output amplitude at 1.414 Volt peak on all waveforms.
- Waveform and frequency selection is concealed inside instrument.
- Small, tough, built for rough environment.



4020- PR-2 - Precision Reference - External Controls

DCXHH Identical to PR-1, but has external controls for quick waveform and frequency selection.

Includes manual and Item #8586 mini-din cable for connection to DCX

4040 NIST Traceable Certification for PR-1 and PR-2

8568 Precision Reference User's Manual (for PR-1 and PR-2)

4200- Infrared Thermometer, D501-AO

DCXHH Permits input of temperature readings during route or use as a stand-alone temperature monitor for quick checks of bearing and process temperatures.

Includes: Coil cord inter-connect cable to data collector, manual, carrying pouch.

- Requires near to or contact with target for measurement.
- Display: 4-digit red LED.
- Power: 9 volt alkaline.
- Field of measurement: 60°
- Measurement range: +10 to 550°F.
- Accuracy: $\pm 2\%$ or $\pm 2^\circ\text{F}$ whichever is greater. Measurement modes: scan or lock.
- Dimensions: shirt pocket size $3\frac{1}{2} \times 5 \times \frac{5}{8}$ inches.



4500 Impact Hammer, 3.0 lbs., 1 mv/lb, medium sledge (IMI 086C41)

Suitable for medium to heavy structures and machines, foundations and storage tanks.

Includes a selection of 4 different tips to modify the frequency response

- 1,000 Hz frequency response
- 5,000 lbf (22 kN) amplitude range
- 2.4 lb (1.1 kg) hammer mass
- 2 inch (5 cm) head diameter



6064 CB-4, Remote Sensor Connection Station

This junction box is used to connect single axis and triaxial accelerometers, mounted on remote machines, to the DCX-HH. Triaxial Accelerometer Adapter, Item 8850, required to connect CB-4 to DCX-HH. Connect up to 12 channels (4 triaxial accelerometers or 4 single axis accelerometers or a combination of the 2 types)

8850 Triaxial Accelerometer Cable Adapter, 6 in (0.15 m) long, Fischer to 4-pin Amp

Note: Connects DCX to Triaxial Accelerometers (Items 6000, 6003) or CB-4 (Item 6064)

ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCX – Extended Warranty Programs

Standard Warranty Program

- 3470 Extended Warranty Program for DCX (1 yr)
- 3471 Extended Warranty Program for DCX (3 yrs)

Platinum Warranty Program for DLI Watchman® DCX™ Hammerhead



The Platinum Warranty Service Plan provides an elevated level of warranty service compared to our standard extended warranty program and includes:

- 5 day turnaround on equipment service and/or repair (not including transit time)
Note: If the 5-day turnaround is not possible, a loaner unit will be placed in transit within 5 days, guaranteed.
- One data collector calibration
- One accelerometer calibration
- One accelerometer cable replacement and calibration
- Repair/replacement and maintenance of internal battery packs
- Free version of Signal AQ, Advanced Analysis Software, Item 1160
(1-year license will be extended upon annual re-enrollment in the Platinum Plan)

- 3460 **Platinum Warranty Program for DCX-Hammerhead (1 yr)**

Note: For customers who are already enrolled in a standard warranty program

- 3462 **Platinum Warranty Program for DCX-Hammerhead (1 yr)**

Note: For customers who are not enrolled in a standard warranty program

Repairs that are determined to be caused by accidental physical damage will not be covered under warranty but would continue to be eligible for the 5-day turnaround and the loaner program. Repairs that are determined to be caused by unauthorized modification and/or tampering will not be covered under warranty as well as becoming ineligible for the 5-day turnaround or the loaner program.

As in our standard extended warranty program, any purchase of a Platinum Service agreement requires the customer to send in the equipment to be covered under the plan for an evaluation/calibration before activation of Platinum Warranty service.

All conditions and exceptions that are stipulated in our standard warranty agreements are still applicable to the Platinum program. However, the DCX Hatch Door Cable assembly, although an external cable, is an essential part of the DCX system and will therefore be covered under this plan.

ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCX – Accessories

Miscellaneous (Hammerhead)

- 2765 Transit Case
- 2783 Memory Upgrade for DCX-HH-400 (128 MB to 256 MB)
- 6007 Triaxial Accelerometer with Integral Cable top exit cable, 6 ft (2 m) (WRI 993B-7)
 - 100 mv/g sensitivity
 - -50 to 120°C
 - 120-420,000 CPM (2-7,000 Hz) (+/- 3 dB)
 - 10-32 mounting captive screw
- 6040 Single Axis Accelerometer, general-purpose, top exit (2 Pin) (WRI786A)
 - 100 mv/g sensitivity
 - -50 to 120°C
 - 60-720,000 CPM (1-12,000 Hz) (+/- 3 dB)
 - 1/4-28 threaded hole (Stud supplied)

Note: Use Items 6140 & 8857 or Items 6140, 6150-1 & 8850 to connect to DCX-HH
- 6140 Accelerometer Cable, Sealed/Quick-disconnect, 2 Pin to BNC (male), 10 ft (3 m) long.
- 6150-1 Adapter, female BNC to AC Ch. 1 of 4 Pin Amp connector (use with Item 8850)
- 8514 Adapter, female BNC pass through connector. Use to connect two male BNC connectors
- 8576 Triaxial Sensor Extension Cable for Item 6007, 6 ft (2m) long. Terminated with Fischer connectors, male on one end and female on the other.
- 8576-XX Specify length, XX in feet
- 8823 External Battery Charger / Battery Pack Kit for DCX-HH-400. Includes:
 - Two Lithium Battery Packs, Item 8835
 - Two Bay Battery Charger with Universal Auto-switching Power Supply, Item 8833

NOTE: Charges Two Battery Packs in 4-5 Hours
- 8831 AC Power Cord for DCX-HH (110 volts, US)
- 8832 AC Power Adapter with Power Cord for DCX-HH. Note: Also charges internal battery
- 8833 External, 2-Bay Battery Charger for charging 2 lithium batteries, Item 8835 (not included)
 - Charges two batteries in 4-5 hours
 - Includes universal auto-switching power supply
- 8834 Battery (Nickel Metal Hydride) for DCX-HH-233
- 8835 Battery (Lithium) for DCX-HH-400
- 8836 External Battery Charger - One Bay (2.5 Amp) for DCX-HH-233
 - For Nickel Metal Hydride batteries (Item 8834)
 - Charge time is less than 3 hours
- 8839 Protective Cover & Bag with Shoulder Strap for DCX-HH-400
- 8840 Barcode Reader for DCX-HH
- 8842 Replacement Stylistic for DCX-HH-233
- 8844 Port Replicator for DCX-HH
- 8845 Battery, External/Extended-Life (Note: Fits into Protective Cover & Bag, Item 8839)
- 8846 Desktop Docking Station for DCX-HH
- 8848 USB/Ethernet Adapter
- 8849 Passive Pen Stylus for DCX-HH-400
- 8850 Triaxial Accelerometer Cable Adapter for DCX-HH, 6 in long, Fischer to 4-pin AMP
Connects DCX-HH to Triaxial Accelerometers, Items 6000, 6003
- 8857 Sensor and Tachometer Cable Assembly for DCX-HH, Fischer to 4 BNC (male) plugs
Note: Includes three female BNC pass through connectors, Item 8514
- 8858 CD-RW External Drive, USB for DCX-HH
- 8859 USB-USB PC Connection Cable for DCX-HH
- 8860 USB Hub (4 ports) for DCX-HH
- 8861 USB Micro-Drive Memory Port (256 MB) for database replication

ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCA-31

2801-S DCA-31, Single Channel, Handheld Data Collector / Real Time Analyzer.

The DCA-31 is a very small, rugged data collector capable of capturing a wide range of vibration and process data. Standard accessories include:

- Single Axis Accelerometer, Item 6040
- Accelerometer Cable, Item 8574
- Magnet Mounting Base for Accelerometer, Item 8591
- Battery Pack, Item 2843
- Power Adapter/Battery Charger, Item 2841
- Main Power Adapter Cable, Item 2839
- Communications Cable, Item 2858
- Soft Cover, Item 2863
- Hand strap, Item 2866
- Transit Case, Item 2865
- User Manual, Item 2871

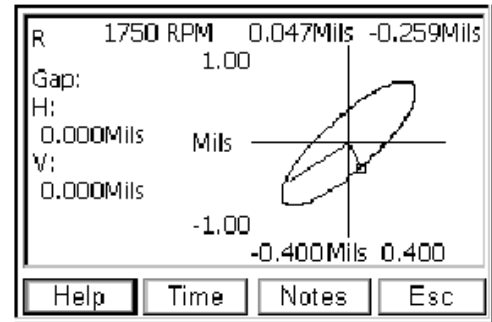


2802-T DCA-31, Two Channel, Handheld Data Collector / Real Time Analyzer.

The DCA-31 two channel data collector is capable of capturing not only a wide range of vibration and process data but also performing advanced troubleshooting using cross channel phase and orbit displays.

Standard accessories include:

- Triaxial Accelerometer with Cable, Item 6000
- Triaxial Accelerometer Cable Adapter, Item 8575
- Battery Pack, Item 2843
- Power Adapter/Battery Charger, Item 2841
- Main Power Adapter Cable, Item 2839
- Communications Cable, Item 2858
- Soft Cover, Item 2863
- Hand strap, Item 2866
- Transit Case, Item 2865
- User Manual, Item 2871



2112 Upgrade DCA-31 from one channel to two channel

DLI Watchman DCA-31 / Condition Assessment Software Packages

2972-T DCA-31, Two Channel, Handheld Data Collector / Real Time Analyzer with ExpertALERT Intelligent Condition Assessment Software.

