Auto Meter — COMPETITION INSTRUMENTS ®

IMPORTANT — *WEAR SAFETY GLASSES*

Questions?

Introduction

Thank you for your purchase of the Digital Performance Information Center (D-PIC) from Auto Meter Products, Inc. The D-PIC represents a leap forward in performance meter technology making it possible to monitor G forces, 0-60mph times, 60-0mph distances, 1/4 mile data including reaction time, and peak wheel horsepower from the self contained electronics held within a standard 2 1/16" gauge casing. Please read and follow the instructions that follow regarding the installation and operation of your D-PIC to receive maximum benefit and accuracy from this product. Failure to follow the information below will void the warranty of this product and may result in damage to your vehicle, the product, or personal injury.

Notice: This device is intended for usage in professional applications; racetracks, or other controlled courses or settings. This device is not intended for use in, or contributing to use in any vehicular activity that violates Federal or State laws, or any local ordinances such as, but not limited to, street racing, speeding, reckless driving, or any other activity or usage that puts either the vehicle operator, passengers or any other persons or property at risk.
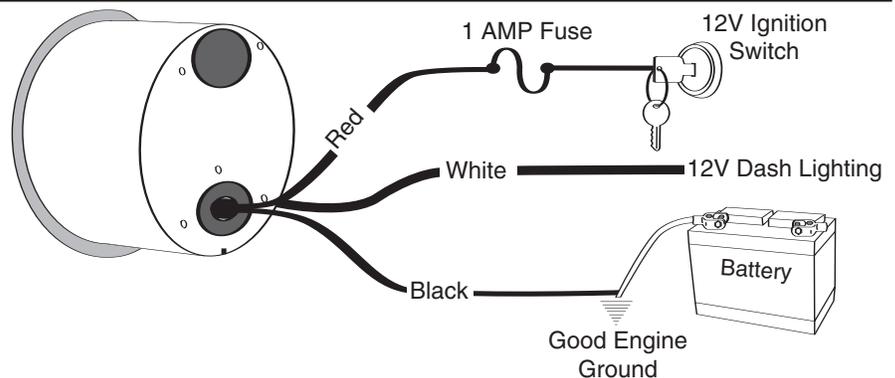
Enjoy your new purchase responsibly, and benefit from the power of information. Always obey all traffic laws while driving your vehicle on the street, and always wear your seat belt.-

Installation

D-PIC may be mounted in all the same fashions that you would mount any other gauge within your vehicle's interior (panels, pods, pillars, cups, in the dash, etc.). Visit www.autometer.com to view possible mounting solutions for your vehicle. When installing D-PIC please bear in mind that despite its extreme mounting versatility, in general when you mount the gauge, the back of the gauge should be facing the front arc of the vehicle, and the front of the gauge should be facing the rear arc of the vehicle. Following this mounting suggestion will ensure the most accurate readings.

Wiring

Dimming Wire – D-PIC offers an optional dimming/nighttime illumination wire for adjusting brightness while driving. Supplying 12v to this wire will cause D-PIC to dim to half of its normal operating brightness. It is suggested that you connect this wire to your headlight switch or vehicle dimmer circuit so that D-PIC dims when you turn your headlights on. **On newer vehicles with Pulse Width Modulated (PWM) dimming (such as but not limited to 2000 and newer GM models) it will be necessary to connect to parking lamps or taillight circuit.**

1 AMP Fuse — 12V Ignition Switch — Red — White — 12V Dash Lighting — Black — Battery — Good Engine Ground

The D-PIC is ready to go

After installing the D-PIC, you are ready to make performance runs. The D-PIC does not need to be calibrated, adjusted or tuned in any way to provide accurate performance mode information. The D-PIC is factory calibrated to sense forward and lateral G forces in the flat and level mounting position. If your D-PIC installation is not flat and level the G forces displayed in Real Time mode may be high or low by some percentage. To correct for this you will need to perform a simple vehicle calibration procedure (see Vehicle Calibration section under Set Up Mode) in which the D-PIC learns how it is mounted in your vehicle and corrects itself for not level installations.

