

# DIAGNOSTIC SOLUTIONS INTERNATIONAL LLC



**Honeywell**  
DISTRIBUTOR



# HONEYWELL HUMS / TEST CARRY ON

HONEYWELL HUMS / TEST FOR HELICOPTERS, FIXED WING AIRCRAFT, UNMANNED AIR VEHICLES AND GROUND VEHICLES. A FASTER, BETTER, PROVEN NEXT-GENERATION EMBEDDED DIAGNOSTIC SOLUTION

**All of the Honeywell HUMS / TEST products are focused on the collection, processing, and interpretation of data generated by the various components within an aircraft's drive train, including engines, gearboxes, shafts, fans, rotor systems and other dynamic components. In all cases, vibration spectra can be viewed in the field at the engine, within the test cell or any other platform location. These data are collected and retained to allow for a more detailed analysis by any skilled technician.**

## TEST CARRY-ON VXP

The VXP System consists of the VXP Acquisition Unit (AU), VXP Display Unit (DU), software, and associated carry-on kit and sensors. VXP software is divided into two major systems. The first is the Operational Program, which resides permanently in EPROM memory of the VXP AU and the second is the support software that resides on the VXP DU, such as VXP Display Program, Vib Review™ trending software, and the VibraLog™ advanced predictive maintenance software.

- All data is date time stamped and can be correlated to other aircraft data systems (i.e., FDR / HRDM).
- Interfaces to a wide range of sensor types
- Interfaces to the optional FasTrak™ Optical Tracker for Main Rotor blade tracking
- Uses the latest signal conditioning, digital signal processing data conversion, and memory technology
- Expansion connector allows quick single cable connection to pre-wired aircraft
- Full-color graphics give excellent Track Trend Plots, Polar Plots and solution/option displays
- Shows all vibration limit exceedances, instantly



## ZING TEST ELITE (ZTE)

The Zing Test Elite is an easy-to-operate tool for performing helicopter rotor smoothing, engine performance checks, component balancing, vibration analysis. The ZTE's accurate airspeed accelerometer algorithms set it apart from other smoothing solutions.

- Can achieve maintenance manual specifications in as few as three flights - one or two measuring flights and one to verify
- Increases aircraft operational availability and readiness and enhances safety
- Can configure Zing Test to each specific helicopter type
- Flexible and cost-effective for multi-platform and mixed helicopter and fixed-wing propeller operators
- Easy-to-understand maintenance actions can be displaced on any PC, including the optional Panasonic Toughbook®, using the Zing® Ware Personal Computer - Ground-Based System (PC-GBS) software

## ENHANCED VIBREX™ 2000 PLUS (EV2K+)

The EV2K+ is a cost-effective balancer/analyzer for fixed-wing propeller balancing or helicopter rotor track and balance with superior performance. The EV2K+ is a vibration analysis and balancing tool that rapidly and accurately acquires and analyzes aircraft and engine vibration data. It uses that data to calculate balance solutions and to analyze aircraft vibration levels across a broad frequency range.

- Acquires accurate fixed-wing and helicopter vibration readings
- Allows you to balance the propellers or blades using the integrated display – without the use of paper charts
- Can use any of the 150 available Honeywell or factory paper charts
- Capable of balancing shafts and blowers
- A complete balancing tool.
- Provides an overview of rotor and drive train and engines with component frequencies of 600,000 rpm or less, and balance speeds below 30,000 rpm



# HONEYWELL HUMS ON-BOARD

## On-board Vibration Monitoring System/HUMS

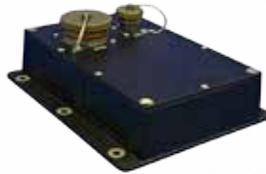
Selected by various OEMs, customers and military operators, all of our on-board systems are focused on the collection, processing and interpretation of data generated by the various components within an aircraft's drive train, including engines, gearboxes, shafts, fans, rotor systems, and other dynamic components. Collected data can be viewed at the aircraft, within the test cell or any other platform location by the maintainer. Hardware and software is available for more detailed analysis off-wing.