This package maximizes the capabilities of the 2-channel DCA-31 by utilizing a triaxial accelerometer for rapid and efficient data collection with automated machine screening/diagnostics & complete machine fault reports

- DCA-31 Data Collector / Real Time Analyzer, Item 2802T
- ExpertALERT software, Item 1110
- 100 Attachment Pads, Item 4300
- 100 Bar Code Labels, Item 4320
- Two Adhesive Kits for installing attachment pads/labels, Item 4350

2991-S DCA-31, Single Channel, Handheld Data Collector with AdvancedALERT 1

This value package is ideal for programs that do not require the advanced troubleshooting of the 2-channel DCA-31 and prefer manual vibration data analysis software

- DCA-31 Data Collector / Real Time Analyzer, Item 2801S
- AdvancedALERT I Condition Assessment Software, Item 1140

ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCA-31 - Balancing Accessories / Packages

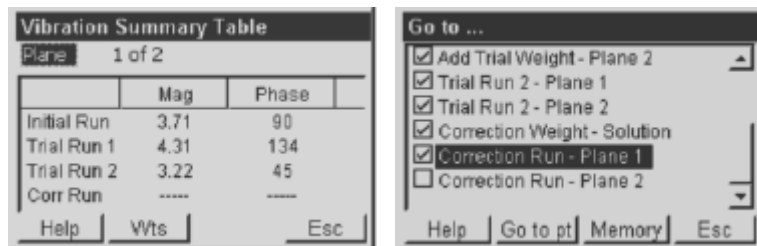
2820 DCA-31 Balancing Kit.

Package includes all software and accessories to perform in-field single or two plane balancing

- PCMCIA card with Balancing Firmware, Item 2883
- Infrared Tachometer with Power Supply, Tachometer Connection Cable & Tripod Clamp, Item 4401-DCA31
- Electronic Scale, Item 8578
- Balancing User manual
- Reflective Tape, 24 in (9.5 cm) long
- Carrying Case

2883 DCA-31 PCMCIA Card with Balancing Application

Add in-field single or two plane balancing capability to any DCA-31



2991- SBAA DCA-31, Single Channel, Handheld Data Collector with Balancing Kit and AdvancedALERT 1 Condition Assessment Software.

NEW

This value package contains the essential components to implement a basic vibration condition monitoring program

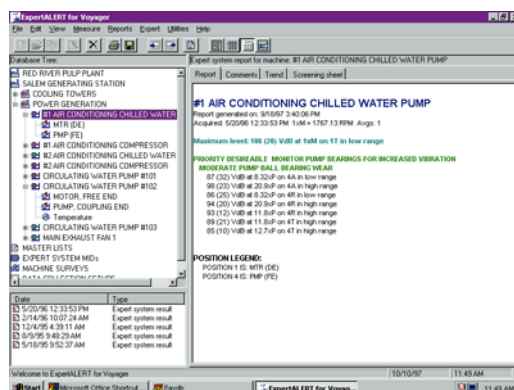
- DCA-31 Data Collector / Real Time Analyzer, Item 2801S
- Balancing Kit including application software & tachometer, Item 2820
- AdvancedALERT I Condition Assessment Software, Item 1140

2972- TBEA DCA-31, Two Channel, Handheld Data Collector / Real Time Analyzer with Balancing Kit and ExpertALERT Intelligent Condition Assessment Software.

NEW

This package maximizes the capabilities of the 2-channel DCA-31 by utilizing a triaxial accelerometer for rapid and efficient data collection, integrating balancing capabilities into the DCA-31 and taking advantage of the efficiencies of automated machine screening/diagnostics & complete machine fault reports

- DCA-31 Data Collector / Real Time Analyzer, Item 2802T
- Balancing Kit including application software & tachometer, Item 2820
- ExpertALERT software, Item 1110
- 100 Attachment Pads, Item 4300
- 100 Bar Code Labels, Item 4320
- Two Adhesive Kits for installing attachment pads/labels, Item 4350



ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCA-31 - Calibration / Current / Speed Accessories

4010- **PR-1 - Precision Reference - Tamper Proof**

DCA31 Use to verify calibration of data collectors and instrument systems to a traceable standard.

Includes manual and Item #8586 mini-din cable for connection to DCA-31

- Provides four simultaneous channels of identical complex signals to simulate low impedance ICP accelerometers.
- Provides one precision 1-volt dc output.
- Selectable complex waveforms.
- Highly precise amplitude and frequency content.
- Fixed output amplitude at 1.414 Volt peak on all waveforms.
- Waveform and frequency selection is concealed inside instrument.
- Small, tough, built for rough environment.



4020- **PR-2 - Precision Reference - External Controls**

DCA31 Identical to PR-1, but has external controls for quick waveform and frequency selection.

Includes manual and Item #8586 mini-din cable for connection to DCA-31

4040 **NIST Traceable Certification for PR-1 and PR-2**

8568 **Precision Reference User's Manual (for PR-1 and PR-2)**

8525- **AC Motor Current Clamp**

DCA31 Use with DCA-31 for motor current signature analysis to detect motor bar problems in AC induction motors and monitor distribution power line waveforms for harmonic analysis.
Includes 3 ft (1 m) cable.



4100- **Stroboscope /Tachometer Kit with digital readout, DB-115**

DCA31 NOTE: Requires input cable, Item 8580, for DCA-31

Includes 115-volt Battery Charger

- Use to manually measure machine speed
- Connect strobe output (TTL pulse) to DCA-31 to log machine speed automatically



4105- **Stroboscope /Tachometer Kit with digital readout, DB-230**

DCA31 NOTE: Requires input cable, Item 8580, for DCA-31

Includes 230-volt Battery Charger

- Use to manually measure machine speed
- Connect strobe output (TTL pulse) to DCA-31 to log machine speed automatically

4401- **Infrared Tachometer with Power Supply**

DCA31 Includes

- IR Tachometer Connection Cable, 4 ft (1.2 m), BNC to Fischer, Item 4432
- Tripod Clamp, Item 4410



ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCA-31 – Temperature / Accessories / Warranties

Temperature Measurements

4200- Infrared Thermometer, D501-AO

DCA31 Permits input of temperature readings during route or use as a stand-alone temperature monitor for quick checks of bearing and process temperatures.

Includes: Coil cord inter-connect cable to data collector, manual, carrying pouch.

- Requires near to or contact with target for measurement.
- Display: 4-digit red LED.
- Power: 9 volt alkaline.
- Field of measurement: 60°
- Measurement range: +10 to 550°F.
- Accuracy: $\pm 2\%$ or $\pm 2^\circ\text{F}$ whichever is greater. Measurement modes: scan or lock.
- Dimensions: shirt pocket size $3\frac{1}{2} \times 5 \times \frac{5}{8}$ inches.



Accessories

2839 Power Supply Cable (115 volts, US)

2841 Power Adapter/Battery Charger

2843 Battery pack

2846 External Battery Charger

2858 Communications Cable (PC/DCA-31, RS232 Serial)

2861 Neck Strap

2863 Soft cover

2865 Transit case

2866 Hand Strap

2868 Belt Clip

2871 User Manual

2881 Flash Memory Card, 16MB

2892 Single Axis Accelerometer, Low Profile, side exit (2 Pin) (WRI 797)

- 100 mv/g sensitivity
- 60-720,000 CPM (1-12,000 Hz) (+/- 3 dB)
- -50 to 120°C
- 1/4-28 threaded mounting hole

Note: Use Cable, Item 8574, to connect to DCA-31 (Stud supplied)

4432 IR Tachometer Connection Cable, 4 ft (1.2 m), BNC to Fischer

6000 Triaxial Accelrometer, integral, top exit cable (6 ft), 4-Pin AMP connector (WRI 993A-5)

- 100 mv/g sensitivity
- 120-300,000 CPM (2-5,000 Hz) (+/- 3 dB)
- -50 to 120°C
- 10-32 mounting captive screw

Note: Use Cable 8575 to connect to DCA-31

6040 Single Axis Accelerometer, general-purpose, top exit (2 Pin) (WRI786A)

- 100 mv/g sensitivity
- 60-720,000 CPM (1-12,000 Hz) (+/- 3 dB)
- -50 to 120°C
- 1/4-28 threaded mounting hole

Use Cable 8574 to connect to DCA-31 (Stud supplied)

4370 Triaxial Sensor Attachment Pad/Barcode Label Kit

8574 Single Axis Accelerometer Coiled Cable, Fischer to 2-pin plug

8575 Triaxial Accelerometer Cable Adapter, 6 ft (2 m) long, Fischer to 4-pin Amp

8591 Magnet Mount, Rare Earth, 1/4-28 stud for Single Axis Accelerometer, 50 # pull

Extended Warranty Programs

3490 Extended Warranty Program for DCA-31 (1 yr)

3491 **Extended Warranty Program for DCA-31 (3 yrs)**

ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCA-31 – CSA Certified, Class 1, Div 2

2805-S DCA-31, Single Channel, CSA Certified, Class 1, Division 2, Handheld Data Collector / Analyzer

Single Channel Data Collector / Analyzer suitable for hazardous environments

- Single Axis Accelerometer, CSA Certified, Item 2890
- Accelerometer Cable, Item 8574
- Magnet Mounting Base for Accelerometer, Item 8591
- Battery Pack, Item 2843
- Power Adapter/Battery Charger, Item 2841
- Main Power Adapter Cable, Item 2839
- Communications Cable, Item 2858
- Soft Cover, Item 2863
- Hand strap, Item 2866
- Transit Case, Item 2865
- User Manual, Item 2871