Performance Modes

A.) 1/4 Mile Mode – To enter 1/4 Mile Mode, press the MODE button until 〖90tr〗 is displayed. Make sure the vehicle is at a complete stop at the beginning of your course, and then press the ENTER button to confirm. Display will show 〖CAL〗 to indicate mode has been entered. Do not move your vehicle while the gauge displays 〖CAL〗 or you will obtain false readings. When the gauge lights the LED array and displays 〖Go〗 you may begin your 1/4 mile acceleration. Note: if you have Reaction Time turned on in the Set Up mode, the display will change from 〖CAL〗 to 〖tree〗 and then the bar graph will light from blue to red. When the graph is fully lit display will change to 〖Go〗. Try to launch your vehicle at the precise moment 〖Go〗 is displayed in order to score a perfect reaction time.

During 1/4 mile mode operation, D-PIC will calculate your vehicle's 1/4 mile time (ET) and speed (MPH), reaction time (if activated in the Set Up mode), and peak G's in all four axes. You will need to accelerate your vehicle through the entire 1/4 mile distance in order for D-PIC to provide you with results. **Note: A straight, level surface, free of obstructions and with adequate braking distance should be used for best operation.**

During 1/4 mile acceleration, D-PIC will display an increasing number which is your calculated speed in MPH. When 1/4 mile distance has been reached gauge will display 〖Lrun〗 indicating last run followed by 〖rt〗 if reaction time is enabled, 〖Et〗 or elapsed time, and then 〖SPEd〗

followed by your mile per hour at the end of the 1/4 mile. At this point, safely bring your vehicle to a controlled stop to check your results.

Gauge will display results once and then display **L.run** and flash LED bar graph. To review your results again, press the B button and the gauge will display your reaction time, elapsed time, 1/4 mile speed, and peak G's. To save your results as your new Best, press the A button once to display **SAVE**, then press the B button to confirm. Note: Saving a run as your new Best run will overwrite (erase) your previous best run. D-PIC will automatically save/overwrite your last run file each time you make a new pass. To view your best run, press the A button until **brun** is displayed and then press the B button to view. To view the difference between your last run and your best run, press the A button until **dIFF** is displayed and then press enter to view. To exit to Real Time mode, press the A button until **donE** is displayed then press the B button to confirm, or just press EXIT button.

You may view results at any time by entering 1/4 Mile Mode and then pressing the C button to display results.

When **Go** is displayed 1/4 mile mode may be exited prior to beginning acceleration by pressing the EXIT button. 1/4 mile mode will time out and return to Real Time mode if acceleration is not started 1 minute after **Go** is displayed.

B.) 0-60 MPH Mode – To select 0-60 MPH Mode, press the Mode button until **0-60** is displayed. Make sure the vehicle is at a complete stop at the beginning of your course, and then press the ENTER button to confirm. Display will show **CAL** to indicate mode has been entered. Do not move vehicle while **CAL** is displayed or you will obtain false readings.

During 0-60 MPH mode, D-PIC will determine your vehicle's 0-60 MPH acceleration time in seconds and also G-force. You will need to accelerate your vehicle from 0 to 60 MPH for D-PIC to make these calculations.

Once **Go** is displayed and LED bar lit, accelerate your vehicle to 60 MPH. During acceleration, D-PIC will display increasing MPH. When 60 MPH has been reached, gauge will flash LED bar and display **L.run**. At this time, bring your vehicle to a stop in a controlled fashion for D-PIC to view your results.

