vitech

MECHANICAL RELIABILITY

A DIVISION OF VITECH RELIABILITY OFFERING
VIBRATION MONITORING, MACHINE DIAGNOSTICS
AND CM SOLUTIONS FOR ROTATING PLANT.

vitech
MECHANICAL RELIABILITY

CULTIVATING LONG-TERM PARTNERSHIPS

At Vitech, we have a steadfast commitment to identifying and servicing the needs of our clients. This dedication has been rewarded with long-term partnerships between both our clients and our principal suppliers. These partnerships have enabled us to make significant and continual contributions to the effectiveness of our customers' operations. It is typical of the Vitech approach: one in which we seek to be the primary conduit for industry to access world class solutions.

Vitech Mechanical Reliability provides:

- Vibration sensor technology and monitoring solutions for machine condition monitoring and protection.

- Comprehensive portable and fixed installation vibration data collection, analysis and reporting for Reliability Centered Maintenance programs.

- Integrated reporting and management solutions for Asset Basic Care, Reliability-centered technologies, Plant DCS and Asset Management systems.

- Product implementation support and Vibration Analysis training: classroom or on-site

- Service and Calibration

The primary sectors serviced by Vitech Mechanical Reliability include:

- heavy industry
- water and waste water
- power generation
- defence
- manufacturing
- pulp & paper
- food industry
- mining
- oil & gas
- HVAC
- refining
- other applications using rotating machines for production

VITECH RELIABILITY IS AN AUSTRALIAN-OWNED COMPANY PROVIDING PRODUCT SALES, APPLICATION SUPPORT AND TRAINING FOR MACHINE RELIABILITY AND DYNAMIC MEASUREMENT TECHNOLOGIES.

Founded in 1994, Vitech Reliability was established to provide a specialist approach to support the growing demands for condition monitoring and reliability based technologies for Australian industries. Vitech services Australia, New Zealand and South East Asia with offices in Perth, Melbourne and Brisbane.

We are a service-oriented business representing many of the dominant and most respected suppliers in these specific maintenance applications. While we are the sole-distributor for many of these products in this region, our distinctive competence is our service.

Driven by this desire to provide quality service, excellent feedback on product

vitech
RELIABILITY

VITECH RELIABILITY, AND ITS FOUR
TARGETED DIVISIONS, PROVIDES
INDUSTRY WITH ACCURATE,
DURABLE AND COST-EFFECTIVE
SOLUTIONS DESIGNED TO ASSIST
OUR CUSTOMERS IN THE PURSUIT
OF CONTINUOUSLY IMPROVING
RELIABILITY AND PRODUCTIVITY.

developments and exceed service expectations, Vitech has established four distinct divisions to address the unique needs of specific markets and applications.

Vitech Machine Reliability offers a range of services including vibration monitoring, machine diagnostics and CM solutions for rotating plant.

Vitech Machine Support provides infared thermal imaging and machine corrective technology to enhance machine reliability.

Vitech Electrical Reliability provides electrical motor analysis, management and MCA solutions for a variety of applications.

Vitech Test & Measurement provides dynamic measurement solutions for extreme environments.

COMMTEST IS DEDICATED TO PROVIDING OUTSTANDING VIBRATION ANALYSIS AND DATA ACQUISITION PRODUCTS, RECOGNIZED WORLD OVER FOR THEIR SUPERIOR INNOVATION AND UNSURPASSED VALUE.

Commtest prides itself on being an inventive company, always seeking fresh and sometimes daring approaches to common engineering problems. Our scientific and technological expertise, combined with a flair for inventiveness and problem solving means our products offer new and smart solutions in a competitive marketplace.

Innovation is our business, which means we invest heavily in research and development. Our ongoing goal is to continually improve our existing products, as well as develop and introduce new products in additional markets, where even more customers can benefit from our expertise.

vbSeries®

PORTABLE DATA COLLECTORS AND ANALYSERS

Re-engineered from the ground up for leading-edge reliability, accuracy and usability, the new Vb Series builds on the proven track record of our Vb Classic range.

Our products are built to robust professional standards making the VbSeries the choice for many leading companies around the world.