2806-T DCA-31, Two Channel, CSA Certified, Class 1, Division 2, Handheld Data Collector / Analyzer

Two Channel Data Collector / Analyzer suitable for hazardous environments

- Triaxial Accelerometer with Cable, CSA Certified, Item 2896
- Triaxial Accelerometer Cable Adapter, Item 8575
- Battery Pack, Item 2843
- Power Adapter/Battery Charger, Item 2841
- Main Power Adapter Cable, Item 2839
- Communications Cable, Item 2858
- Soft Cover, Item 2863
- Hand strap, Item 2866
- Transit Case, Item 2865
- User Manual, Item 2871

Quantity Discount Schedule for DCA-31, CSA Certified, Class 1, Div 2:

3 - 6 DCA-31/CSA Units: 5%
7 - 10 DCA-31/CSA Units: 10%
11 or more: Call

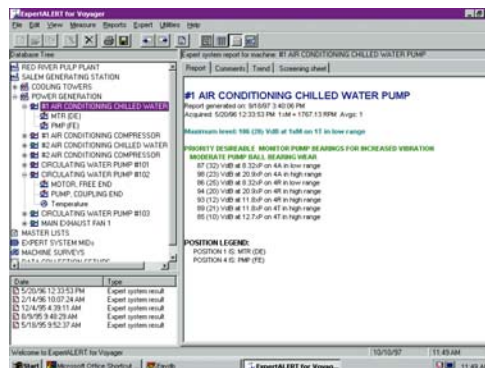
Notes: (1) Different data collectors / analyzers may be combined for quantity discount.

(2) Quantity discounts apply only to single purchase orders or on multiple purchase orders received by DLI from the same company on the same day.

DLI Watchman DCA-31 / Condition Assessment Software Packages

2973-S DCA-31, Single Channel, CSA Certified, Class 1, Division 2, Handheld Data Collector / Analyzer with AdvancedALERT software

2974-T DCA-31, Two Channel, CSA Certified, Class 1, Division 2, Handheld Data Collector / Analyzer with ExpertALERT software



ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCA-31 – CSA Certified, Class 1, Div 2: Accessories / Warranties

Sensors / Cables

- | | |
|------|--|
| 2890 | Single Axis Accelerometer, Low Profile, Side exit, Intrinsically Safe (WRI 797-33) <ul style="list-style-type: none"> 100 mv/g sensitivity 60-720,000 CPM (1 Hz-12,000 Hz) (+/- 3 dB) frequency range -50 to 120°C temperature range 10-32 mounting captive screw |
| 2896 | Triaxial Accelerometer, CSA Certified, integral, top exit cable, 6 ft long (2m) (WRI 993B-7-33) <ul style="list-style-type: none"> 100 mv/g sensitivity 120-420,000 CPM (2 Hz-7,000 Hz) (+/- 3 dB) frequency range -50 to 120°C temperature range 10-32 mounting captive screw |
| 8590 | Magnet, Rare Earth, 10-32 tapped hole for Item 2890 Single Axis Accelerometer |

General Accessories

- | | |
|------|--|
| 2839 | Power Supply Cable (115 volts, US) |
| 2841 | Power Adapter/Battery Charger |
| 2843 | Battery pack |
| 2846 | External Battery Charger |
| 2858 | Communications Cable (PC/DCA-31, RS232 Serial) |
| 2861 | Neck Strap |
| 2863 | Soft cover |
| 2865 | Transit case |
| 2866 | Hand Strap |
| 2868 | Belt Clip |
| 2871 | User Manual |
| 2881 | Flash Memory Card, 16MB |
| 8573 | Ball driver for mounting Triaxial Accelerometer, 5/32 inch |

Extended Warranties

- | | |
|------|---|
| 3486 | Extended Warranty Program for DCA-31, CSA Certified (1 yr) |
| 3487 | Extended Warranty Program for DCA-31, CSA Certified (3 yrs) |

ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

Intrinsically Safe Data Collection for Hazardous Environments

- 2804 **DCA-20/IS, Data Collector / Analyzer, Intrinsically Safe**
Suitable for environments with full explosive gas mixture that is continuously present
Kit Includes:

- Triaxial Vibration Sensor, Intrinsically Safe, Item 2897
- PSU-1 AC Adapter via ICU-1, Item 2840
- Battery pack, Qty 2, Item 2844
- Intelligent Battery Charger, Item 2851
- Removal tool for battery pack, Item 2847
- RS232 Serial Cable, Item 2857
- Shoulder Strap, Item 2860
- Fabric Cover, Item 2862
- Transit Case, Item 2864
- PCMCIA Memory Card, Item 2886
- User Manual, Item 2872



Quantity Discount Schedule for DCA-20/IS (Item 2804):

3 - 6 DCA-20/IS Units: 5%

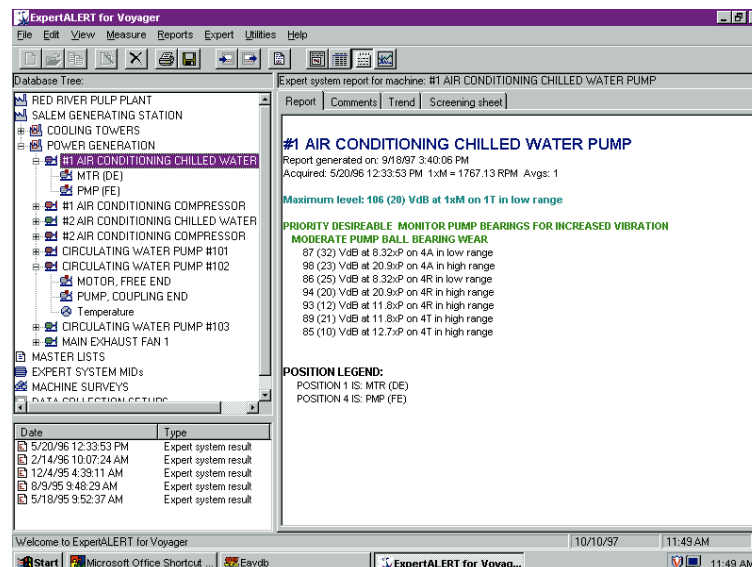
7 - 10 DCA-20/IS Units: 10%

11 or more: Call

Notes: (1) Different data collectors / analyzers may be combined for quantity discount.
(2) Quantity discounts apply only to single purchase orders or on multiple purchase orders received by DLI from the same company on the same day.

DLI Watchman DCA-20/IS / Condition Assessment Software Package

- 2977 **DCA-20/IS, Data Collector / Analyzer, Intrinsically Safe** for both Group 1 (Underground) Ex ia I and Group 2 (Surface) Ex ia IIC T4 and ExpertALERT Software.



ITEM	DESCRIPTION
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Portable Data Collection / Field Analysis

DLI Watchman DCA-20/IS – Accessories

Sensors / Cables

- | | |
|------|---|
| 2891 | Single Axis Accelerometer, Intrinsically Safe, Low Profile, Side exit (WRI 797-35) <ul style="list-style-type: none"> 100 mv/g sensitivity 60-720,000 CPM (1 Hz-12,000 Hz) (+/- 3 dB) frequency range -50 to 120°C temperature range 10-32 mounting captive screw |
| 2897 | Triaxial Accelerometer, Intrinsically Safe, integral, top exit cable, 6 ft long (2m) (WRI 993B-7-35) <ul style="list-style-type: none"> 100 mv/g sensitivity 120-420,000 CPM (2 Hz-7,000 Hz) (+/- 3 dB) frequency range -50 to 120°C temperature range 10-32 mounting captive screw |
| 8590 | Magnet, Rare Earth, 10-32 tapped hole for Item 2891 Single Axis Accelerometer |

Miscellaneous

- | | |
|------|--|
| 2840 | Power Supply Unit (PSU-1)/AC Adapter via ICU-1 for DCA-20 or DCA20/IS |
| 2844 | Battery |
| 2847 | Removal tool for DCA-20/IS Battery |
| 2851 | Intelligent Battery Charger Unit (ICU-2) |
| 2852 | DC cable for battery charger for DCA-20 or DCA-20/IS |
| 2854 | RS232 Serial Cable for upload/download of data/route information |
| 2855 | Printer cable for DCA-20 or DCA-20/IS |
| 2857 | RS232 Serial Adapter Cable for Item 2854 (has lower power output due to IS restrictions) |
| 2860 | Shoulder strap |
| 2862 | Fabric cover |
| 2864 | Transit case |
| 2872 | User Manual for DCA-20 & DCA-20/IS |
| 2874 | Triaxial sensor adapter cable for Item 2897 |
| 2886 | Memory PCMCIA Card (Low Voltage), 2MB, SRAM |
| 2888 | Memory PCMCIA Card (Low Voltage), 4MB, SRAM |
| 8525 | Clamp-on AC current transducer |
| 8573 | Ball driver, 5/32 inch for mounting Triaxial Accelerometer, Item 2897 |

Extended Warranties

- | | |
|------|---|
| 3482 | Annual update & support for DCA-20/IS (1 year) |
| 3483 | Annual update & support for DCA-20/IS (3 years) |

ITEM	DESCRIPTION
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Portable Data Collection

DLI Watchman 8603

3006 8603, DLI Watchman Barcode-base Data Collector with Amplitude Demodulation, providing early stage roller element bearing detection

Includes 6 Meg data memory and 64 KByte point test setup memory using data compression technique to store setups for thousands of points.

