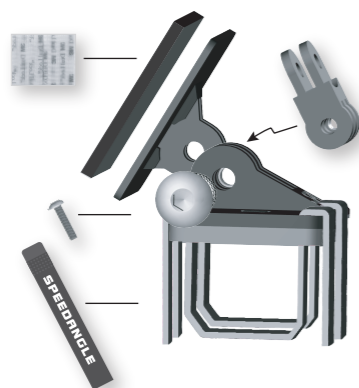


APEX INSTALLATION

Very easy. No drilling required.

DEVICE

1. Assemble the device mount and fasten it on the triple clamp with velcros. Add the extension arm if needed.



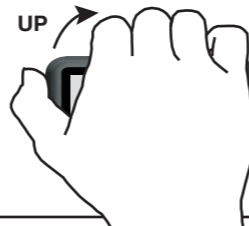
2. Adhere the two Dual Lock strips to the back of APEX.



3. With both hands holding the sides of APEX and the upper mount plate, squeeze until you hear a click.



4. To remove APEX from the mount, wrap your fingers around its upper front. Use your thumb base as a pivot, pull the upper end up. Then pull the device away.



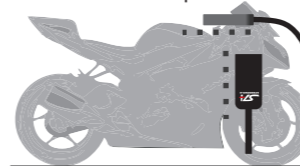
SENSOR

1. FIND A LOCATION

Stand your bike up with both wheels on the ground. Find a plane on your bike frame that:

- does not turn or vibrate,
- is horizontal or vertical to the ground, and
- is on or parallel to the bike longitudinal center line.

If necessary, use the aluminum plate included to create a horizontal or vertical plane.

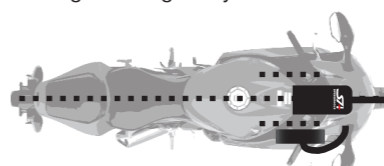


2. SENSOR ORIENTATION

Adhere the 3M gray tape included to the back of the sensor.

If your installation location is horizontal to the ground, place and adhere the sensor horizontally, with the cable leading forward.

If the location is vertical, adhere the sensor vertically, with the cable leading down and SA logo facing to the right of your bike.



3. SECURE AND CONNECT

Make sure the whole sensor base (and both ends of the aluminum plate, if used) is adhered securely. Otherwise, the extra vibrations may affect angle measurement.

Then connect the sensor cable with the device cable BEFORE powering the device on.



4. CHECK DEVICE SETTING

Check if the system sensor orientation setting fits your installation orientation:

- Connect sensor and power on.
- Press to enter Laptimer menu and go to SYSTEM SETTING. Press to enter.
- At "SENSOR: ", if the setting does not match your sensor orientation, press to re-detect.

This procedure is necessary every time you change the orientation.

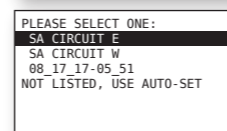
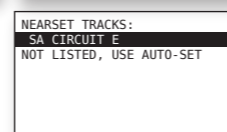
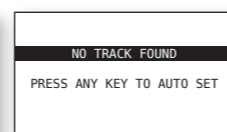
This setting is to tell the system how to read sensor data, not an indication to the correctness of the installation.

POWER ON

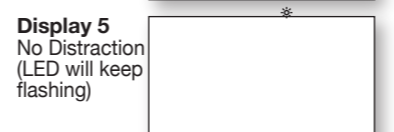
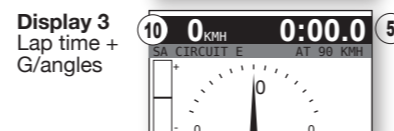
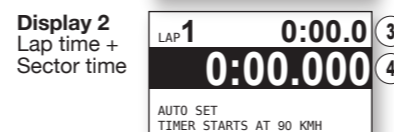
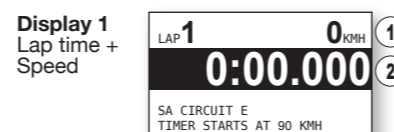


PLEASE CHOOSE SAFETY OVER PERFORMANCE WHILE RIDING. BY USING THIS DEVICE, YOU AGREE TO ASSUME ALL RISK AND RESPONSIBILITY RELATED TO ITS USAGE.