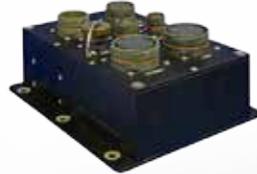
HUMS On-Board VXP



HUMS Model 1209



HUMS Model 1134



HUMS Model 1239



HUMS Model EVXP

### HUMS ON-BOARD VXP

Honeywell's HUMS VXP health monitoring system has a firm track record. As one of the most advanced HUMS products available, it represents the merging of an onboard system with our industry-proven ground-based carry-on products technology.

Fully certified and available via both U.S. FAA and Canadian Transport Canada STC's

- Meets the current regulatory requirements
- Designed with provisions to support future HUMS functions
- Interfaces to hardwired vibration and tachometer sensors located throughout the aircraft
- Interfaces to optional carry-on equipment such as the FasTrak™ Optical Tracker for Main Rotor blade tracking
- We provide an application organization that has broad experience in conducting VXP installation support and training on the majority of aircraft types.
- Honeywell VXP STC's exist on a wide variety of aircraft types.

The Honeywell 1239, VXP and EVXP HUMS option are offered as standard options for S76C+/C++ helicopters used in offshore missions. The Honeywell VXP has been installed and certified on multiple helicopter types and it has been accepted by the customers around the world due to its high level of integration & performance.

### HUMS 1209 / 1134 / 1239

The 1209 Modern Signal Processing Unit (MSPU) provides field-proven design and delivers specific, OEM-recommended maintenance actions to maintainers for rotor smoothing, engines and the entire drive train.

Advanced engine diagnostics and automated engine performance calculations, such as max power check (MPC) and Health Indicator Test (HIT), round out this feature-rich system.

The system can connect to most commercial-off-the-shelf flight data recorders providing operators with crashsurvivable data storage. Based on the highly successful, combat proven 1209 MSPU, the models 1134/1239 are advanced health and usage monitoring systems (HUMS) featuring field programmable gate arrays (FPGA).

With supercomputer-like processing speeds, the Models 1134/1239 can handle all of the diagnostics you need.

### HUMS/SKY CONNECT INTERFACE

- Provides over-the-air notification of potential HUMS exceedances
- Allows timely off-load of HUMS data at next destination
- Fully integrated with the Model 1239 HUMS system via ARINC 429 bus to Tracker III
- Provides additional exceedance information beyond a simple discrete notification (SW support for Tracker III shipping Q1 2013)
- HUMS systems with a Discrete output can be interfaced to a Tracker III, available now
- Interface with VXP



# SKY CONNECT INFLIGHT TRACKING

## Global Mobile Aviation Communications & Tracking Solution

Flight data acquisition, capturing and monitoring meets FAA requirements for FDM. Customer configurable parameter settings. Manage your entire in-air fleet with a complete Iridium® satellite tracking and communications solution. Honeywell has developed this innovative aircraft communications system using Iridium®, the world's only global mobile satellite network that covers every inch of the world's surface.



MMU-II™



Tracker III



Iridium® Dual Channel



Tracker Map

SKY CONNECT IS UNIQUE IN THAT IT PROVIDES TEXT AND TALK FUNCTIONS ALONG WITH TOTAL SITUATIONAL AWARENESS; ALLOWING FOR REAL TIME TRACKING USING THE IRIDIUM® SATELLITE SYSTEM ANYWHERE IN THE WORLD.

### SKY CONNECT TEXT MESSAGING

Sky Connect text messaging allows for fast, simple text messaging between pilots and dispatchers. The pre-stored messages with fillable data fields and a full telephone keypad make text messaging with Honeywell's MMU-II easy. Messages sent by ground support and dispatch are received instantly and message history can be quickly stored and then recalled at will.