- Triaxial Accelerometer, Item 6000
- Carrying Pack, Item 8550
- Barcode Utility Card, Item 8594
- Battery Assembly, NiCad, for 8603, Item 8543
- 5/32-inch Ball Driver, Item 8573
- 5/64-inch Ball Driver, Item 8593
- 3/32-inch Ball Driver, Item 8527
- Battery Charger, Item 8875 (115 VAC) or Item 8579 (230 VAC) (as specified)
- Adapter, RS232 voltage regulator for use with laptop computers, Item 8558
- Barcode Scanner with Accessory Receptacle, Item 8545



Quantity Discount Schedule for 8603 (Item 3006):

- 3 - 6 8603 Units: 5%
- 7 - 10 8603 Units: 10%
- 11 or more: Call

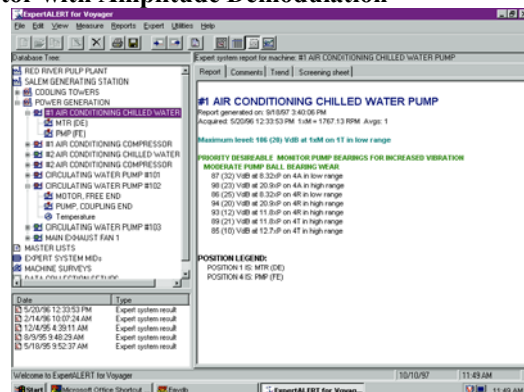
Notes: (1) Different data collectors / analyzers may be combined for quantity discount.
(2) Quantity discounts apply only to single purchase orders or on multiple

DLI Watchman 8603 / Condition Assessment Software / Extended Warranty Programs

3022 8603, DLI Watchman Barcode-based Data Collector with Amplitude Demodulation and ExpertALERT Intelligent Condition Assessment Software

Package includes:

- 8603 Data Collector, Item 3006
- ExpertALERT Software, Item 1110
- 100 attachment pads for Triaxial Accelerometer, Item 4300
- 2 Adhesive Kits for installing attachment pads, Item 4350
- 100 Barcode Labels, Item 4320-2



Extended Warranties

- 3510 Extended Warranty Program for 8603 (1 yr)
- 3511 Extended Warranty Program for 8603 (3 yrs)

ITEM	DESCRIPTION
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Portable Data Collection

DLI Watchman 8603 – Accessories for Data Collection

Sensors/Cables/Adapters

- 4370 Triaxial Sensor Attachment Pad/Barcode Label Kit. Includes:
 - 100 Attachment Pads, Item 4300
 - 100 Bar Code Labels, Item 4320
 - 2 Adhesive Kits, Item 4350
- 6000 Triaxial Accelerometer, integral, top exit cable (6 ft), 4-Pin AMP connector (WRI 993A-5)
 - 100 mv/g sensitivity
 - -50 to 120°C
 - 120-300,000 CPM (2-5,000 Hz) (+/- 3 dB)
 - 10-32 mounting captive screw

Note: Connects directly to 8603
- 6140 Accelerometer Cable, Sealed/Quick-disconnect, 2 Pin to BNC (male), 10 ft (3 m) long. Connect to any 2-Pin Single Axis Accelerometer (Items 6040, 6041, 6042 or 6055) and Adapter (Item 6150-1)
- 6150-1 Adapter, female BNC to AC Ch. 1 of 4 Pin Amp connector. Use with any 2-Pin Single Axis Accelerometer when connecting to 8603.
- 8570 Three channel general purpose AC input cable, 6 ft (2 m) long. Permits connection of the 8603 to any general AC signal source including single axis vibration sensors, proximity probes and permanently installed process instruments. Note: Includes three female BNC pass through adapters, Item 8514
- 8577 Triaxial Sensor Extension Cable for Triaxial Accelerometer, Item 6000, 6 feet (2m) Terminated with 4-pin, AMP connector, male on one end and female on other end
- 8577-XX Specify length, XX in feet
- 8591 Magnet Mount, Rare Earth, 1/4-28 stud for Single Axis Accelerometer, 50 # pull

Miscellaneous

- 8527 Ball driver, 3/32 inch; fits card fastening screws inside 8603
- 8543 Battery assembly, NiCad for model 8603
- 8545 Barcode Scanner and Scanner Cable with accessory receptacle for 8603
- 8550 Carrying pack, ballistic fabric for 8603
- 8551 Carrying pack, washable vinyl for 8603
- 8558 Adapter, RS232 voltage regulator for use with laptop computers. Prevents potential laptop internal power supply failure by limiting voltage through the RS232 connection.
- 8560 Sun Filter. Includes Filter, Instructions and Fastener Kit for 8603
- 8561 User Manual for 8603 Data Collector
- 8572 Interrupt control
 - Momentary contact push-button switch on 18 inch cable to interrupt data collection process
 - For non-stationary or non-continuous events.
 - Mates with the accessory receptacle on model 8603 data collector bar-code scanner cable.
- 8573 Ball driver, 5/32 inch for Triaxial Accelerometer
- 8579 Battery Charger/Communication Cable (RS-232), 230 VAC
- 8589 Adapter stud, 1/4-28 to 10-32 back to back
- 8593 Ball driver, 5/64 inch for lid screws on 8603
- 8594 Barcode utility card
- 8600 Communication Utility Software

Permits operation of the data collector without AdvancedALERT or ExpertALERT software on host computer. This utility creates a file of machine setup information to upload to 8603 and/or data collected by 8603 that can emailed/sent to another user
- 8847 Barcode scanner replacement tip for Welch-Allyn scanners. Furnished in pack of five
- 8875 Battery Charger/Communication Cable (RS-232), 115 VAC
- 9024 Upgrade to Demodulation (includes calibration)

ITEM	DESCRIPTION
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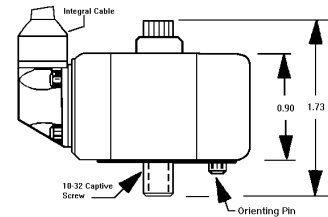
Portable Data Collection

Accessories - Sensors

Vibration Sensors - Triaxial

6000 Triaxial Accelerometer, integral, top exit cable, 6 ft (2 m) long, 4-Pin AMP connector (WRI 993A-5)

- 100 mv/g sensitivity
- 120-300,000 CPM (2-5,000 Hz) (+/- 3 dB) frequency range
- 50 to 120°C temperature range
- 10-32 mounting captive screw
- General purpose accelerometer for routine data collection with DCX Fujitsu 1200/2300, DC7, 8603

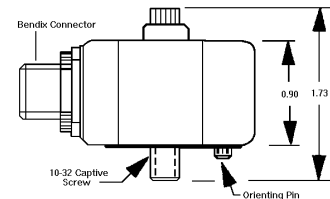


6003 Triaxial Accelerometer, hermetic, integral, top exit cable, 6 ft (2 m) long, 4-Pin AMP connector (WRI 993B-7)

- 100 mv/g sensitivity
- 120-420,00 CPM (2-7,000 Hz) (+/- 3 dB) frequency range
- 50 to 120°C temperature range
- 10-32 mounting captive screw
- Use on higher speed machines and/or for early bearing detection with DCX Fujitsu 1200/2300, DC7, 8603

6005- Triaxial Accelerometer with side connector (4 Pin) and 6 ft (2 m) long detachable cable
YYYY (WRI 993A-2)

- 100 mv/g sensitivity
- 120-300,000 CPM (2-5,000 Hz) (+/- 3 dB) frequency range
- 50 to 120 120°C temperature range
- 10-32 mounting captive screw
- Use when mounting clearance space on machine is limited
- Specify data collector: DCX1200, DCX2300, DCXHH, DC7, DCA20, DCA31, 8603



6007 Triaxial Accelerometer with Integral Cable top exit cable, 6 ft (2 m) long, Fischer connector (WRI 993B-7)

- 100 mv/g sensitivity
- 120-420,000 CPM (2-7,000) (+/- 3 dB) frequency range
- 50 to 120 deg C
- 10-32 mounting captive screw
- Use on higher speed machines and/or for early bearing detection with DCX Hammerhead

8528 Captive Screw, replacement, 10-32 for triaxial sensors, Items 6000, 6005

8529 Captive Screw, replacement, 10-32 for triaxial sensor, Item 6003, 6007

8573 Ball driver, 5/32 inch for all Triaxial Accelerometers

8577 Triaxial Accelerometer Extension Cable for Item 6000 or 6003, 6 ft (2 m). Terminated with 4 Pin Amp connector, male on one end and female on other end, for DCX Fujitsu 1200/2300, DC-7, 8603

8596 Magnet, Rare Earth, 10-32 tapped hole for Triaxial Accelerometer w/ Notch

Quantity Discounts

1-8	LIST
9-16	4%
17-32	8%
33-64	10%
65-128	12%
>129	CALL

ITEM	DESCRIPTION
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Portable Data Collection

Accessories – Sensors

Mounting Accessories / Measurment Point Identification for Triaxial Accelerometers

AK-BR, Attachment pads, bronze, 10-32 threaded center hole

- 4300-1 AK-BR, Attachment pads, bronze, Quan: 1-199
- 4300-2 AK-BR, Attachment pads, bronze, Quan: 200-399
- 4300-3 AK-BR, Attachment pads, bronze, Quan: 400-599
- 4300-4 AK-BR, Attachment pads, bronze, Quan: 600-799
- 4300-5 AK-BR, Attachment pads, bronze, Quan: 800+



4305 Series: Material is AISI 303 Alloy and Highly Corrosion Resistant. Recommended for nuclear industry or corrosive environments.

