



DTS DataPoint

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Innovative Expertise

While the competition is five years behind, DTS leads with modular, best-in-class product.



1998
32-ch TDAS PRO



2004
32-ch TDAS G5



2009
6-ch SLICE

PRODUCT UPDATE

DTS is China's First Choice for Crash Test DAS

The message is clear - more Chinese companies are choosing DTS data acquisition systems and sensors over our competitor's products.

For 2009, DTS sales to date include over 1200 channels of DAS and sensing products for Chinese customers. Large and small customers appreciate our product offerings, high level of integrity and commitment to quality.

CATARC performed China's first pedestrian vehicle crash test in August 2009 using a DTS sensor and DAS equipped POLAR crash test dummy. Created by Honda Automobile Co., POLAR is the most technologically advanced crash test dummy on the market today. It is designed to test and improve pedestrian protection technologies for cars to minimize pedestrian injuries caused by crash impacts.

BYD reached beyond their core products and are now specializing in the complexities of car production. Six years ago, BYD bought two established Chinese car firms, and now has seven huge plants with 130,000 employees. BYD uses DTS data acquisition products exclusively.

In October 2007, Great Wall Auto was recognized as a "National Certified Enterprise Technology Center" and a "Postdoctoral Scientific Research Workstation". These achievements are beyond what was considered possible by average organizations. The company is equipped with world-class facilities. They trust DTS for our reliability, commitment to technology and superior technical support.

The Chinese aerospace sector ranks among the world's most dynamic due to the massive investment by the country. Moreover, Chinese aerospace companies

are fast showing their presence in the global aerospace industry. 623 Aircraft Strength Research Institute, a premier testing and manufacturing facility purchased DTS products after years of

researching the competition. Why DTS? Because DTS TDAS G5 is the most advanced system available and was able to meet their demanding requirements for on-board and in-dummy data acquisition.

Other Chinese companies that

put their trust in DTS products and expertise include First Auto Works, ARTC, Wonderland Nursery Goods, WUXI Crash Lab, Autoliv, Delphi, Jinheng Jinzhou, Yanfeng Johnson Controls, Yanfeng Key Safety, Yanfeng Visteon and GM PATAC.

Chinese Sales Agent and President of ENRPO Technologies Sinclair Lu appreciates DTS's commitment to the market. "DTS not only provides good value to our China customers but also allows customers to learn the latest dynamic DAS technologies to catch up with their crash/sled lab future capability requirements besides meeting existing needs." He continues, "My customers buy American-made products in order to demonstrate an achievement of world-class status."

While our competition continues to struggle in this market, our sales and presence is a huge success story.

Our commitment to provide world-class service and support is once again demonstrated by the opening of DTS CHINA. Mr. Xi Tianlu, a degreed mechanical electronics engineer with over five years experience in testing and assessment basics, joined the DTS family in early



CATARC using Honda POLAR for Pedestrian Dummy Crash Test

TECH NOTES

SLICE NANO™ for Flex-GTR Pedestrian Leg

In 2000, the Japan Automobile Manufacturers Association, Inc. (JAMA) and the Japan Automobile Research Institute (JARI) began development of the Flex pedestrian leg form. In 2005, a Flex technical evaluation group was formed and an international effort contributed to the further development of Flex, an advanced device having the capability to measure up to 32 channels. First Technology Safety Systems, FTSS, was contracted by JARI to finalize the design and manufacture the Flex and FTSS worked with DTS to integrate the SLICE NANO™ data acquisition system (for more details on the Flex see: <http://www.ftss.com/pcat/products.cfm?obr=NS&bm=5&pcat=flex-pli>). The DAS internal to the Flex is of great advantage since the tests are extremely dynamic and wires to an off-board DAS are not practical. Space for on-board DAS is very limited, but SLICE NANO™



**12 channels of SLICE NANO™ installed in Flex leg:
only 26 x 62 mm footprint**

is half the size of any competitor's system and up to 36 channels of SLICE NANO™ can be fitted to the Flex. The first SLICE NANO™ system was delivered in October 2008 and hundreds of successful tests have been conducted. The Flex is fired at 40 km/hr from a launcher and also used in full scale vehicle tests. This severe shock test environment has helped demonstrate the outstanding durability and reliability of SLICE NANO™. Since the Flex is truly an international development effort, DTS offices in Japan, Germany, Michigan and California have all supported the design and testing. There are currently two Flex legs fitted with SLICE NANO™ with a third one underway. If you are interested in the Flex, please contact DTS (www.dtsweb.com) or FTSS (www.ftss.com) for complete details.