Common vbx Features Include:
- Comfortable, ergonomic case design
- Large, high resolution (HVGA) backlit LCD
- True left- and right-handed operation
- Multi-channel on route recordings
- 1 GB memory – virtually unlimited spectra and waveform storage

vbBalancer+™

FOUR CHANNEL IMBALANCE CORRECTION PACKAGE

Lightweight and extremely portable, the vb Balancer+™ 4 channel and vb Balancer™ 2 channel instruments are easily carried on site to any problematic machine. Their 10 hour battery life and 1 GB of internal memory ensure progress is uninterrupted, practically eliminating the need to pause in order to connect to a PC or power supply. The vb Balancer instruments also carry the legendary "Commtest Care" package which includes a 5 year warranty on the instrument and free lifetime support.

vbOnline™

THE NEW STANDARD FOR ONLINE MACHINE SURVEILLANCE

The vbOnline™ system provides 24/7 round the clock surveillance of your critical assets. It is a flexible, modular system that is constantly and automatically evaluating machine operating condition, instantly notifying you when potential problems arise, thus avoiding costly downtime.

The vbOnline system allows you to collect data more cost effectively, more timely, and with improved accuracy compared with walk around portable routines. You can safely monitor machines in dangerous and inaccessible environments.

Value is another key component in our success. We respect our customers' business needs and strive to create mutually beneficial relationships. This means providing the best possible product at prices nothing short of revolutionary. It also means providing comprehensive service and creating products that last.

Commtest's Products Include:

- 10 hour battery life
- Lightweight, rugged IP65 rated case
- 40 kHz Fmax
- Single, Dual or Four-channel recordings (depending on model)
- Triaxial compatibility (vb6™ and vb8™ instruments only)
- Upgradeable using the 'Proflash' system and free firmware updates for five years

- Wide measurement range: 1000 g, 25 000 mm/s, 2500mm
- Laser speed sensor for automatic capture of machine running speed
- "Commtest Care" including 5 year warranty on the instrument hardware

Unbalance causes high levels of mechanical stress and vibration that are transferred directly to the bearings resulting in a proportional reduction in normal bearing life. With a few basic parameters the vb Balancer instruments calculate acceptable unbalance levels to ensure machinery operates within Australian Standard AS2625 recommendations.

Other calculations available:
- Trial weight - automatically suggested mass value for increased accuracy and efficiency
- Split weights - allows a correction weight normally specified at a particular angle to be split and applied at alternative angles
- Combine weights - calculates combined mass values for a specified correction angle

Key features:
- Modular design for system expansion
- Compact, easy to install
- 4 to 32 channel options, expandable in the field
- Powerful Ascent Level 3 vibration analysis software
- Common software platform supports both vbOnline and vb portable systems
- Simultaneous dual channel data sampling
- Single user PC or network compatible
- Ethernet wired or wireless connection
- 24 bit analogue to digital conversion

- Intelligently designed to accept machine data from the following sensor types:
  - Accelerometers   - Velocity probes
  - Proximity probes   - AC/DC signal
  - 4–20 mA
- Automatic detection and reporting of alarms
- Plant personnel alerted by e-mail or text message
- Event-triggered data collection
- AscentView™ web-based machine reporting tool

commtest

vb5™

THE ECONOMICAL SOLUTION FOR THE PROACTIVE MAINTENANCE PROFESSIONAL

The vb5™ data collector is a single channel, route-enabled product that provides everything needed for cost effective data collection and analysis. Using this instrument maintenance professionals are able to easily take recordings with up to 6400 lines of resolution and greater than 95dB of dynamic range, and all at a low price that represents exceptional value for money. The vb5 instrument includes the powerful Ascent® software in the purchase price.

vb6™

HIGH RESOLUTION, FOUR CHANNEL MEASUREMENTS FOR PROACTIVE MAINTENANCE PROFESSIONALS

The vb6™ data collector is a four channel, route-enabled product that provides everything needed for advanced, high resolution data collection. This instrument includes a wide range of recording and measurement types at up to 12 800 lines of resolution. The vb6 includes the powerful Ascent® software in the purchase price.

vb7™

EASY AND EFFICIENT TWO CHANNEL CAPABILITY

The vb7™ analyser offers the power and convenience of dual-channel measurement and dual-plane balancing. Its balancing functions enable the quick diagnosis and correction of dynamic imbalance, the most common form of imbalance. Combining accuracy, intuitive operation, ease of use and outstanding storage capacity, the vb7 analyser delivers a premium return on investment. The vb7 instrument includes the powerful Ascent® software in the purchase price.

