

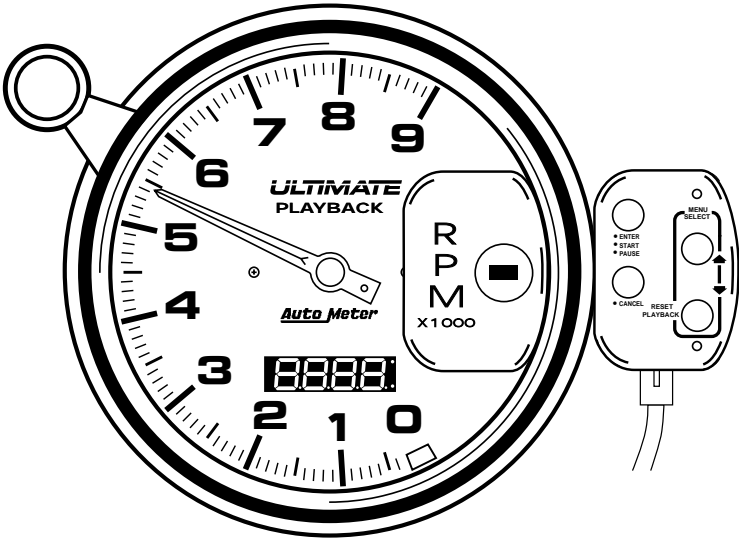


Instr. No. 2650-887C

# INSTALLATION INSTRUCTIONS

## 5" SINGLE CHANNEL ULTIMATE TACH

MODEL 6871, 6872, 6873, 6874, 6875, 6877



## Introduction

The Single Channel Ultimate Playback Tach uses a menu system for configuration. Use the arrows (▲ ▼) to scroll up and down the menu. When you reach the bottom or top of the menu you will automatically jump to the other end of the menu.

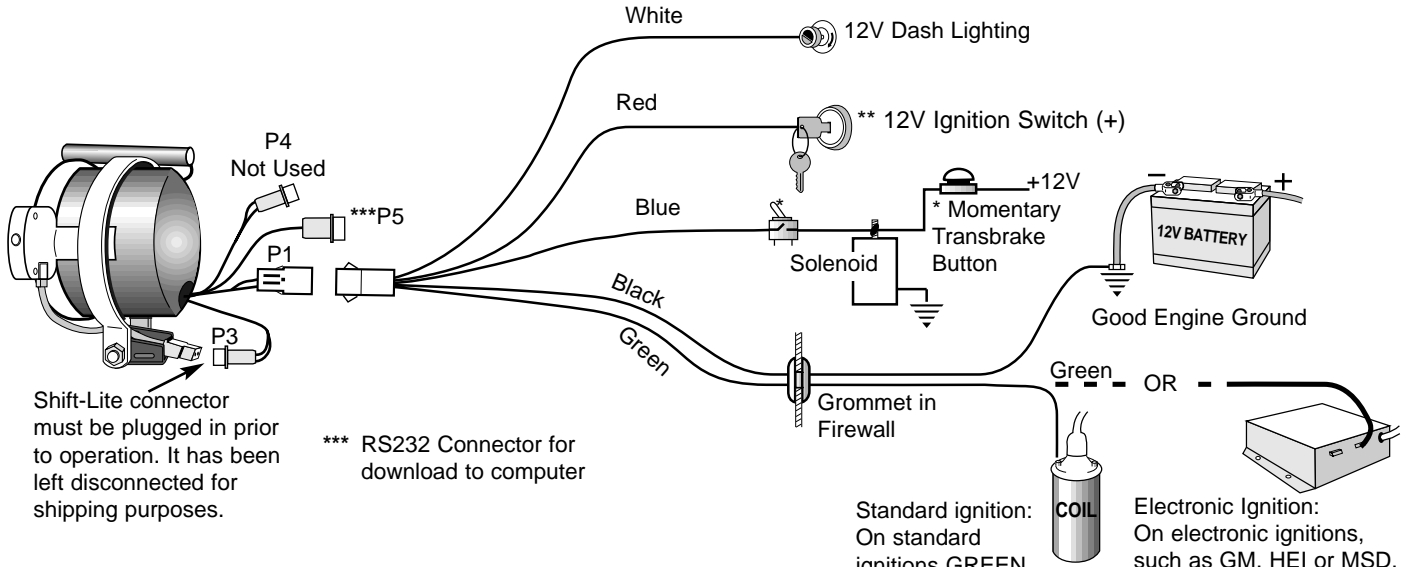
To select a menu option press the ENTER button. If at any time you want to exit the menu you are currently in, press the CANCEL button. The CANCEL button will take you back to the TACH display and will not store the entries you have made.