### SKY CONNECT TELEPHONE

Using Honeywell's MMU-II, full voice communication via telephone is another option for busy pilots and dispatchers. The Sky Connect Telephone systems has a headset interface that is integrated into the pilot's audio panel and allows for over 500 stored phone numbers shown with names for easy use and access.

### SKY CONNECT TRACKING SYSTEM

Sky Connect Tracking System allows for equipped aircraft to be tracked globally in real time using the Iridium® satellite network. The transceiver sends encrypted GPS position reports at set intervals to authorized control centers using secure data protocols; allowing dispatchers and ground support to know where all craft in a fleet are located every minute of the day.

Provides FDM compliance for FAA rule 135.607 for HEMS operators.

Complete system manages your fleet and capture critical flight data. Provides FDM compliance for FAA rule 135.607 for HEMS operators.

### SKY CONNECT TRACKER MAP

The web-based software displays aircraft location, GPS flight plans, crew status, and comes with weather overlays on topographical maps for full situational awareness. Text messages appear on the dispatchers' map screen for effective fleet management. Sky Connect offers versatile architecture of interfaces and inputs that work with any situational display software.

### SKY CONNECT TRACKER III WITH ON BOARD HEALTH & USAGE MONITORING SYSTEM (HUMS)

#### Key Features

- Reliable, globally-available Iridium satellite mission management system
- Concurrent Talk, text or tracking in a single box
- Encrypted GPS position reports for fleet tracking
- HUMS and vibration analysis enables maintenance based on condition
- Real time vibration exceedance alerts to ground crews
- Post flight web service support for flight data monitoring, fleet health trending and diagnostics

#### Benefits

- Optimize your mission – Real time messaging, weather, integrated flight planning, routing efficiency
- Prepare for repairs before you land – Reduced downtime and faster return to service
- Single billing for all services simplifies support
- Increased safety – proactive identification of faults or failures to prevent accidents
- Reduce maintenance cost via HUMS – fewer spares and test flights, faster diagnosis



# ASPIRE™ 200 INFLIGHT CONNECTIVITY

**HONEYWELL ASPIRE™ 200 SATCOM SYSTEM** allows passengers and crew to be connected during flight, reduces workload and sends real-time data quickly to and from the aircraft

Honeywell is responding to these challenges with our Aspire™ 200 Satcom System for Helicopters. The Aspire 200 satellite communications system offers a broad range of connectivity options to suit a wide variety of requirements. These systems operate on the Inmarsat I-4 satellite network, which has worldwide coverage. With the recently certified high data rate (HDR) upgrade, incorporating a long-burst interleaver, it is now ideal for helicopter operations – especially those on critical emergency medical or SAR missions.

The system is designed with common interfaces that provide flexible installation options and ease of upgrade to further increase the system's capabilities.

Honeywell's performance is unmatched and unparalleled. The Aspire 200 System with HDR can transmit more data, faster than any other Lband system. No matter what your mission — EMS, Law Enforcement, Oil and Gas, Search and Rescue, VIP – or the area of your operations, Aspire 200 System provides a high-speed data connection that is always on.