vb8™

THE COMPLETE VIBRATION ANALYSIS PACKAGE

The vb8™ analyser is a uniquely sophisticated and feature-packed instrument, yet it remains intuitive in operation and flexible enough to suit every level of vibration analyst, from novice through to expert.

commtest

Enhanced Features Include:

- Single channel data collection
- 6400 line resolution
- Route Enabled (on & off route)
- Spectrum / Waveform / Demod

- Commtest's unique 6Pack™ recording system: take up to 12 measurements simultaneously (HF, LF and Demodulation spectra and waveforms) across two channels
- Keypad Data Entry

Enhanced Features Include:

- Four channel simultaneous data collection
- Triaxial enabled
- 12,800 line resolution
- Route Enabled (on & off route)
- Spectrum / Waveform / Demod

- Commtest's unique 6Pack™ recording system: take up to 12 measurements simultaneously (HF, LF and Demodulation spectra and waveforms) across two channels
- Keypad Data Entry
- Average View +++

Enhanced Features Include:

- Dual channel simultaneous data collection
- 6400 line resolution
- Route Enabled (on & off route)
- Spectrum / Waveform / Demod
- Commtest's unique 6Pack™ recording system: take up to 12 measurements simultaneously (HF, LF and Demodulation spectra and waveforms) across two channels

- Average View +++
- Keypad Data Entry
- Time Synchronous Average
- Bump Test
- Coast-down/Run-up
- Cross channel phase
- Dual Plane Balancing

Enhanced Features Include:

- Four channel simultaneous data collection
- Triaxial enabled
- 12,800 line resolution
- Route Enabled (on & off route)
- Spectrum / Waveform / Demod
- Commtest's unique 6Pack™ recording system: take up to 12 measurements simultaneously (HF, LF and Demodulation spectra and waveforms) across two channels

- Average View +++
- Keypad Data Entry
- Average View
- Time Synchronous Average
- Bump Test
- Coast-down/Run-up
- Cross channel phase
- Dual plane – 4-axis balancing

ASCENT® VIBRATION ANALYSIS SOFTWARE IS A COMPREHENSIVE AND POWERFUL DATA ANALYSIS AND ARCHIVING TOOL, INTEGRAL TO THE VB SERIES® FROM COMMTEST®.

Although highly developed with an impressive list of advanced features, the simplicity of the Ascent program makes it an invaluable tool ideal for those implementing a vibration analysis program for the first time.

Ascent software is provided in three levels, with each new level providing greater benefits and more advanced capabilities.

LEVEL 1

Ascent Level 1 covers the essential needs of both new and veteran analysts. It provides the ability to carry out in-depth fault analysis but will not overwhelm entry-level vibration analysts with confusing features.

Powerful simplicity is the hallmark of Ascent Level 1.

LEVEL 2

Ascent Level 2 streamlines the vibration analysis process, optimising time efficiency and simplifying the task of the maintenance engineer and vibration analyst, regardless of experience.

Ascent Level 2 provides greater benefit for both novice and advanced analysts. Novice analysts will appreciate the automated machine, measurement and alarm setups provided by "The Proven Method". Experienced analysts can use this same tool to objectively evaluate and finetune their alarm settings and measurement criteria. Both groups can obtain greatest value by using the statistically generated alarm thresholds to create the most accurate warning system possible for individual machines.

LEVEL 3

Ascent Level 3 is a comprehensive software 'suite' that is provided as an integral software complement to our vbOnline™ product. While Ascent Level 3 is a must-have component of the complete vbOnline surveillance system, there are many valuable benefits for those relying on portable data collection alone.