DTS Training Opportunities

DTS systems are designed to be very reliable and easy to operate and we have a great Technical Support team, but it is just as important that users of the hardware and software have the necessary training in order to achieve outstanding results. Successful implementation of DAS in crash testing and related laboratory environments requires that users have a solid foundation in the data collection principles that are unique to this field. To address this need DTS has developed training courses for dynamic test professionals to help them gain the skills they need for greater success and career advancement. We developed "Principles of Dynamic Data Collection" and we have been offering this highly effective condensed training seminar around the world since 2004. We also offer comprehensive on-the-job training on a case-by-case basis.

The goal of all training is to impart the theoretical and practical knowledge necessary to operate the DAS with high reliability and to troubleshoot any problems if they arise. One of our most popular training options has been the in-house seminar in which a DTS instructor gives a 1-2 day course at the customer's site. The benefit to this kind of training is that it can be tailored to your specific needs and causes minimal disruption of your work schedule. We have given over 25 of these in-house seminars so far and they keep getting better and better. If you think you might benefit from targeted in-house training, we would love to hear from you. The nominal cost of a seminar will be repaid many-fold in fewer problems and increased productivity from well trained staff.

PRODUCT UPDATE (Cont.)

DTS is China's First Choice for Crash Test DAS

September. Mr. Xi Tianlu is supporting our local sales agent and customer base by providing experienced technical support, superior customer service, calibration services, valuable troubleshooting techniques and technical product demonstrations.

DTS will continue to dominate the Chinese market in the future by offering the best products and services with outstanding value.

Awards



Inc. Magazine named DTS one of the 5,000 fastest growing private companies in the United States in 2009.



DTS wins the Best of Sensors Gold Award for product innovation.



DTS has won a BAE Systems Chairman's Award for Innovation and Technology for the work completed on the HEADS embedded data recorder.

BITS AND BYTES

What's new in TDAS Control Version 7.0?

New "Fast Arm" feature added to TEST menu

Depending on the number of channels in your TDAS setup, the Configuration and Sensor Channel Calibration phases of operation can take up to several minutes. This process is critical to ensuring the integrity and accuracy of data collection but it can be a concern when working against a tight schedule.

So what does TDAS Control do from the time you click on Collect Data until the system is ready to arm?

1. Test setup parameters, such as transducer information and sampling parameters, all need to be transferred from TDAS Control software to the TDAS PRO or G5 hardware modules. The time this takes is proportional to the number of channels in the Test Setup.
2. The next step is the actual sensor channel calibration. The software sends a broadcast command that tells all modules to autonomously perform their calibration routines using the parameters loaded in step 1. For each channel, the hardware (under firmware control) measures the noise floor, verifies the excitation voltages and sensor offset, measures the actual gain against the programmed gain, iteratively nulls sensors offset, measures the signal to noise ratio at the programmed gain and finally performs a shunt check. These functions take place simultaneously across all modules and the total time it will take is determined by the module with the largest number of programmed channels.
3. When each module has completed its calibration routine, the resulting data needs to be transferred back to the TDAS Control software for processing and display of the sensor channel results. This is where you see the green "pass" or the red "fail" for each channel. The time for the data transfer is generally proportional to the number of channels.

"Collect Data (fast arm)" is a new feature in TDAS Control Version 7.0 (currently only for use with TDAS G5) which dramatically cuts the time to arm the system. With this feature, all of the test setup and calibration parameters are stored in the G5 flash memory from the previous calibration routine and reused for the next test. With the requirement that nothing in the setup has changed from one test to the next, Fast Arm reloads these parameters and bypasses many

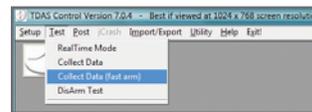
of the calibration procedures except for two critical checks - excitation voltages and sensor offsets are re-measured and compared to the stored settings with a tight tolerance. These checks verify with a high level of confidence that the complete system is still fully functional and nothing has changed significantly since the last time the full calibration routine ran.