Press the ENTER key to store the settings you have entered. After pressing ENTER, the only way to return to the original settings is to re-enter them.

When a display indicates a run (for example:  $r_{n}n2$ ), the number will not be shown in this instruction. It will not be shown because any of the four runs could be displayed and we do not know which run you have selected/displayed. In this example, the instruction would show  $r_{n}n$  .

# Contents

Introduction .....	1
1. Wiring .....	3
2. Main Menu Options	
A. <i>TACH</i> - Tach Mode .....	4
B. <i>REC</i> - Record Mode .....	4
C. <i>PEAC</i> - Peak Recall .....	4
D. <i>RUN</i> - Change Run Number .....	5
E. <i>PLE</i> - Playback Engine RPM Recording .....	5
F. <i>PLP</i> - Playback Engine RPM in Peak and Valley Mode .....	5
G. <i>dPC</i> - Download to Computer (PC) .....	5
H. <i>Prn</i> - Printer Interface Download .....	6
I. <i>SP 1</i> - Set shift point #1 and "Hold Set Point 1" Delay .....	6
J. <i>SP2, SP3, SP4</i> - Set shift point #2, #3, #4 .....	6
K. <i>brnS</i> - Burnout setpoint .....	6
L. <i>PLSP</i> - Playback Speed Setting .....	7
M. <i>PrSP</i> - Printer Interface Speed .....	7
N. <i>PPr</i> - Pulse Per Rev .....	7
O. <i>TYPE</i> - Displays the Model Number .....	7
P. <i>SOFT</i> - Displays the Current Software Revision .....	7
Q. <i>SERL</i> - Displays the Tachs Serial Number .....	7



Shift-Lite connector must be plugged in prior to operation. It has been left disconnected for shipping purposes.

\*\*\* RS232 Connector for download to computer

Standard ignition:  
On standard ignitions GREEN wire attaches to coil negative (-).

Electronic Ignition:  
On electronic ignitions, such as GM, HEI or MSD, connect to tach terminal.

**WARNING**  
ATTACH GREEN ONLY TO TACH TERMINAL.  
Warranty will be void if connected to coil on MSD ignitions.

**NOTE:** This tachometer operates on standard, factory electronic and high performance electronic racing ignitions, such as Crane and MSD. (This tach is NOT recommended for use on Accel, BEI or Laser I & II ignitions. These ignitions require model 5215 adapter.)

**NOTE:** The tach pointer may not always rest at zero. This is a natural characteristic of the High Performance air-core meter movement used in this tachometer. When the engine is started, the pointer will position on the correct RPM.

**NOTE:** When the tach is receiving input from the ignition, it will not playback a recording.

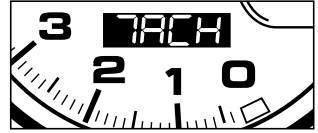
\* Optional Switch: Recommended if Line Lock is used for burnout and staging.

\*\* Optional Wiring: Use red wire to separate switch from battery. This lets you stop recording normally even after engine is turned of, which prevents recording loss.