Ascent Level 3 includes the following applications:
• Ascent® (Network License)
• AscentWatcher™
• AscentView™
• AscentOPC™
• OnlineManager™

Features common to all Ascent levels:

- Baseline record and display – make instant comparisons against known good data
- Convert waveforms to spectra with ease
- Export your favourite charts and reports to Word® with one click
- Process parameter trending
- Intuitive database backup and restore facility

Features:

- Flexible and interactive charting
- Customisable interface, charts and reporting
- Chart annotation facility
- Machine note creation and editing
- Commtest Bearing Database (CBD) with over 30,000 bearings

- Route creation and editing
- Component and storage library
- Machine and alarm template creation
- Linear speed support
- Balancing reporting
- Selectable database thinning
- Multiple language support
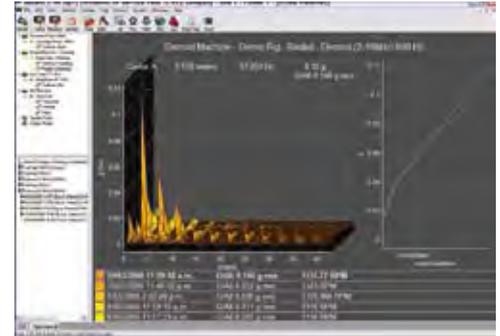
Level 2 features over and above Level 1:

- Automated implementation of ISO 10816 standards
- The Proven Method – By Technical Associates of Charlotte NC
- Statistical alarm creation
- Enhanced graphical analysis tools – Orbit & Bode Plot
- Advanced partial waveform or FFT analysis
- Single user or network licensing available.

Ascent Level 3 gives you enhanced information accessibility. Provide as many or as few people as you would like to access the information by installing the Ascent program across your company network. Automatically receive text or e-mail messages alerting you to alarm breaches. Use a web browser to view your data anywhere in the world. Link your machine database into an existing DCS system. You can even set up software-controlled measuring schedules so that data is collected automatically while your machines are fully operational.

Level 3 features over and above 1 & 2:

- Flexible access to shared data
- Receive alarm notifications at any location – 24/7
- View machine status - anywhere, anytime
- Enhance your existing plant monitoring system
- Automated database file management

Wilcoxon Research

OUR SENSORS ARE ESSENTIAL TO VIBRATION MONITORING PROGRAMS THAT SAVE MONEY, REDUCE DOWNTIME, AND IMPROVE SAFETY IN PLANTS WORLDWIDE.

Wilcoxon Research is the world's leading manufacturer of accelerometers, vibration sensors, and network accessories for industrial condition based monitoring and predictive maintenance applications. Wilcoxon's Products Include:

ACCELEROMETERS

- General purpose
- High frequency
- Low Frequency
- High temperature
- Dual vibration and temperature sensors
- Triaxial sensors

HAZARDOUS AREA

- ANZEx approved accelerometers

ACCESSORIES

- Vibration meters
- Mounting hardware
- Power and signal conditioning
- Switch and termination boxes
- Other accessories

OUR SENSORS ARE ESSENTIAL TO VIBRATION MONITORING PROGRAMS THAT SAVE MONEY, REDUCE DOWNTIME, AND IMPROVE SAFETY IN PLANTS WORLDWIDE.

SEC SHINKAWA

Shinkawa Electric Co., Ltd. was established in 1927. Since then, we have progressively developed new products using our own technology. Shinkawa has introduced many unique technologies and systems to the global market and have earned an excellent reputation from customers around the globe. Today, Shinkawa Electric is a world leader in vibration monitoring and machine protection systems.

TRANSDUCERS

- FK & VK series proximity probes
- WK series loop powered proximity probes
- RN series accelerometers
- MS magnetic speed reference pick-ups
- LS LVDT position measurement

SPECIALITY SENSORS

- Helicopter Sensors
- Hydrophones
- Velocity Sensors – Piezo velocity
- Seismic Sensors
- Test & measurement accelerometers
- Underwater Accelerometers
- TEDS – Transducer electronic data sheet

4-20MA LOOP POWERED SENSORS

- Standard and low profile sensors
- Dual output – acceleration and temp
- Optional dynamic output available

IT SERIES–SIGNAL CONDITIONERS

- Intelligent transmitter - metric
- Field selectable settings
- iT communications modules
- iT power supplies
- iT alarm options

MONITORING SYSTEMS

- VM-5 API 670 approved turbine protection systems
- VM-7 API 670 approved high density turbine protection systems
- VM-15 & 16 compact machine monitoring systems

SIGNAL CONDITIONERS

- VM-11 & VM-21 signal conditioners

BERAN CONDITIONING MONITORING SYSTEMS ARE IN USE AROUND THE GLOBE WITHIN NUMEROUS POWER GENERATION COMPANIES, INCLUDING COAL, OIL, GAS-FIRED, NUCLEAR AND HYDRO.

