

current affairs

genisys
switching you on to the future

Highlights | Film Support Crew Vehicle | Scottish Ambulance Service

genisys looks after 'The adrenaline junkie'



TBR UK of Harwich, Essex, who specialises in after-market modification of off-road vehicles recently prepared a car to support Jack Osbourne as he competed in the Mongol Rally 2007, using **genisys** to control the myriad of electric components fitted to the vehicle.

Modifications expert TBR UK was the first port of call for the film company Ginger Productions when it needed a support vehicle for Jack Osbourne to take part in the Mongol Rally, driving from London's Hyde Park to Ulaanbaatar, the capital of Mongolia, to raise funds for charities in countries along the route. Participants of the rally were restricted to driving a car with an engine smaller than one litre and only minimal modifications. TBR custom-built a film support crew vehicle with everything the team might need to follow the rally from start to finish. Chris Hill, manager of TBR UK, explained: "This was Ginger Productions' only support car, so everything, including all that was needed to film the event, relied on this vehicle. We kitted the car out with the best of everything, including full suspension, fuel tank, exhaust system, inverters, lighting, roof racks, a canopy with a custom-built cage in the back, a winch and winch bumper, etc.... There are a lot of features on the vehicle, but **genisys** has to be one of the most interesting and impressive."

genisys controlled all the standard auxiliary electrics you would expect, including the two sets of lights on the roof rack, a set of dual-beam lights on the front, working lamps on the back

and the interior lamps inside the canopy, but also much more. It managed the power to the inverters, the emergency lights, the winch from inside the vehicle, some ignition functions and, most importantly, the split battery charging system. **genisys** controls all battery charging and shuts down unnecessary draws on the battery, ensuring that power is prioritised. This feature was particularly important for the film crew since the cameras, lighting, recording and communications equipment requires a lot of power and, by prioritising, **genisys** made sure that there was always enough power to start the vehicle and essentially protected the crew from being stranded.

"All the auxiliaries would previously have been controlled by independent systems, but each one requires its own power supply and has different switches and relays, so you end up with wires and clutter in an already restricted space, and none of the extra

functionality that you get from an integrated system. **genisys** gives more comprehensive control over all the systems added to the car and allows other possibilities in terms of security, such as keyless running and anti-hijack settings."

Chris continued: "**genisys** is straightforward to install and remarkably simple to use, which was also important as we just handed the car over to someone who had never seen the system before. The car ran faultlessly in Mongolia, doing around ten and a half thousand miles with extremes of temperature, dust and vibration - the worst kinds of conditions for a car - proving its ruggedness and reliability. If it had gone wrong, it would have gone spectacularly wrong; broadcast to the world on TV and stranding the team in the middle of a desert somewhere! **genisys** really is a brilliantly made, quality piece of equipment and it worked superbly throughout the rally."



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Did you know that...

... in your **ambulance**, **genisys** can monitor and react to four separate battery banks, providing pre and post battery management, announcements and load shedding where needed.



... in your **outside broadcast vehicle**, very complex interlocks can be easily programmed into **genisys**, offering precise parameters for making a circuit valid.



... in your **fire engine**, **genisys** can monitor foam and water levels, offer verbal announcements and visual level indication from our ruggedised IP-rated external user interface.



... in your **police car**, **genisys** can integrate with any mobile data terminal and provides a virtual keypad on the vehicle touch screen interface, removing the need for a tactile keypad.



... in your **bus**, all **genisys** modules can be multiplexed around a vehicle. By strategic mounting of the modules, vehicle weight and build cost can be greatly reduced.



... in your **prison vehicle**, the ECU has 24 digital inputs which act as enabling conditions and / or warning circuits if triggered. Further input modules can be placed in the **genisys** line to increase input capacity.



... in your **recovery vehicle**, any of the pre-set functions can be triggered and controlled from up to 100 metres away. This is achieved by linking our remote control module into **genisys**.



First Scottish A&Es are fitted with **genisys**

Europe's largest ambulance service, the Scottish Ambulance Service (SAS), plans to fit **genisys**, our new electronic vehicle management system to all its blue light vehicles, including A&E, rapid response, mid tier and patient transport.

Michael Jackson, General Manager of Fleet Services, commented: "Keeping a fleet of blue light vehicles on the road is a real challenge, especially when the fleet covers a whole country. It is paramount that all of our vehicles perform to the highest standards, 24/7, and **genisys** will offer greater flexibility and control to the ever-changing requirements of our specialist vehicles."

SAS already has **genisys** installed in its demonstration A&E ambulance and UV Modular is currently in the process of installing **genisys** in 12 of its new A&Es. Various other vehicle builders are also installing **genisys** for SAS on 22 rapid responder units, 14 mid tier vehicles and 20 PTS units.

Alastair Munro, Engineering Director for UV Modular, explained: "An ambulance's electronic management system is a fundamental component of the vehicle. The system is very complex, but it must have a simple and straightforward interface for the ambulance paramedics to use quickly. It also needs to be very reliable and robust, and Carnation's systems are our preferred choice. **genisys** is a really flexible and intelligent system that installs effectively into our vehicles. Its smart new technology simplifies the manufacturing and assembly of our vehicles, and makes it easier for us to find and diagnose faults quickly."