## 2. Main Menu Options

### A. TACH - Tach Mode

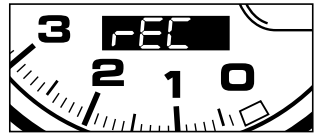
In Tach Mode, the Tach operates as a standard tach. It displays RPM and operates the shift light. All 4 shift points are active only when the blue wire is used. When the blue wire is not used, only the first shift point is active. When the tach RPM is less than 3,000 RPM the tach will return to shiftpoint 1, and hold shiftpoint 1, and the delay timer will be reset. Timer will not start again until blue wire is activated. The shift-lite will not light after the fourth shift and *done* will be displayed. The shift-lite will not operate when the blue wire is connected to a +12V source or when the hold setpoint delay is running. Momentary 12 volts will activate the delay and shift sequence.



### B. REC - Record Mode (Records Burnout, Pre-race, and Race)

1. Press Enter to Activate Record Mode.

- The display reads *rdy* (Ready), indicating the tach is ready for operation.
- To skip the burnout recording and go directly to prerace, press enter.
- The shift light will use setpoint 1 until the tach enters the race record mode.



2. When the Engine rev's above the Burnout Setpoint, Burnout recording will begin.

- The display will read *burn*, indicating the tach is in Burnout mode.
- The Burnout mode will record for 20 seconds. If engine rpm drops below the burnout setpoint before 20 seconds is reached, recording will stop.
- If the engine rpm does not stay above the burnout setpoint for more than 2 seconds, burnout mode will not be entered and the display will read *rdy* again.

3. After the minimum 2 second burnout recording, the tach will go to the prerace record mode and read *PrE*.

- The prerace mode will continue until triggered by your launch.
- The prerace mode has a floating 2 second recording window. When you launch, the tach will store 2 seconds of recording prior to the launch.

4. Race recording will start when:

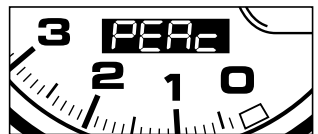
- The tach receives a trigger signal (12V is applied and removed).

5. Race recording will stop when:

- 20 seconds has elapsed.
- The Cancel button is pressed.

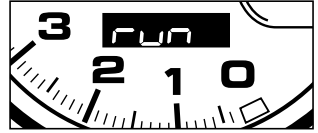
### C. PEAK - Peak Recall

- Press ENTER, the current peak RPM value will be displayed and a LED on the right side of the display will light up.
- Press ENTER to return to the MAIN Menu or press  $\blacktriangledown$  to clear the Peak Recall value. The display will change to *CLR*. Press ENTER and the peak will be cleared.



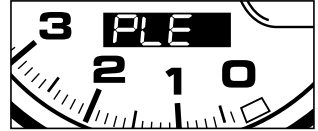
## D. *run* - Run Select (Select the run number to play, download or record to)

1. Press ENTER to select the Run Select Mode. The display will read *run*.
2. Press the up and down arrows to select the new run.
3. Press ENTER when the desired run is displayed.



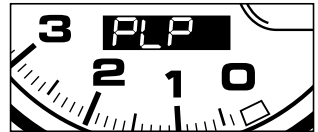
## E. *PLE* - Playback Engine Recording (shows burnout, pre-race, and race)

1. Press ENTER to select engine playback.
2. *burn* will be displayed (press ENTER to continue).
3. Burnout will playback.
4. When burnout is complete, the burnout time will be displayed.
5. Press ENTER to move to Prerace playback. *PRE* will display.
6. Press ENTER to start Prerace playback. The display will count down from 2 seconds to 0 (launch).
7. When Prerace is complete:  
*CH1* will appear on the display.  
The pointer will move to the starting RPM (this is the start of the engine race recording).
8. Press ENTER to start engine race playback.
9. Playback can be paused at any time.
10. When playback stops the LED will display the time the recording stopped.
11. Press ENTER to return to the Main Menu.