The plant monitored includes steam, gas and water turbines, pumps, fans, compressors and coolant circulators.

Beran's Monitoring Systems are capable of performing all functions simultaneously and no restrictions are placed on the user during periods of data recording - graph plotting and real-time analysis may be carried out concurrently.

767 PORTABLE

The 767 Portable Condition Monitoring System offers unparalleled facilities in a compact, rugged and easily portable unit weighing less than 12.5 kg.

Building on the outstanding success of Beran's 766 Analyser, the 767 is ideal for both on-site commissioning and fault finding applications, and also as a standalone or remote system for longer-term monitoring or analysing intermittent faults and problems.

Full control of measurement, analysis and alarm configuration is achieved via a local Ethernet-capable PC, WAN or modem links from anywhere in the world

Beran's 767 and 766 provide unattended operation where no host PC is required. This offers greater security by eliminating the possibility of the PC being removed without authorisation.

766 PERMANENT MOUNT MONITOR

The Beran 766 System is a 19" rack-mount unit providing a modular acquisition/analysis system for condition monitoring of rotating plant.

With up to 64 channels (depending on configuration), dynamic signals from acceleration, velocity, proximity and pressure sensors are always acquired in parallel from each plant item monitored. This ensures high-speed condition information can be acquired during both steady-state and variable speed modes - vital for accurate diagnosis of many fault conditions. Process (DC) parameters may be acquired directly by each Beran unit using either voltage or optional 4-20mA and thermocouple signals with full galvanic isolation capability. Alternatively, a connection to the plant DCS or process computer may be utilised to acquire these parameters via an electronic data link, including (but not limited to) MODBUS and PI.

Display of data, both real-time and historic, is achieved through the MS Windows-based user front end, running on a standard PC connected to the Beran System via an Ethernet connection, which enables remote communications via a LAN or WAN.

Additionally, control and interrogation of the system may be carried out remotely, via a modem using a standard telephone line.

Beran's product range includes:

767 Features Include:
- Up to 32 parallel dynamic channels, plus 16 additional static (dc), 8 digital and 4 tacho inputs
- Dynamic inputs: acceleration, velocity, displacement or pressure sensors
- Built-in ICP supply; hi- and lo-pass filters
- Dynamic measurements:
- FFT up to 5 kHz, 4000 lines, Order 1 plus 3 additional orders, overall level, sub-sync level, max sub-sync frequency, intra harmonic level, non-sync level, gap, phase
- Comprehensive alarm detection and alarm-initiated actions, including configurable storage, acquisition rate increase and contact closure.
- Lightweight: under 12.5 kg (27.5 lb)

- Remote user interface via separate PC running Windows 2000 or XP
- Real time data displays include: FFT with waterfall, time domain, text, orbit, up to 8 plots per display, one-hour data buffer
- Historic data displays: Bode, polar, 3-D polar, waterfall, trend
- File output in CSV format for export to balancing programs, Excel etc.
- High capacity solid-state disk for data storage
- Ethernet communications: TCP/IP on RJ45
- High speed internal modem
- Size: 202x443x376 mm (8.5x17.5x14.8 ins)
- Carry-case options available

766 Features:

User Interface
- Easy to both use and configure
- MS Windows-based user front end
- LAN, WAN or Dial-up compatible

Data Handling
- Fast data capture
- Comparison of real-time data with historic
- Remote access to real-time and historic data

Effective Functionality
- Powerful alarm functions
- Automatic plant-state detection
- Expandability through modular design
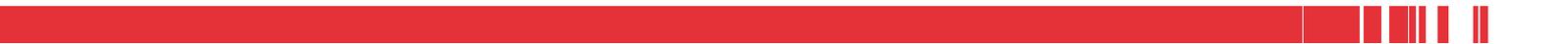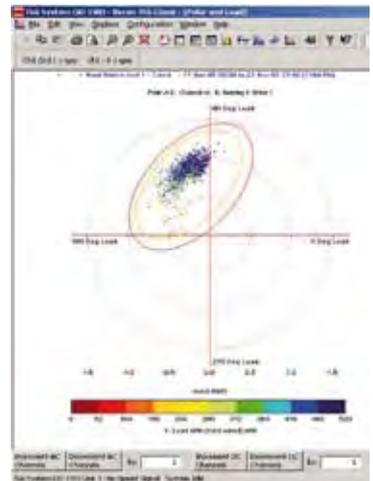
MOBIUS, THE INTERNATIONAL, INDEPENDENT, INTERACTIVE VIBRATION AND ALIGNMENT TRAINING COMPANY.