To view your results, press the B button. To save your results as your new Best, press the A button once to display **SAVE**, then press the B button to confirm. Note: Saving a run as your new Best run will overwrite (erase) your previous best run. D-PIC will automatically save/overwrite your last run file each time you make a new pass. To view your best run, press the A button until **brun** is displayed and then press the B button to view. To view the difference between your last run and your best run, press the A button until **dIFF** is displayed and then press enter to view. To exit to Real Time mode, press the A button until **donE** is displayed, then press the B button to confirm, or press the EXIT button.

You may view results at any time by entering 0-60 Mode and then pressing the C button to display results.

When **Go** is displayed 0-60 mode may be exited prior to beginning acceleration by pressing the EXIT button. 0-60 mode will time out and return to Real Time mode if acceleration is not started 1 minute after **Go** is displayed.

C.) 60-0 MPH Mode – To select 60-0 MPH Mode, press the MODE button until **60-0** is displayed. Make sure the vehicle is at a complete stop at the beginning of your course, and then press the ENTER button to confirm. Display will show **CAL** to indicate mode has been entered. Do not move vehicle while **CAL** is displayed or you will obtain false readings.

During 60-0 MPH mode, D-PIC will determine your vehicle's 60-0 MPH braking distance in feet. You will need to accelerate your vehicle from 0 to 60 MPH and then safely bring your vehicle to a stop for D-PIC to make these calculations.

Once **Go** is displayed and LED bar lit, accelerate your vehicle to 60 MPH. During acceleration, D-PIC will display increasing MPH. When slightly more than 60 MPH has been reached, gauge will flash LED bar and display **Stop**. At this time, bring your vehicle to 0 MPH in a controlled fashion for D-PIC to calculate your braking distance. **Note: You must reach or exceed 60 MPH, stopping the vehicle before Stop is displayed on the D-PIC will cause no results to be calculated and displayed.**

When 0 MPH has been reached, D-PIC will display **dISt** followed by your results for 60-0 MPH braking distance. The result is displayed in feet. To view your results again, press the B button. To save your results as your new Best, press the A button once to display **SAVE**, then press the B button to confirm. **Note: Saving a run as your new Best run will overwrite (erase) your previous best run.** D-PIC will automatically save/overwrite your last run file each time you make a new pass. To view your best run, repeatedly press the A button until **brun** is displayed and then press the B button to view. To view the difference between your last run and your best run, press the A button until **dIFF** is displayed and then press enter to view. To exit to Real Time mode, press the A button until **donE** is displayed then press the B button to confirm, or just press the EXIT button.

You may view results at any time by entering 60-0 Mode and then pressing the C button to display results.

60-0 mode may be exited prior to beginning acceleration by pressing the EXIT button. 60-0 mode will time out and return to Real Time mode if acceleration is not started 1 minute after **Go** is displayed.

D.) Horsepower Mode – Note: In order to obtain the most accurate numbers possible from this mode it will be necessary to input precise vehicle weight with driver under the Vehicle Weight section under Set Up mode. Failure to enter a correct vehicle weight will result in false calculations, see Vehicle Weight under Set Up for more information. To select Horse Power Mode, press the MODE button until **HP** is displayed. Make sure the vehicle is at a complete stop at the beginning of your course, and then press the ENTER button to confirm. Display will show **CAL** to indicate mode has been entered.

When the display reads **Go** lightly accelerate your vehicle through first gear. Shift smoothly between gears at approximately halfway to redline. When you have reached 2nd gear (ideally starting at about 2k RPM), accelerate under full throttle up to but not exceeding your vehicle's engine redline. Once redline has been reached in 2nd gear let off the accelerator and safely bring the vehicle to a stop to view your

results. With an automatic transmission you may need to adjust this procedure so you don't downshift under full throttle in second gear. The important point here is that when you are in 2nd gear you should be at full thottle when the engine is anywhere near its peak horsepower rpm.