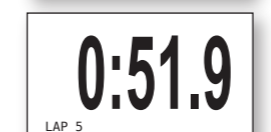
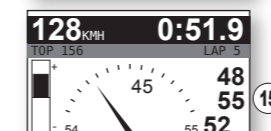
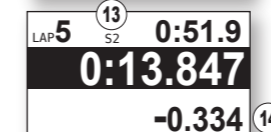
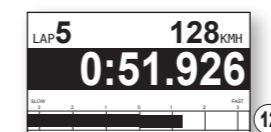
AUTO SEARCH



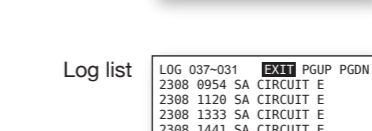
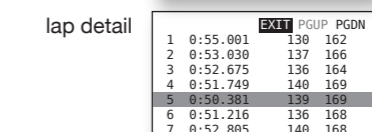
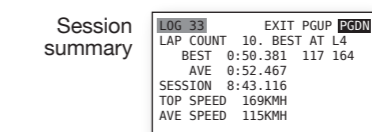
STANDBY



AUTO START/AUTO SET



AUTO STOP/REVIEW



POWER OFF



- : Press to turn the power on, or, in a menu, to exit immediately. Press for 2 sec to enter BACKLIGHT MENU. Press for 4 sec to power off APEX.
- : Press to enter LAPTIMER MENU, or to go to the next menu item.
- : Press to change menu item values, or to confirm selection.

You can press or to skip the welcome screen and liability screen.

Except for the step marked with an asterisk, you don't have to do anything or press any key to run APEX. It will enter the next stage automatically. Just focus on your ride. APEX will take care of itself.

APEX will enter the display mode you used last time and start GPS positioning.

Then APEX will search for and list the tracks nearby as Search Result (5 at most) for 60 seconds.

Press any key or make a selection to skip the wait. Or, do nothing. APEX will enter Standby after the 60 seconds.

For best GPS signal strength, turn APEX on at least 5 minutes before riding.

No track found
APEX will Auto set an FL before starting timing.

One track found
APEX will use it directly when timing.

Multiple tracks found
Press to go to the track you want. Press to confirm.

If none has been selected,
APEX will Auto set a new FL before starting timing.

If starting speed is reached during Search Result, APEX will use the track found or Auto set a new one according to the rules above and start timing immediately.

1. Speed
2. Lap time
3. Lap time
4. Sector time
5. Lap time
6. Max right angle
7. Current angle
8. Max left angle
9. Longitudinal G
10. Speed
11. Lap time
12. Predictive time gap in bar (Bar = the progression of your bike, 0 mark = the best lap bike. The gap between Bar and 0 mark = the seconds you are ahead of or behind best lap)
13. The line ahead
14. Predictive time gap in digits
15. Max angles of the last three turns (Only max angles greater than 16 will be updated.)

AUTO START: Once the Starting Speed (90KM/H/60MPH by default, configurable) is reached, APEX will start timing and logging automatically.

AUTO SET: If Auto set was selected at Search Result, APEX will set a Finish Line where the starting speed is reached before starting timing.

FREEZE TIME: The lap/sector time will be static for a period of time (configurable) everytime a line is crossed.

BEST LAP: If a best lap/sector is created, the screen color will be reversed to black for the freeze time period.

PREDICTIVE TIME GAP: After finishing a complete lap, APEX will keep comparing your location with that of your best lap at an 1 second to 25 second interval, depending on the lap length, and predict the time gap in digits or with the progress of a bar.

To stop timing manually, press to stop and enter menu, or press to stop and see session summary.

AUTO STOP / AUTO REVIEW: Once SA timer has been idle for a preset period of time, it will stop timing and logging automatically, and then display the summary of this session.

To view the detail of each lap, press at PGDN.

To view other logs, press to go to EXIT, and press to confirm, or just press . This will bring you to the log list.

You can always press to exit to the upper level.

Wherever you are, once the starting speed is reached, APEX will start timing/logging automatically again.

You will see Backlight Menu when you have pressed for 2 seconds. Keep pressing to power the device off.

FAQ: www.speedangle.com/FAQ



HANDS-FREE TIMER

The best way to use it is DO NOTHING.