Example: TDAS G5 with 32 sensors.
Collect Data: 143 seconds
Collect Data - Fast Arm: 35 seconds.

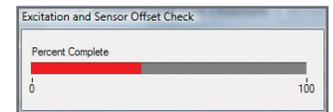
TDAS Control Fast Arm will be available for TDAS PRO SIMs and TOMs in the near future.

Real Time Write to File

Have you ever needed to record a data from a quasi-static test while watching the levels from a few channels on the screen? In Real Time mode TDAS Control v7.0 now writes the data to a file in the test data output folder. The filename is called "testID REALTIME LOG date time.dat" and is a comma delimited file. If you rename the file extension to .csv, it can be directly opened in Excel.



Fast Arm Menu



Fast Arm Popup

Single Channel Real Time

Have you ever wanted to check out a single channel in a Test Setup without having to go through a full calibration of the entire system? When you open a Test Setup and view a specific channel in TDAS Control Version 7.0, you will see a new OSCOPE button near the top of the screen. If you click in the button, only that channel will be configured, quickly calibrated and Real Time display will start.

Want to know more?

Please contact support@dtsweb.com if you would like to know more about these and other features in TDAS Control Version 7. As always we offer free upgrades for our valued customers!

CUSTOMER SPOTLIGHT

Rodeo Riders Experience Head Injuries without Impact

There is a belief that many rough stock riders experience head injuries during their events, often without even experiencing a head impact. Residents at Aerospace Internal Medicine Residency Program at University of Texas Medical Branch conducted a study examining head acceleration experienced by these rodeo riders. Riders were outfitted with sophisticated earpieces that were embedded with tri-axial accelerometers and Angular Rate Sensors (DTS ARS). The earpieces measured the head accelerations and angular rates experience by the rough stock riders and fed the data into a SLICE NANO™ DAS worn on the rider's chest. Though



the data is still being analyzed, preliminary findings revealed that bareback riders in particular experienced repetitive, high angular accelerations peaking at 6000 degrees/second in the x-axis during their rides. Bull riders also experienced significant head acceleration in the y-axis while being thrown from the bull. Clearly, rough stock riders are experiencing high levels of head acceleration during their events, potentially exposing them to injury.

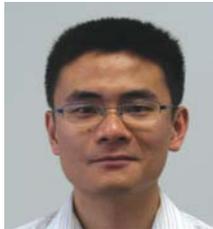
For additional information go to the DTS website: www.dtsweb.com/news/press_releases

Photos courtesy of Maltz Photography www.maltzphotography.com

DTS SPOTLIGHT

DTS Expands Worldwide Technical Support Team

When we say we have 24/7 support, we really mean it. With our latest addition of Mr. Xi Tianlu (Luke) located in Shanghai, China, the DTS Technical Support team now includes highly skilled dynamic test engineers in six time zones. In our fast-paced world, product support is often the key differentiator between an average supplier and one that really shines. Our commitment to be the best is evident by the resources DTS has committed to ever expanding worldwide support. Our competitors can't come close to offering this kind of support and we intend to keep our edge with an ever increasing commitment to supporting our customers. This is truly the foundation upon which DTS has built its success and continued growth.



Xi Tianlu

DTS IN ACTION

Important Dates and Upcoming Events:

Automotive Testing Expo 2009 China

15-17 September
Shanghai, China
Stand 4036

Aero Defense and Test 2009

29 September – 1 October
Baltimore, MD
Stand 438

SAE Brazil

6-8 October
Sao Paulo, Brazil
Stand 129

SAFE Association 2009 Symposium

19-21 October
San Diego, CA
Stand 414

Automotive Testing Expo 2009 North America

27-29 October
Novi, MI
Stand C234

DTS Michigan Open House

28 October
Novi, MI

STAPP Car Crash Conference

2-4 November
Savannah, GA



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