AK-303, Attachment pads, AISI 303 stainless steel, 10-32 threaded center hole

- 4305-1 AK-303, Attachment pads, AISI 303 stainless steel, Quan: 1-199
- 4305-2 AK-303, Attachment pads, AISI 303 stainless steel, Quan: 200-399
- 4305-3 AK-303, Attachment pads, AISI 303 stainless steel, Quan: 400-599
- 4305-4 AK-303, Attachment pads, AISI 303 stainless steel, Quan: 600-799
- 4305-5 AK-303, Attachment pads, AISI 303 stainless steel, Quan: 800+

4310 Series: Material is AISI 416 Alloy, Slightly Corrosive Stainless and will accommodate magnetic attachment such as Model 8591 sensor magnet. Recommended for food processing or other industries where magnetic retrieval of dropped parts is required.

AK-416, Attachment pads, AISI 416 stainless steel, 10-32 threaded center hole

- 4310-1 AK-416, Attachment pads, AISI 416 stainless steel, Quan: 1-199
- 4310-2 AK-416, Attachment pads, AISI 416 stainless steel, Quan: 200-399
- 4310-3 AK-416, Attachment pads, AISI 416 stainless steel, Quan: 400-599
- 4310-4 AK-416, Attachment pads, AISI 416 stainless steel, Quan: 600-799
- 4310-5 AK-416, Attachment pads, AISI 416 stainless steel, Quan: 800+

4330 Pad Caps for AK-BR, AK-303 or AK-416 attachment pads - Set of 250

Measurement Location Identification Accessories

- 4320-1 Barcode labels, aluminum plate, Quan: 50
 - 4320-2 Barcode labels, aluminum plate, Quan: 100...200
 - 4320-3 Barcode labels, aluminum plate, Quan: 250...450
 - 4320-4 Barcode labels, aluminum plate, Quan: 500...700
 - 4320-5 Barcode labels, aluminum plate, Quan: 750...950
 - 4320-6 Barcode labels, aluminum plate, Quan: 1000+
- Note: Barcode labels can only be sold in packages of 50



4350 Adhesive kit, Loctite Speed Bonder 325. Includes Loctite 7380 w/ brush & spray applicator
This is a two part adhesive kit for attachment of pads to machine surfaces. Provides approximately 75 attachment pads with adhesive capable of operating in a temperature range between -65°F to +350°F.

- 4370 Triaxial Sensor Attachment Pad/Barcode Label Kit.
 - 100 Attachment Pads, AK-BR, Item 4300
 - 100 Bar Code Labels, Item 4320
 - 2 Adhesive Kits, Item 4350

ITEM	DESCRIPTION
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Portable Data Collection Accessories - Sensors

Vibration Sensors – Single Axis

- | | |
|--|---|
| <p>6040</p> <ul style="list-style-type: none"> Single Axis Accelerometer, general-purpose, top exit (2 Pin) (WRI 786A) ▪ 100 mv/g sensitivity ▪ 60-720,000 CPM (1-12,000 Hz) (+/- 3 dB) frequency range ▪ -50 to 120°C temperature range ▪ 1/4-28 threaded mounting hole (stud supplied) ▪ General purpose accelerometer for troubleshooting applications |  |
| <p>2892</p> <ul style="list-style-type: none"> Single Axis Accelerometer, Low Profile, side exit (2 Pin) (WRI 797) ▪ 100 mv/g sensitivity ▪ 60-720,000 CPM (1-12,000 Hz) (+/- 3 dB) frequency range ▪ -50 to 120°C temperature range ▪ 1/4-28 captive screw ▪ Use when mounting clearance space on machine is limited for troubleshooting applications |  |
| <p>6042</p> <ul style="list-style-type: none"> Single Axis Accelerometer, High Temperature, top exit (2 Pin) (WRI 793-6) ▪ 100 mv/g sensitivity ▪ 60-720,000 CPM (1-12,000 Hz) (+/- 3 dB) frequency range ▪ -50 to 150°C temperature range ▪ 1/4-28 threaded mounting hole (stud supplied) ▪ Extreme application accelerometer solutions are available for measurement up to 500° C. Contact DLI Customer Support for assistance. |  |
| <p> 6053</p> <ul style="list-style-type: none"> Single Axis Accelerometer, High Frequency, low profile, side exit, 16 ft integral cable (WRI 712F) ▪ 100 mv/g sensitivity ▪ 180-1,500,000 CPM (3 – 25,000 Hz) (+/- 3db) frequency range ▪ -50 to 120°C temperature range ▪ 8-32 mounting stud ▪ Ideal for monitoring high speed machinery and gear trains |  |
| <p>6055</p> <ul style="list-style-type: none"> Single Axis Accelerometer, Low Frequency, top exit (2 Pin) (WRI 793L) ▪ 500 mv/g sensitivity ▪ 12-138,000 CPM (0.2-2,300 Hz) (+/- 3db) frequency range ▪ -50 to 120°C temperature range ▪ 1/4-28 mounting stud (stud supplied) ▪ Ideal for monitoring low speed machines and/or low amplitude vibrations |  |

A wide variety of sensors are available for use with DLI Engineering's portable data collection systems. Please contact DLI Customer Support if you do not find the sensor from above list to meet your specific application.

Quantity Discounts

1-8	LIST
9-16	4%
17-32	8%
33-64	10%
65-128	12%
>129	CALL

ITEM	DESCRIPTION
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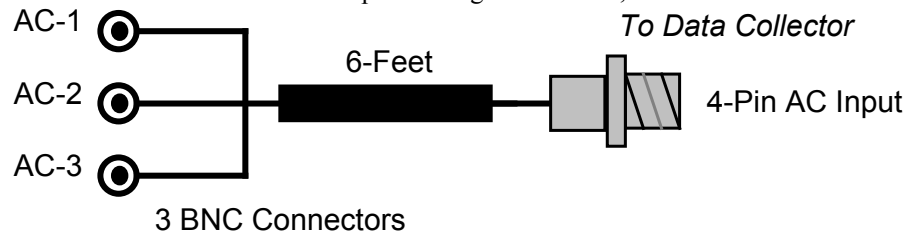
Portable Data Collection

Accessories - Sensor Cables / Measurement Location ID

Vibration Sensor Cables / Adapters

- 6140 Accelerometer Cable, Sealed/Quick-disconnect, 2 Pin to BNC (male), 10 ft (3 m) long. Connects to any 2 Pin accelerometer (Items 6040, 6041, 6042 or 6055); Adapters (Item 6150-1 or 8570) can be used to connect to a DLI Watchman Data Collector
- 6140-XX Accelerometer Cable, Sealed/Quick-disconnect, 2 Pin to BNC (male), length to specification.
- 6150-1 Adapter, female BNC to AC Ch. 1 of 4 Pin Amp connector for DCX Fujitsu DC-7 or 8603. Use with Single Axis Accelerometers 6040, 6041, 6042 or 6055
- 8514 Adapter, female BNC pass through connector. Use to connect two male BNC connectors
- 8570 Three channel general purpose AC input cable, 6 ft (2 m) long. Permits connection of the DCX Fujitsu 1200/2300, DC-7 or 8603 to any general AC signal source including single axis vibration sensors, proximity probes and permanently installed control room process instrumentation.

Note: Includes three female BNC pass through connectors, Item 8514



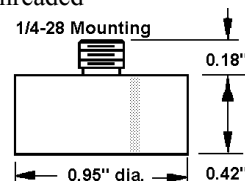
Measurement Location Identification Accessories

- 4320-1 Barcode labels, aluminum plate, Quan: 50
- 4320-2 Barcode labels, aluminum plate, Quan: 100...200
- 4320-3 Barcode labels, aluminum plate, Quan: 250...450
- 4320-4 Barcode labels, aluminum plate, Quan: 500...700
- 4320-5 Barcode labels, aluminum plate, Quan: 750...950
- 4320-6 Barcode labels, aluminum plate, Quan: 1000+



Mounting Accessories for Single Axis Accelerometers

- AK-28, Attachment pad, bronze, 1/4-28 threaded center hole
- 4315-1 AK-28, Attachment pad, bronze, 1/4-28 thread, Quan: 1-199
- Note: Recommended with permanent single axis accelerometers (does not have keyway notch)*
- 4330 Pad Caps for Item 4315, AK-28, attachment pads - Set of 250
- 4317 Accelerometer Mounting Block for 3 single axis sensors
- 4350 Adhesive kit, Loctite Speed Bonder 325 (includes Loctite 7380 w/ brush & spray applicator)
- 8520 Coupling Stud, 1/4-28 to 1/4-28 Back to Back.
- 8587 Magnet, Rare Earth, 10-32 Stud for Single Axis Sensor, 40-pound pull
- 8589 Adapter stud, 1/4-28 to 10-32 back-to-back
- Screws into the base of single axis accelerometers with a 1/4-28 threaded hole for attachment to the standard 10-32 threaded hole.
- 8590 Magnet, Rare Earth, 10-32 tapped hole for Single Axis Accelerometer with Captive Screw
- 8591 Magnet, Rare Earth, 1/4-28 stud for Single Axis Accelerometer, 50-pound pull



ITEM	DESCRIPTION
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General Data Collection Accessories

Miscellaneous Accessories for Discontinued Data Collectors

DCX Accessories (Fujitsu 1200 / 2300)