SPECIFICATION

- Device dimension: 94.5*70.5*30.5mm
- Device weight: 150g
- Sensor dimension: 34.5*16.5*7mm
- Sensor weight: 25g
- 10 Hz GPS sampling rate
- GPS speed range up to 255 mph (410 kmh)
- Lean angle range up to R/L 69°
- Longitudinal G range up to ±1.5G
- LCD resolution 256*128, readable in sunlight
- Water resistant
- GPS and GLONASS dual systems
- Sensitivity -167dBm, 72 channels
- Log time up to 50 hrs or 254 logs
- 3.7V Li-ion battery
- Battery life up to 17 hrs (backlit off)
- USB 2.0 compatible
- Dual sensor installation orientations

- Lap time resolution 1/1000s
- Auto track search
- Auto Start/Finish setup
- Auto timer start
- Auto timer stop
- Auto data logging
- Auto session summary display
- Auto sleep
- Best lap and sector time
- Predictive time gap
- 5 display modes
- Local tracks preloaded
- 15 custom tracks in memory

- Free analysis software
- Google Earth 3D replay



FAQ:
www.speedangle.com/FAQ

Specifications and package content subject to change without prior notice.

PLEASE CHOOSE SAFETY OVER PERFORMANCE WHILE RIDING. BY USING THIS DEVICE, YOU AGREE TO ASSUME ALL RISK AND RESPONSIBILITY RELATED TO ITS USAGE.

MENU

Press **[M]** to enter Laptimer Menu.
Press **←** to adjust item value.
Press **[M]** to go to the next menu item
Press **⏻** to save and exit immediately.

Select to enter log list. Then select a log to see its summary or detail.

to select a display mode:

lap time + speed
lap time + sector time
lap time + angle and G
lap time in large fonts, or no distraction (blank screen).

to set timer starting speed at:

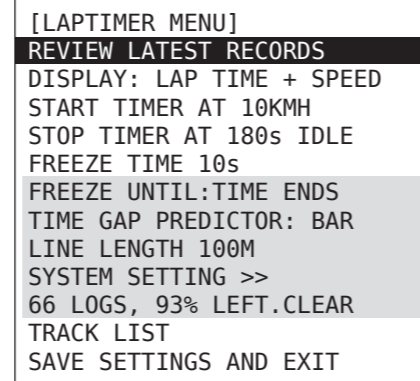
10, 30, 60, 90, 120, 150, 180, or 210.

to set timer to stop when the speed stays below 6 for:

10, 20, 30, 60, 90, 180, or 240 sec.

to set the length of time the display is to stay frozen when a line is crossed.

10, 20, 30, 45, 60, 90 sec



to clear ALL memory.

Please see the separate sheet.

(available only for lap time + sector time mode) to unfreeze freeze time:

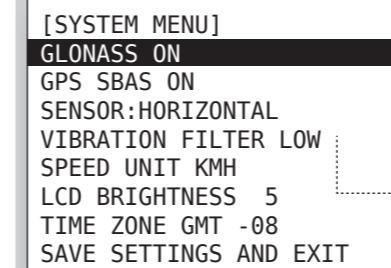
only when freeze time ends, or earlier if passing a line

to set to show predictive time gap in: bar, or digits

to set the line length Auto Set is to use when setting a Finish Line:

60 or 100M (Use 60 at a kart track.)

to enter System Menu:



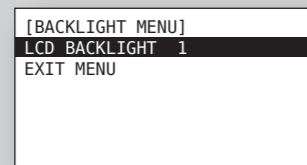
- GLONASS on for faster positioning, off for better trace consistency across sessions.
- SBAS ON for Europe, the US, and Japan.
- shows the current system sensor orientation setting. Press **←** to reset if it does not match your sensor orientation.
- to set sensor vibration filter level.

If your angles are unreasonably small, change to MID or even HIGH.

MORE

BACKLIGHT

Press **[P]** for 2 seconds to enter Backlight Menu. Press **←** to set backlight level at 1, 2, 3, or off.



BATTERY CHARGING

APEX can be charged with a certified smart phone charger or a computer.