When the vehicle has been brought to a stop, D-PIC will display your Horse Power results. The result is displayed in terms of Horse Power (HP). To view your results again, press the B button. To save your results as your new Best, press the A button once to display **SAVE**, then press the B button to confirm. **Note: Saving a run as your new Best run will overwrite (erase) your previous best run.** D-PIC will automatically save/overwrite your last run file each time you make a new pass. To view your best run, press the A button until **brun** is displayed and then press the B button to view. To view the difference between your last run and your best run, press the A button until **diff** is displayed and then press the ENTER button to view. To exit to Real Time mode, press the C button.

Wheel Horsepower – Static vs. Dynamic – What's the difference?

Static Wheel Horsepower - We all know that wheel horsepower is lower than engine horsepower due to power losses in the drivetrain. But, what is the difference between Static and Dynamic Wheel Horsepower? On a chassis dyno, vehicles are not in motion, and as a result, additional horsepower losses that are present in an actual drag race due to wind speed, aerodynamic drag, rolling resistance and non-level driving surfaces are not taken into consideration.

Dynamic Wheel Horsepower – is measured while the vehicle is in motion. Wind speed and direction, aerodynamic drag and rolling resistance can all slow a car down. The D-PIC measures the absolute acceleration of the vehicle, including the affects of those factors.

Which is more important? – Dynamic Wheel Horsepower is a true representation of your car's acceleration ability, taking all factors into account, including things not found on a chassis dyno, such as traction, rolling resistance, aerodynamic drag, etc. If your engine has 1,000 horsepower on the engine dyno, but you can't apply that to acceleration, or you don't account for all the air that you have to move, what does that really tell you about your acceleration ability? D-PIC measures Dynamic Wheel Horsepower which accounts for all of the real world forces that aren't accounted for on a chassis or engine dyno and is the most comprehensive overall indicator of your vehicle's performance on a race rack.

E.) Real Time
– After initial power-up, D-PIC will perform an animated opening sequence and then default to Real Time mode. **Note: If you have just installed D-PIC you will need to perform a vehicle calibration to ensure that D-PIC will provide you accurate readings in Real Time mode. All other performance modes will auto calibrate during initiation and do not require this additional step for accurate operation.** Please see additional information about **Vehicle Calibration** under **Set Up**. Failure to perform this calibration will cause the D-PIC to provide inaccurate readings in Real Time mode only. During real time operation, the gauge will display the operator's choice of acceleration/deceleration or lateral G-forces on LED bar graph array and alphanumeric display. The default mode of operation for real time is the front/rear axis display. Acceleration forces will be displayed on the bar graph array to the right of center. Deceleration forces will be displayed on the bar graph array to the left of center. To change the display to the lateral axis press the B button. To change the range of G forces capable of being displayed on the LED array see **Bar Graph Forward/Lateral High/Low** under **Set Up**.

Peak Recall – While in any mode, D-PIC will record the highest or peak G-force values for all four axes (accel, decel, left, & right). To view these values, press the C button during Real Time mode. To move to the next value, press the A button. To clear the value, press the B button. Gauge will return to real time operation if no buttons are pressed for 4 seconds. Peak G forces are displayed and cycled in the following order with the codes shown below.

P AC – Peak Acceleration G Forces   **P dC** – Peak Deceleration G Forces
P LG – Peak Lateral Left G Forces   **P rG** – Peak Lateral Right G Forces

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F.) Setup Mode
– To Select Setup Mode repeatedly, press the MODE button until **S UP** is displayed. Press the ENTER button to confirm. To exit setup mode and return to Real Time display, press EXIT (C button).