2740	Battery charger cradle
2754	Direct PC Communication Cable
2760	Shoulder Strap
2761	Fabric cover with shoulder strap for DCX Fujitsu 2300
2762	Fabric cover with shoulder strap for DCX Fujitsu 1200
2764	Transit case
2767	Barcode scanner and cable
2768	Extended Systems IR network Connection-JetEye
2778	Memory Upgrade (16 MB) for DCX Fujitsu 1200
2779	Memory Upgrade (64 MB) for DCX Fujitsu 1200
2781	Memory Upgrade (32 MB) for DCX Fujitsu 2300
2782	Memory Upgrade (64 MB) for DCX Fujitsu 2300
8801	AC Power Cord for DCX (110 volts, US)
8802	Screen Protector for Fujitsu DCX (Pack of 12)
8805	Battery for DCX Fujitsu 1200/2300
8811	Stylus Tether for DCX
8812	Replacement Stylus for DCX
8813	AC Power Adapter with power cord for DCX
8847	Barcode Scanner Replacement Tips - slip on style (Pack of 5)
8855-1200	Sensor and Tachometer Cable Input Assembly for the Fujitsu 1200
8855-2300	Sensor and Tachometer Cable Input Assembly for the Fujitsu 2300

DC-7 Accessories

8510	Carrying Pack, ballistic fabric with aluminum enclosure
8547	Barcode Scanner and Scanner Cable with accessory receptacle
8549	RS232 Serial Communication Cable from DC-7 to PC (DB9F female 9-pin)
8555	Battery, Replaceable NiCad
8559	Shoulder Strap
8592	User Manual for DC-7 Data Collector.
8847	Barcode Scanner Replacement Tips - slip on style (pack of 5)

DCA-20 Accessories

2840	Power Supply Unit (PSU-1)/AC Adapter via ICU-1
2842	Battery, Replaceable NiCad
2850	Intelligent Battery Charger Unit (ICU-1)
2852	DC cable for battery charger
2854	PC communication cable
2855	Printer cable
2860	Shoulder Strap
2862	Fabric Cover
2864	Transit Case
2867	Barcode Scanner and Cable
2872	User Manual
2873	User Manual for DCA-20 Balancing
2880	Trigger Input Cable for DCA-20. Permits connection of a third party trigger source.
2882	Balancing PCMCIA Card for DCA-20
2884	Memory PCMCIA Card, 2MB
2887	Memory PCMCIA Card, 4MB
8573	Ball Driver for Triaxial Accelerometer, 5/32"
8847	Barcode Scanner Replacement Tips - slip on style (pack of 5)

ITEM	DESCRIPTION
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Remote Data Collection

Remote Sensor Connection

6064 CB-4, Remote Sensor Connection Station

This Connection Station permits data collection with any DLI Watchman Data Collector from any single axis or triaxial accelerometers, mounted on remote machines up to 300 feet from the station. This station consists of a quick-open watertight enclosure (approx. 6"x7"x9") containing four 3-channel sensor receptacles for connecting up to 12 channels (4 triaxial accelerometers or 12 single axis accelerometers or a combination of the 2 types).

Notes:

- Item 8577 extension cable is required to connect between any station and the DLI Watchman data collector. One Item #8577 extension cable will be included with each order. Note: Only one Item 8577 will be provided, even with multiple CB stations, in the same order. Additional extension cables can be ordered separately.
- Triaxial accelerometer cable adapter required for DCX-HH (Item 8850) and DCA-31 (Item 8575).
- Station enclosures will be furnished pre-drilled on their bottom surface and fitted with cable penetration fittings and plugs.

6105-XX **Cable, High Temperature (200°C)** for Single Axis Accelerometer, twisted, shielded pair with Teflon jacket, 2-pin/pigtail. Specify length of cable, XX in feet

8534-XX **Cable, Single Axis Accelerometer**, twisted shielded pair, polyurethane jacket, sealed (Splash-proof)/quick-disconnect, 2-pin/pigtail. Specify length of cable, XX in feet

8575 **Triaxial Accelerometer Cable Adapter** for DCA-31, 6 ft (2 m) long, Fischer to 4-pin Amp. Both 8575 and 8577 are required to connect DCA-31 to CB-4

8577 **Extension Cable** between CB-4, Item 6064 and DLI Watchman Data Collector, 6 ft long (2 m). Included with each CB-4, Item 6064, order

8850 **Triaxial Accelerometer Cable Adapter** for DCX-HH, 6 inches long (0.15 m), Fischer to 4-pin AMP. Both 8850 and 8577 are required to connect DCX-HH to CB-4

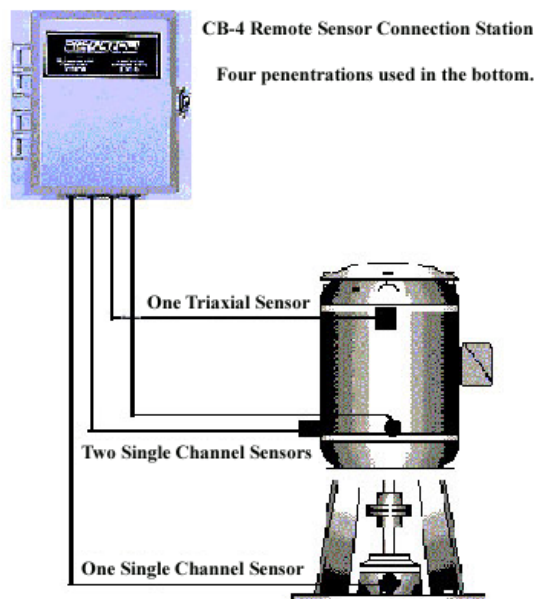


Figure 1

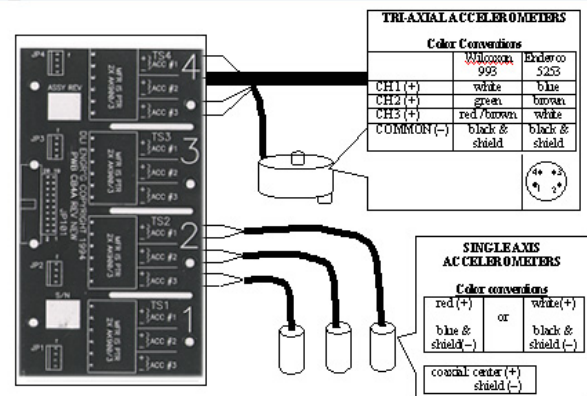


Figure 2

ITEM	DESCRIPTION
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Portable Data Screening Tool

DLI Watchman ST-101

3150 ST-101, Vibration Screening Tool

Provides basic diagnostics capability, i.e. detecting unbalance, misalignment, looseness and roller bearing faults for the most common rotating machinery such as motors, blowers, fans, and pumps.

Complete kit includes:

- Single axis accelerometer, Item 6040
- Magnetic mounting base, Item 8591
- 10' accelerometer coiled cable, Item 3151
- Four AA alkaline batteries
- ST-101 User's Manual, Item 3155



Quantity Discount Schedule for ST-101 (Item 3150):

3-6 ST-101 units: 5%

7-10 ST-101 units: 10%

11 or more: Call

Note: Quantity discount applies only to ST-101 orders on one purchase order or on multiple purchase orders received by DLI from the same company on the same day.



Collecting Data with ST-101



Mounting Target, Item 8591 / Surface Preparation

ST-101 Accessories/Options

3151 **Single Axis Accelerometer Coiled Cable**, 2-Pin/BNC, 10 ft (3 m) long

3153 **Triaxial Accelerometer Cable Adapter**, 4-Pin Amp/BNC

Connects ST-101 to Triaxial Accelerometers, Items 6000 and 6003

Allows user to select which axis is measured with a 3-position switch

6040 **Single Axis Accelerometer**, general-purpose, top exit (2 Pin) (WRI786A)

- 100 mv/g sensitivity
- -50 to 120°C
- 60-720,000 CPM (1-12,000 Hz) (+/- 3 dB)
- 1/4-28 threaded hole (Stud supplied)

8591 **Magnet Mount**, Rare Earth, 1/4-28 Stud for Single Axis Accelerometer, 50# pull

3155 **ST-101 User Manual**

3160 **Sun Filter**. Includes Filter, Instructions and Fastener Kit

3162 **Mounting Targets** for Magnet Mount, Item 8591. Bag of 50



ST-101 Extended Warranty Programs

3520 **Extended Warranty Program for ST-101** (1 year)

3521 **Extended Warranty Program for ST-101** (3 years)

ITEM	DESCRIPTION
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Portable Data Screening Tool

DLI Watchman ST-101 – Remote Data Screening / Analysis

6061-2 **Two-Channel Termination Box**, Polyethylene Enclosure.



For indoor use with up to 2 permanently mounted accelerometers and ST-101

6061-4 **Four-Channel Termination Box**, Polyethylene Enclosure.

For indoor use with up to 4 permanently mounted accelerometers and ST-101



6062-4 Termination Box (Heavy-Duty) & 6061-4 Termination Box

Connecting ST101 to Termination Box

6062-2 **Two-Channel Termination Box (Heavy-Duty)**, Polycarbonate Enclosure.

For indoor or outdoor use with up to 2 permanently mounted accelerometers and ST-101

6062-4 **Four-Channel Termination Box**, Polycarbonate Enclosure.



For indoor or outdoor use with up to 4 permanently mounted accelerometers and ST-101

6062-6 **Six-Channel Termination Box**, Polycarbonate Enclosure.