The new A&Es will be going into service in various locations throughout Scotland during December 2007. The vehicles are based on the new Volkswagen Crafter chassis and are mounted with UV Modular's latest Premia body design, which incorporates **genisys** in a multiplexed layout.



The choice for Merseyside Police

genisys has been selected by Merseyside Police as its control system of choice for all emergency and IT equipment fitted in future into its entire range of vehicles.

Both the Fleet and IT departments will be supplied with their own individually programmed and designed modules which will provide constant monitoring and strategic announcements, advising users when errors occur in crucial circuits. Timers and protection thresholds are programmed into the system electronic control unit (ECU), offering Merseyside Police an unprecedented level of control and security.



Craig Hall, Sales Director of Carnation, commented, "We have been working closely with both Fleet and IT on this contract and are delighted with the outcome. When the users see how the system is integrated into the vehicle and how it controls the equipment, I am sure they will be delighted too."

Craig added, "With the imminent introduction of the **genisys** MDT (mobile data terminal) interface, both the users and managers of this impressive fleet will see that they really do have a fully future-proof control system."

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Corporate overview



Carnation Designs was founded in West Yorkshire, in 1995, and rapidly established its nationwide reputation as an innovator of electronic power management systems for specialist vehicles.

The company's team of highly experienced industry professionals - including electrical and technical engineers, specialised software developers and mechanics - is dedicated to providing high quality products, supported with unsurpassed levels of personal service and back-up to suit every customer's individual requirements. This combined approach makes it possible for customers with diverse technical backgrounds to incorporate Carnation's intelligent power management systems into their specialist vehicles, whether they are professional body builders or the end-user vehicle operators. **genisys** was launched in early 2007 and this fully modular, programmable and future-proof

system has been carefully designed to be able to adapt to changing needs and requirements. Its solid-state technology avoids the need for hard-wired relays and fuses, greatly reducing fitment time and weight, and significantly increasing system flexibility.

The electronic control unit (ECU) at the heart of **genisys** is an intelligent node that digests and sends protocols to the numerous user interfaces and output modules, as well as providing data logging and optional twin channel audio alerts. Protocols are dispatched by the means of a high speed, differential data bus which links between the ECU and all the other modules, providing rapid and reliable data transfer over long distances. **genisys** has the power and flexibility to offer up to 16 modules in any one application, which can be multiplexed around the vehicle to offer a comprehensive and powerful electronic programmable management system.



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Ford Special Vehicles

Ford Special Vehicles Preparations Ltd. currently supplies 2,500 police cars a year and, by customer choice, many are fitted with systems from Carnation Designs.

Ian Johnson, Workshop/Sales Manager, Ford Special Vehicles Preparations Ltd., said: "The **genisys** system is great, not least because it has greatly reduced the installation time and costs usually associated with

vehicle management systems. More equipment than ever before can be connected to and managed by the system and it offers the customer much more flexibility. Many features are packaged together, including both screen and voice commands so that drivers are alerted immediately if there is a problem with the vehicle."

"We currently handle 52 police forces, each with their own preferences depending on their unique circumstances, so the switch panels and electrical gear need to be adapted to suit different needs," Ian continued. "We have been working with Carnation Designs with our fleets of police and

paramedic vehicles for seven years and have found that the team is always proactive and has continually adapted products to suit both us and our customers."



Meeting the team



Meet **Graham Rangel-Sharp**, Senior Design Engineer

Where were you born?
Leeds

What are your hobbies?
Hiking, rock climbing, cycling, photography, RSPB member

Where did you go to on holiday this year?
A friend's cottage in Normandy

What was the last book that you read?
The Da Vinci Code by Dan Brown

What was the last movie you saw?
Passenger 57

What is the most embarrassing song / performer you secretly love?
Anything by Shania Twain

What do you want to be when you grow up?
Engineering Director

What do you wish you invented?
E-bay

What is your most impressive achievement?
Completing the half marathon in Leeds.

Where and what did you study?
Masters in Electronic Engineering and a PhD in Semiconductor Physics at Leeds University.

What attracted you to Carnation?
I was not familiar with the company, but when I looked at the website, I realised it worked in an area in which I had experience. I also wanted to work in a growing company and not just be a 'small cog in a big wheel'.

What aspects of the job do you enjoy the most?
I love the design aspect, particularly when it is to a brief provided directly by the customer. I find it very satisfying when I can see a job through from talking to the customer to providing them with exactly what they required.

What is the most interesting work that you have done on genisys?
genisys was still in the design stage

when I joined, so I started work on a control area network system (CAN), learning how to program it and the purpose it serves in the vehicle. The module has not been fully integrated into **genisys**, but will be in the near future. Many companies do CAN modules, but none are in such an integrated form as we have in **genisys**.

Pub quiz

1. Which race over 200 laps is started with the words, "Ladies and gentlemen, start your engines"?
2. Who is the youngest winner of a Formula 1 Grand Prix?
3. Which is the hardest tissue in men, as well as in women?
4. What is the antimatter equivalent of the electron?
5. What is the name of the mascot on the bonnet of a Rolls Royce?
6. What colour is the 'Black Box' found in commercial planes?
7. According to the proverb, what is the mother of invention?

Answers: 1. The Indianapolis 500. 2. Fernando Alonso. 3. Tooth enamel. 4. Positron. 5. The Spirit of Ecstasy. 6. Orange. 7. Necessity (and therefore, we invented genisys!)

