

ECU REMAPPING

Words and photos by Paul Kelly



What is it? Why do it? What are the benefits?

All modern vehicles are fitted with an Engine Control Unit or 'ECU', this is the engines 'brain' and it has evolved from a simple circuit that controlled the ignition to a very sophisticated computer that now controls virtually every aspect of the car's engine, from the amount of boost the turbo will create, when and how much fuel is injected, when the spark plugs fire, what pressure the fuel rail runs at, exhaust gas recirculation or EGR, and diesel particulate filter or DPF function and regeneration.

When car manufacturers programme this ECU to control the engine functions they have to be very liberal with the setting, taking into account the various markets that the car may end up in, the lack of maintenance certain owners will embellish on the car, poor fuel quality etc, etc. We must also remember that car manufacturers, including BMW, will also 'down tune' certain cars so that they fit into certain market categories as well as certain insurance categories. Many times a lower model will be a down tuned higher model, using exactly the same engine components but simply remapped at the factory to produce lower power.



ECU remapping is the art of subtly tuning the engines running parameters to achieve a higher state of tune. An ECU that is well remapped will result in a car that not only produces more power and torque it also returns a higher MPG and will drive smoother and be far more responsive than its standard counterpart.

With an accurate and reliable remap, gains can include improved power output, higher torque, better throttle response, flat spots removed, smoother power delivery and better fuel economy.

Where to go for a remap? I was looking to have a remap carried out on our 120d Convertible and had heard of good reports of BHP UK who being a local company to me, I went to see what services they had to offer. BHP UK may not be very well known to many Club members, but have been in business for 10 years. You may have seen them in August at the Club's National Festival. Qal Shah started BHP UK by carrying out a mobile remapping service. Qal has a background in Motorsports Development at UME, which enabled him to develop the business further to where they are now.

BHP UK have recently moved to new premises in Simonstone, Lancashire and have the installed the latest software and employed map writers with a background in automotive tuning and programming industry to carry out their work, plus they have invested in a new Dynojet rolling road. They have 30 agents throughout the UK and are currently developing Hybrid turbo conversions for 2 & 3-litre BMW diesels.

They can measure your engines power output before and after ECU remapping, log parameters such as boost, air fuel ratio, RPM, load, intake air temperature, oil temperature & advance. Other benefits include where they can also hold your car at

a certain RPM or load to diagnose any problems or smooth out any flat spots in the power delivery.

So with all this knowledge and experience I decided to let them loose on the 120d. I asked for a moderate map as I didn't want an all out power remap. First up was to get the car on the Dynojet and complete some power runs to see what the car was running and then Qal and his team set about writing a custom map for the 120d, taking out any flat spots and generally 'flattening out' the torque curve, checking as they go with more power runs to confirm where they improve on the remap. You can see where their passion comes from to completing a very thorough job, taking time to make sure the remap is as good as it could be. Gains seen from standard showed an improvement in 29bhp and torque increase of 73Nm which were very good for a moderate map. This is only part of the story as the real difference is with driving the car; throttle response is now more immediate and much smoother through the rev range.

I am really impressed with the performance of the remap and the quality of service given by Qal and his team. Feel free to call in for a chat with Qal to see what they can offer you for your car and you may even get a free doughnut!

BHP UK have kindly offered BMW Car Club members a 10% discount off a remap and look out for the Club meet at BHP UK on 18th February 2012 for some power runs on members cars.

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