For indoor or outdoor use with up to 6 permanently mounted accelerometers and ST-101

Even though the above Termination Boxes have been specially designed for the ST-101, Vibration Screening Tool, these boxes can be used with any DLI Watchman Data Collector and permanently mounted accelerometer. Use the following cable adapters to connect a Termination Box to a DLI Watchman Data Collector:

Item 8850/8570: DCX-HH

Item 8575/8570: DCA-31

Item 8570: 8603

Item 8570: DCX Fujitsu 1200/2300

Item 8570: DCA-20/IS

Item 8570: DC-7

Termination Box Accessories

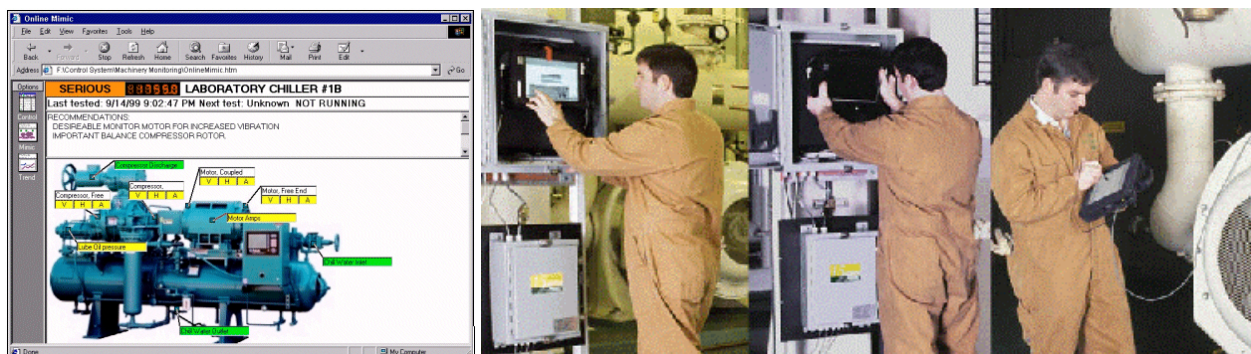
3152 **Termination Box Connection Cable**, BNC/"Slip on" BNC, 6 ft (2 m) long
Connects ST-101 to any Termination Box.

ITEM	DESCRIPTION
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Online Monitoring & Automated Intelligent Fault Diagnostics

DLI Watchman DCX Online, Convertible

2962 DCX Online Convertible, Online Monitoring Network-compatible System
 16 Channels (Upgrade to 512 channels)



System includes:

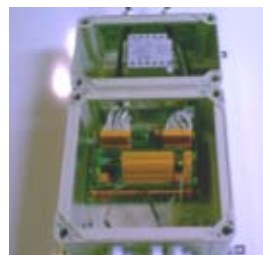
- DCX Online Industrial Processor (Item 2995), Includes:
 - Uninterruptible Power Supply (UPS)
 - Keyboard and Mouse
- Windows 98 (Windows 2000 available Summer 2003)
- Data Acquisition & Signal Processing PC Card (AQ204)
- NEMA 12/IP66 enclosure for DCX Online Processor, docking station, keyboard & mouse
- Remote Multiplexer (AQ216) & power supply, 16 channels, in NEMA 12/IP66 enclosure, Item 6065
- DCX Online Fault Diagnostic Software - controls data collection/automated diagnostics, Item 1150
- ExpertALERT Condition Assessment Software, 1st user license, Item 1110
- ExpertALERT Condition Assessment Software, 2nd user license, Item 1114
- Enterprise Edition Upgrade for LAN/WAN, Item 1129
- Interface Cable Kit (Includes: Interface Board, Serial Cable and AQ204 Data Cable)

Note: Each DCX Online can accommodate 512 channels; however, multiple DCX Online processors can be networked together (refer to Item 2995 or 2975 below)

NOTE: For stand-alone applications, a \$7,000 credit will be applied to the price of item 2962 and the Enterprise Edition Upgrade, Item 1129, will not be included.

Additional 16 Channel Multiplexers

- 6065 **Remote Multiplexer (AQ216)** 16 analog sensor/2 tachometer channels, includes NEMA 12/IP66 enclosure & power supply
- 6066 **Remote Multiplexer (AQ216)** 16 analog sensor/2 tachometer channels, includes NEMA 12/IP66 enclosure, no power supply



Additional Slave Units

- 2995 **DCX Online Processor, Convertible**, includes Touch Screen Industrial Computer and DCX Online Software, 16 Channels
- 2975 **DCX Online Processor, PC-based**, includes PC Computer and DCX Online Software, 16 Channels
- 2963 **Online Convertible Portable Accessory Kit**
 Allows DCX Online Processor to be used as Portable Data Collector (DCX-HH)
- Triaxial Accelerometer, Item 6007
 - Transit Case, Item 2765
 - Port Replicator, Item 8844
 - Two (2) Lithium Batteries, Item 8835
 - Protective cover & bag with shoulder strap, Item 8837
 - Extended life External Battery, Item 8845

ITEM	DESCRIPTION
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Online Monitoring & Automated Intelligent Fault Diagnostics

DLI Watchman DCX Online, PC-based, System

2958 DCX Online, Model PC, Online Monitoring, Network-compatible System

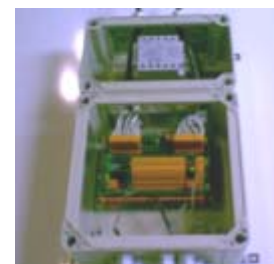
16 Channels (Upgrade to 512 channels)

System includes the following software:

- ExpertALERT Intelligent Condition Assessment Software, Item 1110
- Enterprise Network Upgrade for LAN/WAN, Item 1129
- Sybase SQL Anywhere Database
- DCX Online Fault Diagnostic Software, including:
 - OnLine Automated Diagnostic Engine
 - InfoServer; Data Manager
 - Personal Adviser; Online Messenger
 - Online Mimic, Online Minder

System includes the following hardware:

- Desktop computer including:
 - Windows 98 (Windows 2000 available Summer 2003)
 - 17" monitor, keyboard, modem, and mouse
 - Utilize Internet, Ethernet, or serial connections
 - PC card expansion slot
- Remote Multiplexer (AQ216), 16 channels, Item 6065
- Data Acquisition & Signal Processing PC Card (AQ204)
- Interface Kit, includes: Interface Board, Serial Cable & AQ204 Data Cable



Note: Each DCX Online can accommodate 512 channels however multiple DCX Online processors can be networked together (refer to Item 2975 below)

NOTE: For stand-alone applications, a \$7,000 credit will be applied to the price of item 2958 and the Enterprise Edition Upgrade, Item 1129, will not be included.

Additional 16 Channel Multiplexers

- 6065 **Remote Multiplexer (AQ216)** 16 analog sensor/2 tachometer channels, includes NEMA 12/IP66 enclosure & power supply
- 6066 **Remote Multiplexer (AQ216)** 16 analog sensor/2 tachometer channels, includes NEMA 12/IP66 enclosure with no power supply

Additional Slave Units

2975 DCX Online Processor, PC-based, includes PC Computer and DCX Online Software, 16 Channels

- Remote Multiplexer (AQ216), 16 channels, Item 6065
- Data Acquisition & Signal Processing PC Card, Item AQ204
- Interface Box to link AQ216 to AQ204
- Interface Kit, includes: Interface Board, Serial Cable & AQ204 Data Cable
- Online Engine Software

2985 DCX Online Software Configuration Charge for PC-based System

Configuration charge applies when customer supplies own PC workstation (Note: \$ 1,500 credit will be applied to Item 2958 or 2975). The standard workstation supplied with Item 2958 and 2975 is manufactured by Dell Computers.

Extended Warranties

- 3476 Annual update & support for DCX Online Monitoring System (1 year)
- 3477 Annual update & support for DCX Online Monitoring System (3 years)

Note: Extended Warranties for DCX Online systems typically cost 10% of the cost of the system, exclusive of the sensors/cabling (warranted by OEM) and system installation cost

ITEM	DESCRIPTION
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Online Monitoring & Automated Intelligent Fault Diagnostics

Accelerometers / Cables

The accelerometers & cables listed below terminate in a pigtail (no connector) to facilitate the direct connection to the *DCX ONLINE AQ216* Remote Multiplexer (Items 6065/66/67) and/or *JB-15* Junction Box (Item 6070).

6030 Single Axis **Accelerometer, side-exit, swivel mount, 10 ft integral cable** (IMI 607AX1).

- 100 mv/g sensitivity
- 26-600,000 CPM (+/- 3db) frequency range
- -50 to 120°C
- 1/4-28 mounting stud & swivel mount
- Ideal for use on small, high speed machinery



6030-XX Specify length of cable in feet, XX

6031 Single Axis **Accelerometer, top-exit, 10 ft integral cable** (IMI 608A11)

- 100 mv/g sensitivity
- 26-600,000 CPM (+/- 3db) frequency range
- -50 to 120°C
- 1/4-28 mounting stud
- Ideal for general online monitoring applications



6031-XX Specify length of cable in feet, XX

6042 Single Axis **Accelerometer, high temperature, top exit (2 Pin)** (WRI 793-6)

- 100 mv/g sensitivity
- 60-720,000 CPM (2-12,000 Hz) (+/- 3db) frequency range
- -50 to 150°C temperature range,
- 1/4-28 mounting stud
- Extreme application accelerometer solutions are available for measurement locations up to 500° C. Contact DLI Customer Support for assistance.