Roll Out: This function only affects the 1/4 mile function. Roll Out is the distance that your vehicle travels before the ET timer starts. At a dragstrip this distance is how far a car must move before it "rolls out" of the starting beams and starts the timer. By dialing your Roll Out distance on the D-PIC to match your roll out distance at the dragstrip, the D-PIC calculation should be very close to the timing equipment at the strip. With a Roll Out of zero, D-PIC will give you a slower ET reading than a dragstrip timer, as the D-PIC will start the timer the instant the car moves, whereas the dragstrip timer does not start until after the car fully rolls out of the start beams. A zero Roll Out will however be the most accurate indication of how long it takes your car to cover a standing 1/4 mile. The factory default setting for Roll Out is 6" as this seems to match the average staging practices at most dragstrips. Increasing your Roll Out distance will decrease the ET readings that D-PIC will display as you are essentially giving your vehicle a head start up to 18" before the timer starts. We recommend that you dial in D-PIC to match your local track by following the procedure below and adjusting your Roll Out distance up and down until the D-PIC and your track timing equipment are in sync.

To select Roll Out, enter Set Up mode as described above and then press the A button until **roll** is displayed, then press the B button to confirm. The number displayed represents Roll Out distance in inches, and may be adjusted from 0 to 18. To increase the value shown, press the A button, to decrease, press the C button. When the desired Roll Out value is displayed press the ENTER button to confirm your setting.

Vehicle Weight: Accurate vehicle weight is necessary for D-PIC to make a correct Horsepower calculation. Vehicle weight should be entered in pounds to the nearest whole number. The value entered should be total weight of the vehicle and driver for the most accurate horsepower reading. Underestimating or inputting a lower than actual vehicle weight will cause D-PIC to calculate a much lower than actual Horse Power value. For example, if you enter your car's weight of 3,000 lbs with 1/4 tank of gas and only you in it, and then make a HP measurement with a full tank of gas and 2 friends in the car (+500 more pounds) the HP number will likely be lower than a run with less weight in the car. Likewise, overestimating or inputting a higher than actual vehicle weight will cause D-PIC to exaggerate your vehicle's Horsepower. Visit your local track or other appropriate vehicle scales to receive an accurate vehicle weight that you can enter into the D-PIC following the procedure outlined below.

To select Vehicle Weight, enter Setup as described above, then press the A button until **WLGS** is displayed. Press ENTER to confirm. The value displayed is total vehicle weight in pounds (lbs) To increase the value either press or press and hold the A button. To decrease, press or

press and hold the C button. Weight is adjusted in 10lb increments, and can be set to any value from 500 to 8,000lbs. When the correct value is displayed, press the B button to confirm.

Reaction Time: Enabling this function allows the D-PIC to test your reaction time while in the 1/4 mile mode only.
With Reaction time on, D-PIC will perform a dragstrip "Christmas Tree" start and then measure the time it takes between when it displays `Go` and when the vehicle starts to move.

To enable or disable Reaction Time, enter Set Up mode as described above, then press the A button until `rEAC` is displayed, then press Enter to confirm. The display will then read `on` if reaction time feature is enabled, or `oFF` if it is disabled. To enable reaction time, press the A button, to disable, press the C button. When the desired result is displayed, press ENTER to confirm.

Bar Graph Forward High Setting:
The bar graph forward high mode allows you to adjust the G force scale for forward acceleration as shown on the D-PIC when operating on the forward axis in Real Time mode. For example, if you set the `bGFH` to 1g, when the bar is fully lit on the right hand (acceleration) side, the vehicle is achieving 1g of acceleration force or more.

To select Bar Graph Forward High Mode, enter Set Up as described above, then press the A button until `bGFH` is displayed, then press ENTER to confirm. The current setting should be displayed, and can be adjusted up and down from .3 to 2.0 G's using the A and C buttons. When the desired result is displayed, press ENTER to confirm.

Bar Graph Forward Low Setting:
The bar graph forward low mode allows you to adjust the G force scale for rearward acceleration (deceleration or braking) as shown on the D-PIC when operating on the forward axis in Real Time mode. For example, if you set the `bGFL` to 1g, when the bar is fully lit on the left hand (deceleration) side, the vehicle is achieving 1g of force or more during braking.

