



*The fire in your ATV*

## VDI Copperhead® GEN2 ECU

The Copperhead® GEN2 is the world's most advanced and expandable Capacitance Discharge Ignition (CDI). The Copperhead® ECU was designed around our DPM-550 Copperhead® core for ease of use and maximum flexibility while providing years of trouble free service. Each Copperhead® is shipped with a machine specific harness to be used right out of the box, and requires no additional configuration. Additional harnesses sold separately to allow for the unit to be installed on other supported models.

Several of the key features are:

- Plug and play installation allows for quick installation, with no wiring modifications to the machine.
- Dual timing maps and configurations. Have one map for inexperienced riders, and one performance map to unleash the power of your machine. Both maps are fully configurable via our optional USB Memory Interface
- Repetitive fire ignition delivers hotter spark with longer spark duration for maximum power and virtually eliminates misfires, while giving you easy starts and crisp throttle response.
- Using the performance map allows the machine to run cooler, produce more horsepower and more torque, while minimizing fuel consumption. Also, you'll benefit from better throttle response.
- Eliminates the factory bottom end lag for wheel standing performance.
- Incorporates part throttle timing advance that increases the part throttle horsepower by over 40%!
- Replaceable harness allows for platform changes with a simple harness change and a firmware upgrade using our USB Memory Interface (sold separately). This may be the last ECU you'll ever need to buy!

Supported Machines:

- 2005-2007 Suzuki King Quad 700 EFI
- 2008+ Suzuki King Quad 750 EFI
- 2006+ Suzuki King Quad 450 EFI
- 2006+ Arctic Cat 700 EFI
- 2009-2011 Yamaha Grizzly 550 EFI
- 2007-2011 Yamaha Grizzly 700 EFI
- 2008-2011 Yamaha Rhino 700 EFI
- 2008-2011 Brute Force 750 EFI
- 2009 Teryx 750 EFI

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## **Features:**

The Copperhead<sup>®</sup> ECU is shipped with map #1 set to an “original type configuration” which is similar to the stock ECU. Map #2 is shipped with a performance type configuration for 87-octane fuel, which raises the revolution limiter, and disables the reverse and forward speed limiters. Additional timing and fuel maps for other standard configurations (i.e. higher grade fuel or aftermarket exhaust) are downloadable from our website. *Note: Air filter changes do not require any changes to the ECU.*

Both maps and configurations can be changed using USB Memory Interface (available separately).

In addition, the Copperhead<sup>®</sup> ECU comes equipped with six (6) optional connections:

- 1) Engine kill tether switch connection. Active high input.
- 2) Tachometer output interfaces to off the shelf, 12V input tachometers that require one (1) pulse per revolution.
- 3) Four (4) configurable outputs to control shift lights, NOS controllers, or any other RPM sensitive outputs. Requires optional USB Memory Interface for configuration.

The Copperhead<sup>®</sup> ECU indicates system failures by displaying error codes on the integrated status LED.

The Copperhead<sup>®</sup> ECU can be installed on different machines with a simple wiring harness change (available separately) and a firmware upgrade via the USB Memory Interface (available separately).

## **Specifications:**

*Subject to change without notice.*

Dimensions (without wiring harness) (LxWXH): 145mm x 115mm x 42mm

Weight: 500 grams

Input Voltage: 9 VDC to 20 VDC (minimum of 11VDC required to start)

Input Current (engine not running): 330mA RMS @ 25°C

Input Current (engine running): 0.9A RMS @ 25°C

Output Voltage (to coil): +/- 170 V Peak

Output Energy (per coil): 14.5 mJ

Firing Duration: 15 degrees via Multi-Spark Discharge

Operating Temperature: -55°C to +100°C

Maximum engine speed: 12000 RPM

Maximum advance: 50 degrees BTDC @ 8000 RPM, with software roll off to 46 degrees BTDC @ 12000 RPM

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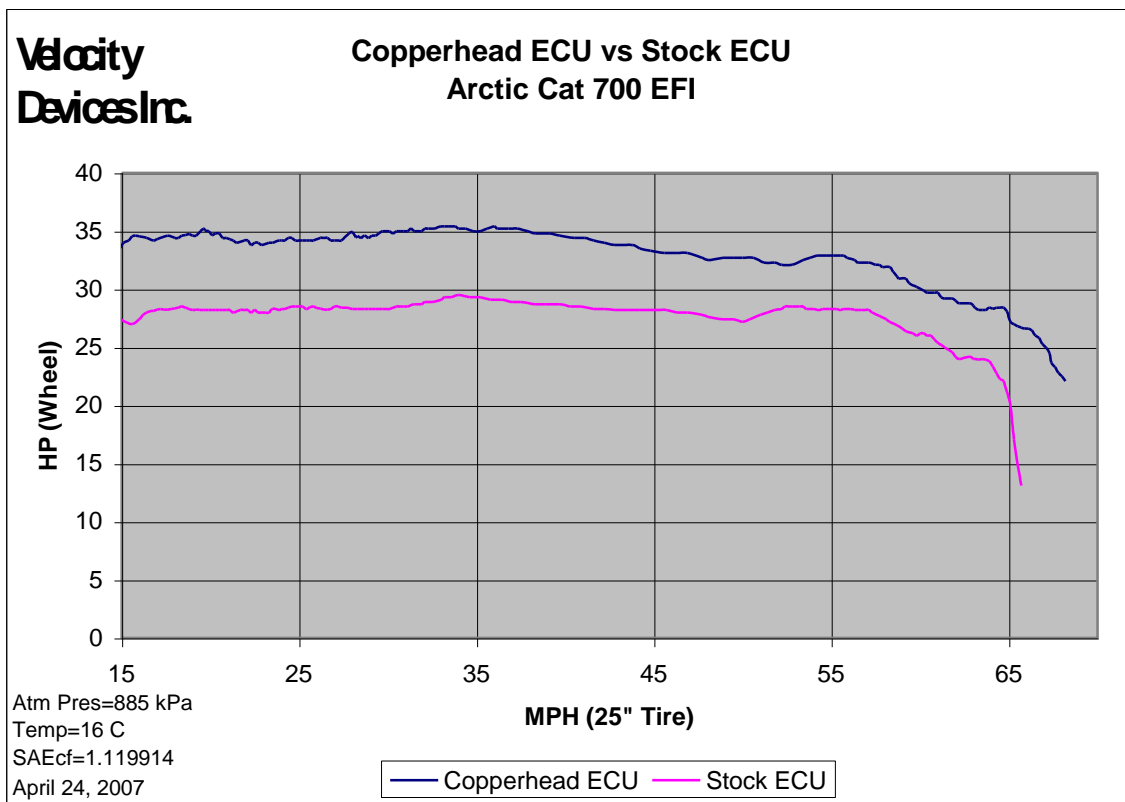


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### Dyno Plot:

The dyno plot was run on a 2006 Arctic Cat 700 EFI, utilizing the Suzuki 700 EFI engine, transmission and final gear ratio. The test model also had a Dalton Industries clutch kit installed. Torque was measured directly from the axle, to eliminate any tire slippage losses. MPH indicated assumes a 25" diameter tire. We are seeing typically 21% more horsepower from idle to redline.

*Note: Due to the internal centrifugal clutch locking up around 4000 RPM, data below 15 MPH is invalid, and has not been included in the plot.*



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