Mobius is the home of the world-renowned "iLearn" self-paced training, and also Mobius Institute vibration training and certification. We'll help you master vibration analysis and shaft alignment!

iLEARN VIBRATION

iLearn Vibration is a series of products designed to help you become a better vibration analyst. Our products will teach you what you need to know; they will help you gain the necessary experience; and they will actually help you diagnose faults.

iLearn Vibration Training Features:
- Training when and where you need it
- Refresher training (when you forget what you learned in class)
- Fully narrated - you don't have to read a thing
- Simulation programs make it easier to understand (and more interesting)

iLearn Web Based features:
- Freedom to learn from any computer
- No software installation required
- The narrations and animations are "streamed", so you do not need a "super-fast" Internet connection
- The system tracks your progress and quiz scores. We can create special corporate learning-zones, allowing you to train and track any number of trainees

FLIR SYSTEMS OFFERS A FULL RANGE OF INFRARED CAMERAS. WHATEVER YOUR INFRARED APPLICATION, FLIR SYSTEMS HAS THE PERFECT INFRARED SOLUTION.

iSERIES THERMAL CAMERAS

More than 50 years experience in the development and production of infrared cameras has allowed us to develop a revolutionary new model. Rapid developments in detector technology have enabled a small, compact, easy-to use and extremely affordable thermography diagnostic tool.

Technology previously only found in high end infrared cameras and only accessible to a limited number of users now makes its way into the hands of many more users thanks to the i Series.

iLearn Corporate LMS offers:
- Centralised training and tracking
- Track progress through slides and quiz scores
- SCORM and AICC compliant
- High-speed delivery via your Intranet (LAN or WAN)
- Simulation programs make it easier to understand (and more interesting)

iLearn Professional provides:
- All features available to iLearn Vibration
- iLearn Case Histories – Many examples of machine problems (includes data history)
- iLearn Hands On – provides a virtual fault test rig to interact with
- iLearn Machine Faults – enable you to model your machines and calculate forcing and fault frequencies
- iLearn Signals – provides interaction for signal generation and signal manipulation.
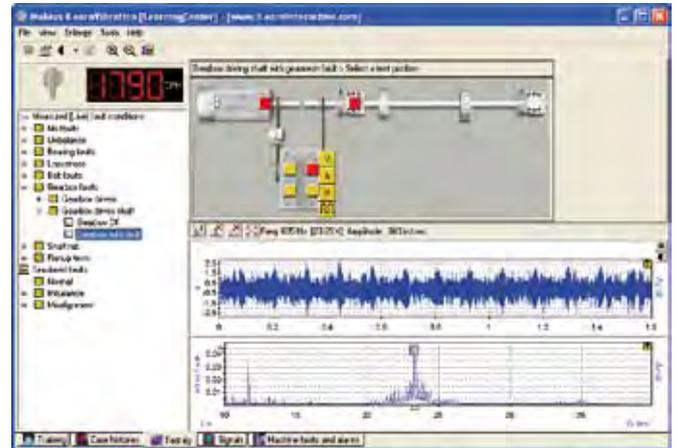
i Series Features Include:
- Latest Infrared Detector Technology
- Fusion Picture in Picture (PIP)
- Bright LED Lamps for Quality Visible Images
- Thermal Sensitivity of <0.1°C @ 25°C
- Lightweight—Weighs only 1.3lbs
- Easy One-handed Operation
- 3.5" LCD with Razor Sharp Resolution
- Convenient Thumbnail Image Gallery
- New – QuickReport software included

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MECHANICAL RELIABILITY

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RELIABILITY

INCORPORATING:

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Vitech Machine Support
Vitech Test & Measurement
Vitech Mechanical Reliability