6043 Single Axis **Accelerometer with internal temperature sensor, top exit (3 Pin)** (WRI 793T-3)

NEW

- 10 mv/g sensitivity
- 30-900,000 CPM (0.5 – 15,000 Hz) (+/- 3db) frequency range
- -50 to 120°C temperature range
- 1/4-28 mounting stud
- Ideal for monitoring both vibration and temperature using the same sensor



6053 Single Axis **Accelerometer, High Frequency, low profile, side exit, 16 ft integral cable** (WRI 712F)

NEW

- 100 mv/g sensitivity
- 180-1,500,000 CPM (3 – 25,000 Hz) (+/- 3db) frequency range
- -50 to 120°C temperature range
- 8-32 mounting stud
- Ideal for monitoring high speed machinery and gear trains



6055 Single Axis **Accelerometer, Low Frequency, top exit (2 Pin)** (WRI 793L)

- 500 mv/g sensitivity
- 12-138,000 CPM (0.2-2,300 Hz) (+/- 3db) frequency range
- -50 to 120°C temperature range
- 1/4-28 mounting stud
- Ideal for monitoring low speed machines and/or low amplitude vibrations



ITEM	DESCRIPTION
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Online Monitoring & Automated Intelligent Fault Diagnostics

Accelerometers / Cables

6057 Single Axis Accelerometer, Waterproof with Integral Cable (10 feet long) (WRI 746)

- 100 mv/g sensitivity
- 60-900,000 CPM(1-15,000 Hz) (+/- 3db) frequency range
- -50 to 80°C temperature range
- 1/4-28 mounting stud

Note: Longer cables are available by special order

- This accelerometer is recommended for most permanently installed machinery-monitoring applications where the accelerometer is submerged.
- This is a rugged transducer having a sealed integral cable, for operating at depths to 1700 feet. (750 PSI)



A wide variety of sensors (both vibration or process) and cables are available for use with DLI Engineering's Online Monitoring systems. Please contact DLI Customer Support if you do not find the sensor to meet your specific application.

Quantity Discount Schedule (Accelerometers)

1-8	LIST
9-16	4%
17-32	8%
33-64	10%
65-128	12%

Accelerometer Cables (Detachable)

For most applications, a total length of up to 500 feet of cable between the accelerometer and *DCX ONLINE/ AQ216 MULTIPLEXER/ JB-15* Junction Box (if used), is allowable

6105-20 **Cable, High Temperature (200°C)** for Single Axis Accelerometer, twisted, shielded pair with Teflon jacket, 2-pin/pigtail, 20 ft (6 m) long

Use with Items 6042, 6055

6105-XX Specify length of cable, XX feet

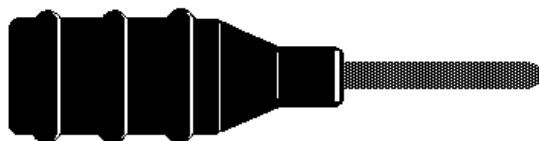
6106-20 **Cable, Single Axis Accelerometer with internal temperature sensor**, three conductor, shielded, sealed (Splash-proof boot)/quick-disconnect, 3-pin/pigtail, 20 ft (6 m) long. Use with Item 6043.

6106-XX Specify length of cable, XX feet

8534-20 **Cable, Single Axis Accelerometer, twisted shielded pair, polyurethane jacket**, (Splash-proof boot)/quick-disconnect, 2-pin/pigtail, 20 ft (6 m) long

Use in wet environments with Items 6042, 6055

8534-XX Specify length of cable, XX feet



MS3106 (2-pin) Splashproof push on boot

ITEM	DESCRIPTION
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Online Monitoring & Automated Intelligent Fault Diagnostics

Multiplexers / Junction Box / Relay Module

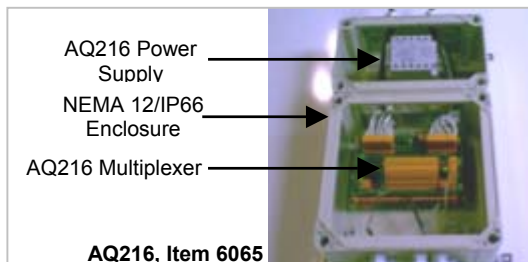
Remote Multiplexers / Cabling

- 6065 Remote Multiplexer (AQ216) for DCX Online with 16 analog sensor/2 tachometer channels, includes NEMA 12 steel (14 gauge) enclosure/IP66 & power supply
- 6066 Remote Multiplexer (AQ216) for DCX Online with 16 analog sensor/2 tachometer channels, includes NEMA 12 steel (14 gauge) enclosure/IP66, no power supply
- 6067 Remote Multiplexer Module (AQ216) for DCX Online with 16 analog sensor channels/2 tachometer channels. Designed to be mounted on existing DIN rail
- Note: Connect up to 5 AQ216s or have 1,000 feet between AQ216s with single power supply*

- 6078-XX Multipair Signal Transmission cable from AQ216 to AQ216 or from AQ216 to DCX Online Interface Board, Belden 8108 or equivalent, Specify length XX feet
Note: Cable must be ordered in rolls of 1,000 feet. See Item 6081 below
- 6088-XX Multipair Power Transmission cable from AQ216 to AQ216 or from AQ216 to DCX Online Interface Board, Belden 88489 or equivalent, Specify length XX feet
Note: Cable must be ordered in rolls of 1,000 feet. See Item 6081 below
- 6081 Interface Cable Kit to connect AQ216 to AQ216 or from AQ216 to DCX Online
 AQ216 to AQ216 or from AQ216 to DCX Online Interface Board
- 1 roll (1,000 ft) of multi-pair signal transmission cable, Item 6078-1000, Belden 8108 or equivalent
 - 1 roll (1,000 ft) of multi-pair power transmission cable, Item 6088-1000, Belden 8489 or equivalent

Quantity Discount Schedule for AQ-216 (Items 6065, 6066 & 6067):

- 3 - 16 (5% Discount)
- 17 - 32 (10% Discount)
- 33 - 64 (12% Discount)
- 65 - 128 (15% Discount)



Junction Box / Relay Module

- 6068 Relay/contact closure Module for any network computer workstation
Note: Each AQ216 includes one internal contact closure relay
- 6070 Junction Box, JB-15 (15 channels) for minimizing accelerometer cable length
 NEMA 12 steel (14 gauge) enclosure/IP66
*Notes: (1) Locate JB-15 between accelerometers and AQ216 Multiplexer
 (2) Recommend 15 pair cable (Belden 9315 or equivalent) - Not Included*

Miscellaneous

- 2776 User Manual for DCX Online
- AK-28, Attachment pad, bronze, 1/4-28 threaded center hole
- 4315-1 AK-28, Attachment pad, bronze, 1/4-28 thread, Quan: 1-199
- 4315-2 AK-28, Attachment pad, bronze, 1/4-28 thread, Quan: 200-399
- 4315-3 AK-28, Attachment pad, bronze, 1/4-28 thread, Quan: 400-599
- 4315-4 AK-28, Attachment pad, bronze, 1/4-28 thread, Quan: 600-799
- 4315-5 AK-28, Attachment pad, bronze, 1/4-28 thread, Quan: 800+
- Note: Recommended with permanent single axis accelerometers (does not have keyway notch)*
- 4317 Permanent Accelerometer Mounting Block, 1/4-28 Thread. 1.25" cube
Note: Recommended for mounting a set of 3-single axis accelerometers in triaxial configuration
- 4350 Adhesive kit, Loctite Speed Bonder 325

ITEM

DESCRIPTION

B L A N K

P A G E

ITEM	DESCRIPTION
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Instrument Calibration and Repairs

Repair / Calibration

- | | |
|------|---|
| 9001 | Data Collector repair and/or recalibration and firmware update
This is a "flat-fee", all-inclusive charge |
| 9003 | Triaxial sensor cable repair or replacement (Includes accelerometer calibration)
Specify connector. |
| 9004 | Accelerometer Calibration Service, ACS™, triaxial sensor <ul style="list-style-type: none"> Calibration of Item 2893, 2897, 6000, 6003, 6005 and 6006 triaxial accelerometer. Calibrations are traceable to NIST in accordance with MIL-STD-45662 Rev A. Calibration documentation includes frequency response plot to 10KHz, sensitivity at 100Hz and bias voltage. <p>Note: This calibration check verifies the operation of the accelerometer in a laboratory condition and verifies that its performance is within specification. The calibration cannot determine the performance of the accelerometer in its mounted configuration on a machine test location</p> |
| 9005 | Accelerometer Calibration Service, ACS™, single channel sensor <ul style="list-style-type: none"> Calibration of a voltage mode single axis accelerometer. Calibrations are traceable to NIST in accordance with MIL-STD-45662 Rev A. Calibration documentation includes frequency response plot to 10KHz, sensitivity at 100 Hz and bias voltage. <p>Note: This calibration check verifies the operation of the accelerometer in a laboratory condition and verifies that its performance is within specification. The calibration cannot determine the performance of the accelerometer in its mounted configuration on a machine test location.</p> |
| 9008 | ST-101 Recalibration/Check up |
| 9100 | Shop time, non-warranty (Minimum 2 hour charge) |
| 9200 | Shop time, warranty |

Component Replacements & Modifications for Model 8603

- | | |
|------|--|
| 9018 | Increase 8603 data memory from 2 MB to 4 MB |
| 9020 | A-Board (analog) replacement |
| 9022 | D/F-Board (FFT & memory) replacement - 6 MB D-Board |
| 9023 | C-Board (control) replacement |
| 9024 | Upgrade 8603 DLI Watchman to include Demodulation with Calibration |
| 9026 | Aluminum enclosure replacement |
| 9027 | Increase 8603 route memory from 32KBytes to 64KBytes |
| 9029 | Remove & replace 8603 lithium battery & integral clock chip |

Component Replacements & Modifications for Model DCX

- | | |
|------|--|
| 9030 | Hard drive replacement (10 GB) on a DCX, Fujitsu or Hammerhead |
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