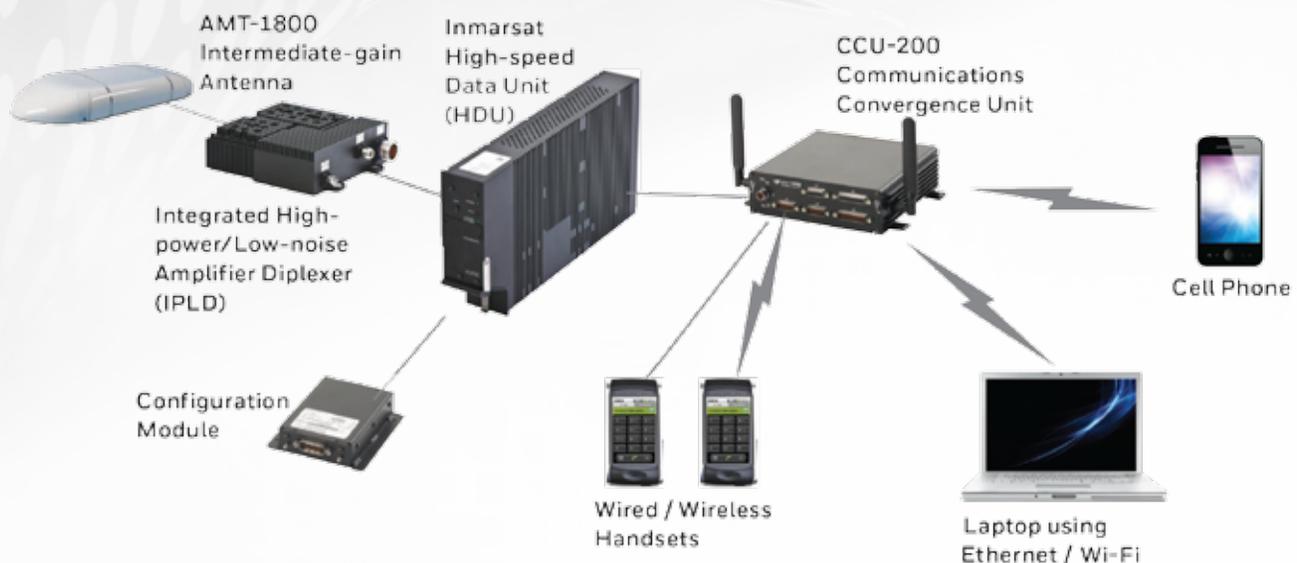
## HIGH DATA RATE (HDR) S/W UPGRADE

The HDR software upgrade is used to enhance Inmarsat Lband services. The upgrade to SwiftBroadband channels provides up to 650 Kbps per channel compared to the previous maximum data rate of 432 Kbps. This low cost solution for increasing cabin performance also reduces the effects of rotor blockage making it an ideal solution for adding high speed data to helicopters. The HDR software upgrade may be installed by a qualified user or the terminal can be returned to Honeywell for upgrade at an additional cost

ASPIRE 200 STANDARD SYSTEM BUNDLES		
	Aspire 200 IG	Aspire 200 HG
<b>System Components</b>	HDU-200 Transceiver SCM CCU-200 CNX-200 (optional) AMT-1800  IPLD	HDU-200 Transceiver SCM CCU-200 CNX-200 (optional) AMT-700 or AMT-3800 IPLD
<b>Services</b>	One channel of SwiftBroadband voice/multiple simultaneous Background Data Services up to 332kbps and Streaming Data Services up to 128kbps (no HDR) or 500kbps with HDR	One channel of SwiftBroadband voice/multiple simultaneous Data Services up to 432kbps and Streaming Data Services up to 128kbps (no HDR) or 650kbps with HDR, plus full Swift 64 redundancy/revisionary operation

## ENHANCE SYSTEM PERFORMANCE WITH AN OPTIONAL CNX-250 NETWORK ACCELERATOR

The CNX-250 Cabin Gateway is a multi-port network router with a data accelerator module that acts as the communications hub for all aircraft data links. The appliance increases the number of network users, the strength of encryption and the speed (data acceleration) of a Satcom or ATG system. The CNX-250 provides a single cabin network based on Ethernet that supports high-speed data and VoIP communications and is scalable to support future growth and system expansion.



Diagnostic Solutions International LLC is a veteran owned small business registered with the Small Business Administration and Central Contracting.

With more than 300+ years combined experience diagnosing and solving complex vibration, rotor track and balance, and engine performance issues, Diagnostic Solutions International LLC offers an extensive knowledge base and expertise, yielding reduced down time, repair costs, and reactive maintenance. We specialize in providing on-site technical support, training, and health and usage monitoring system data management and analysis.

Diagnostic Solutions International LLC is the Premiere Worldwide HUMS | TEST | SKY CONNECT | ASPIRE Distributor.



# Honeywell

## DISTRIBUTOR

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