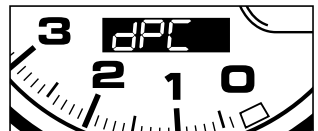
## F. *PLP* - Playback Peak / Valley

1. Press ENTER to select Peak / Valley playback.
2. The word 'DELAY' will be shown. While 'DELAY' is displayed the tach is computing the Peaks and Valleys.
3. Peak / Valley is ready to run:  
*CH1* will appear on the LED.  
The pointer will move to the starting RPM.
4. Press ENTER to start playback.
5. The playback will pause at the first peak.
6. During any Peak / Valley pause;  
The RPM value and time of the pause will be displayed.  
Press ENTER to continue.
7. When playback stops, the LED will show the time the recording stopped.
8. Press ENTER to return to the Main Menu.



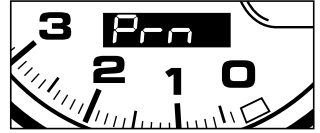
## G. *dPC* - Download to Computer

1. Press ENTER to enable the download to the computer (PC). The tach will display *rdy* and wait for a signal from the computer's software indicating it is ready to receive data. When the tach receives the signal it will display *SEND* and send the data.
2. When all the data has been downloaded, the tach will display *done*.
3. Press ENTER to return to the Main Menu.



## H. *Prn* - Printer Interface Download

1. Press ENTER to enter printer interface download mode.
  - a. *burn* will be displayed.
  - b. The initial rpm will be displayed.
  - c. Playback will pause.



2. Press ENTER to start burnout download.
3. If the burnout printout is not needed it can be skipped by pressing ENTER again. Any Playback print can be skipped by pressing ENTER.

4. All playbacks can be printed from this mode. They will appear in the following order:

Burnout (*burn* )

Prerace (*PrE* )

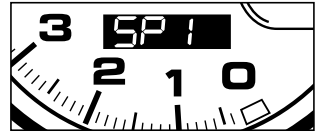
Channel 1 / Race (*CH 1* )

5. Press ENTER to return to the Main Menu.

**NOTE:** When downloading to a PC, a 9 pin serial connector (male to female extension) will be required. This may be purchased at any electronics store where computers are sold.

## I. *SP 1* - Set shift point #1 and "Hold Set Point 1" Delay

1. Press ENTER, the current setpoint will be displayed.
2. Adjust Shift Setpoint 1 as follows;
  - a. Press and hold the ▲/▼ arrow.
    - The displayed RPM will change.
    - Continue holding ▲/▼ and the RPM display will increase in speed.



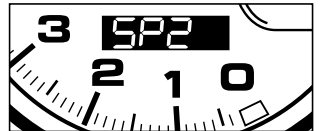
NOTE: The RPM value increases in 13 RPM increments.

The display shows the RPM value in decimal form (RPM x 1000). The decimal point represents a comma (Example: 07.99=7,990).

- b. When the desired reading is displayed, press ENTER.
  - c. The word *DEL* will now be displayed, press ENTER to continue.
  - d. The Hold Setpoint 1 Delay is now displayed. The tach reads a profile of RPM increase and decrease as a shiftpoint. The delay feature prevents inadvertently triggering a shiftpoint due to wheel spin or inconsistent throttle off the launch.
  - e. Set the delay time slightly before your known first shiftpoint with the ▲/▼ arrows.
3. Press ENTER to store the setpoint and return to the Main Menu.

## J. *SP2*, *SP3* & *SP4* - Set Shift Setpoint #2, 3 & 4

1. Press ENTER, the current setpoint will be displayed.
2. Adjust the Shift Setpoints as follows;
  - a. Press and hold the ▲/▼ arrow.
    - The display RPM will change one count.
    - Continue holding ▲/▼ and the RPM display will increase in speed.
3. When the desired reading is displayed, press ENTER and return to the Main Menu.



## K. *brn5* - Burnout Setpoint

When the burnout RPM goes above/below this RPM, the burnout recording will start/stop.