To select Bar Graph Forward Low Mode, enter Set Up as described above, then press the A button until `bGFL` is displayed, then press ENTER to confirm. The current setting should be displayed, and can be adjusted up and down from .3 to 2.0 G's using the A and C buttons. When the desired result is displayed, press ENTER to confirm.

Bar Graph Lateral Setting:
The bar graph lateral mode allows you to adjust the G force scale for lateral acceleration (cornering) as shown on the D-PIC when operating on the lateral axis in Real Time mode. For example, if you set the `bGL` to 1g, when the bar is fully lit on either side, the vehicle is achieving 1g of force or more during cornering.

To select Bar Graph Lateral Mode, enter Set Up as described above, then press the A button until `bGL` is displayed, then press ENTER to confirm. The current setting should be displayed, and can be adjusted up and down from .3 to 2.0 G's using the A and C buttons. When the desired result is displayed, press ENTER to confirm.

Start G's:
The D-PIC is designed to work on a wide variety of vehicles from mild to wild. For each vehicle, the level of performance modifications that have been made to the engine such as whether solid engine mounts are used or not can have a large affect on vibrations that are transmitted throughout the vehicle. For nearly-stock vehicles that do not vibrate that much, you can set the starting G setting lower (.1-.2) to accurately sense when the vehicle begins to move. On higher vibration vehicles, a setting of .1 to .2 could cause the D-PIC to false start due to engine vibration. In those higher performance applications, set the starting G setting to .3 to .4. By adjusting the starting G setting you can achieve the best combination of sensitivity without false starting (triggering the D-PIC too early). Remember, with a higher starting G setting, if you launch the car soft, the D-PIC may not sense the start of the run. Choose the best setting for your vehicle and the way you launch the car most of the time.

Vehicle Calibration:
Performing this operation will be necessary in order to obtain correct readings from the D-PIC while operating in Real Time mode. The Vehicle Calibration function allows the D-PIC to determine its angle, pitch, and general location in your vehicle, and to compensate accordingly, allowing you to mount it virtually anywhere in any position, and still get accurate readings.

To select Vehicle Calibration Mode, enter Set Up as described above, then press the A button until `UCAL` is displayed, then press ENTER to confirm. `rEdy` should display. At this point bring the vehicle to a stop on a flat and level surface, then press ENTER. `HoLd` will display, at this point, D-PIC is taking a stationary reading. Do not move the vehicle at this time or your calibration will be incorrect and you will need to re-calibrate. Next D-PIC will light all LEDs on the radial bar graph and display `Go`. Launch your vehicle forward in a good, hard, straight path, as if you were starting a 1/4 mile or 0-60 run. Accelerate forward, shifting smoothly if necessary. When finished with the calibration procedure the D-PIC will display done for 3 seconds and then return to Real Time Mode. It is very important while performing the acceleration part of the Vehicle Calibration that the vehicle not bounce up and down or move side to side. **Do Not: spin the tires, slide the vehicle sideways, powershift, lug, jerk, bounce or turn the vehicle during this process or the calibration will be incorrect and you will need to repeat the calibration process again.** To check your calibration, change your display to Real Time Lateral mode (see Real Time Mode). When you accelerate and brake in a straight line you should see very minimal if any lateral G force displayed. If you do, repeat calibration process as outlined above. If problem persists, contact Auto Meter Tech Support for further assistance.

SERVICE
For service send your product to Auto Meter in a well packed shipping carton. Please include a note explaining what the problem is along with your phone number. Please specify when you need the product back. If you need it back immediately mark the outside of the box "RUSH REPAIR," and Auto Meter will service product within two days after receiving it. ($10.00 charge will be added to the cost of "RUSH REPAIR.") If you are sending product back for Warranty adjustment, you must include a copy (or original) of your sales receipt from the place of purchase.

12 MONTH LIMITED WARRANTY

FOR SERVICE SEND TO: **AUTO METER PRODUCTS, INC.** 413 W. Elm St., Sycamore, IL 60178 USA (815) 899-0801
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