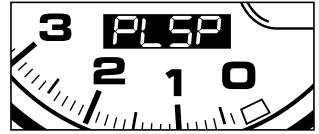
1. Press ENTER, the current setpoint will be displayed.
2. Adjust Shift Setpoint 1 as follows;
  - a. Press and hold the up or down arrow.
    - The pointer will move one count at a time.
    - Continue holding ENTER and the pointer will start to move slowly.
    - Continue holding ENTER and the pointer will start to move faster.
  - b. When the desired reading is indicated, press ENTER.
  - c. Press ENTER to store the setpoint and return to the Main Menu.



## L. *PLSP* - Playback Speed Setting

Toggles playback speed between full speed and half speed.

1. Press ENTER, the current speed will be displayed.
2. Press the up or down arrow to change the speed.
3. Press ENTER to store playback speed and return to the Main Menu.



## M. *PRSP* - Printer Interface Speed Setting

Toggles the playback speed between full speed and half speed. This should normally be set to half speed.

1. Press ENTER, the current speed will be displayed.
2. Press the up or down arrow to change the speed.
3. Press ENTER to store the setting and return to the Main Menu.

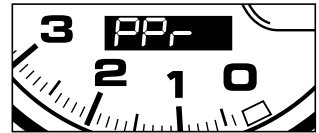


## N. *PPR* - Pulse Per Revolution

Sets the Pulse Per Revolution Setting.

1. Press ENTER to display the current pulse per revolution setting.
2. Press the  $\blacktriangle$  /  $\blacktriangledown$  arrows to change the *PPR*.

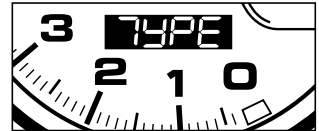
PPR Table
2PPR = 4 Cy 4 STR
3PPR = 6 Cy 4 STR
4PPR = 8 Cy 4 STR



3. Press ENTER to store the setpoint and return to the Main Menu.

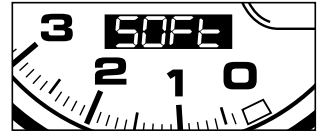
## O. *TYPE* - Displays the Tachs Model Number

1. Press ENTER to display the model number.
2. Press ENTER to return to the Main Menu.



## P. *SOFT* - Displays the Current Software Revision

1. Press ENTER to display the software revision number.
2. Press ENTER to return to the Main Menu.



## Q. *SERL* - Displays the Serial Number

1. Press ENTER to display the current serial number.
2. Press ENTER to return to the Main Menu.



---

## 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

Auto Meter Products, Inc. warrants to the consumer that all Auto Meter High Performance products will be free from defects in material and workmanship for a period of twelve (12) months from date of the original purchase. Products that fail within this 12 month warranty period will be repaired or replaced at Auto Meter's option to the consumer, when it is determined by Auto Meter Products, Inc. that the product failed due to defects in material or workmanship. This warranty is limited to the repair or replacement of parts in the Auto Meter instruments. In no event shall this warranty exceed the original purchase price of the Auto Meter instruments nor shall Auto Meter Products, Inc. be responsible for special, incidental or consequential damages or costs incurred due to the failure of this product. Warranty claims to Auto Meter must be transportation prepaid and accompanied with dated proof of purchase. This warranty applies only to the original purchaser of product and is non-transferable. All implied warranties shall be limited in duration to the said 12 month warranty period. Breaking the instrument seal, improper use or installation, accident, water damage, abuse, unauthorized repairs or alterations voids this warranty. Auto Meter Products, Inc. disclaims any liability for consequential damages due to breach of any written or implied warranty on all products manufactured by Auto Meter.

---

**FOR SERVICE SEND TO: AUTO METER PRODUCTS, INC.**

413 W. Elm St., Sycamore, IL 60178 USA (815) 895-8141

Email us at [service@autometer.com](mailto:service@autometer.com)