ICONS

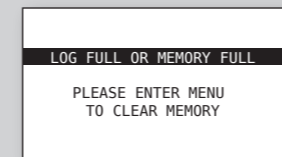


- Signal strength: GPS reception quality
- REC: Flashes when data is logging.
- Temperature icon: Flashes when the environmental temperature is above or below working range (2°C ~60°C).
- Battery icon: Battery icon
- Time icon: Current time

MEMORY FULL

The max memory capacity of APEX is 50 hours or 254 logs, whichever is reached first.

If the memory is full, APEX will display



Please enter Laptimer Menu and go to "# logs, #% LEFT. CLEAR" to clear ALL memory.

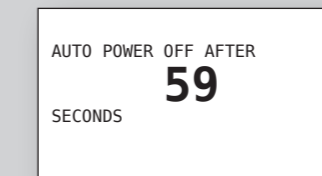
WARMUP LAP

If you are in lap 2 but your speed stays below 5 for more than 20 seconds, APEX will assume that lap 1 is your warmup lap and you are now waiting in the grid to start racing. It will then set the lap count back to 1 so that you will start from lap 1. The logging will not be interrupted to make sure that your start will be captured.

Please note that if you stay idle for longer than your idle time (180 sec by default), APEX will stop timing and logging. If you may wait in the grid for more than 180 sec, change the idle time to 240 sec.

AUTO POWER OFF

If APEX has been idle for 60 minutes, it will start counting down for 60 seconds and then switch the device off automatically.

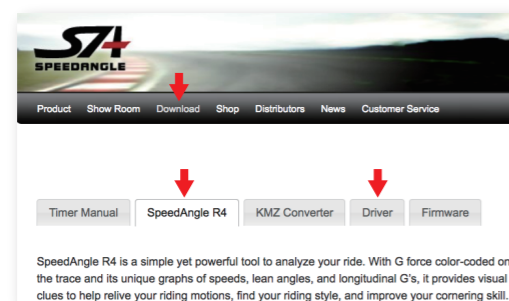


If you would like to use it again, press **[P]** to turn it on.

DOWNLOAD

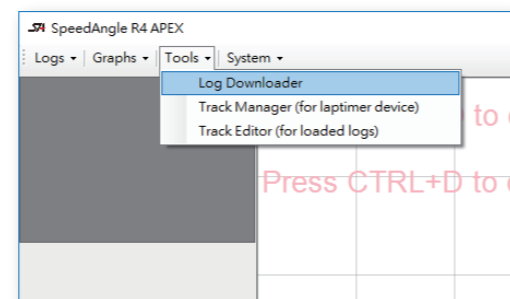
Please go to www.SpeedAngle.com/Download to download:

- USB driver (Double click to start installation.)
- companion software SpeedAngle R4 (No installation required. Unzip before use.)

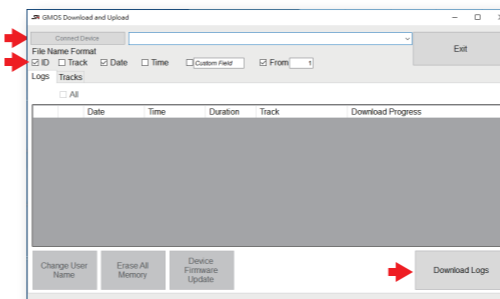


Connect APEX to your computer with the device cable. It will turn on automatically. If this is the first time you connect to this computer, wait till Windows displays "This device is ready for use". Sometimes this may take a few minutes.

Launch SpeedAngle R4 and click on MENU -> TOOLS -> LOG DOWNLOADER to open the Download dialog.

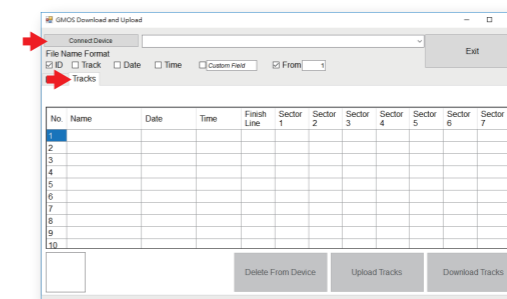


Click on CONNECT DEVICE to connect your timer. Select the items you would like to show in the filenames, and then click DOWNLOAD LOGS.



To upload/edit/download custom tracks to/from APEX, please click on the TRACK tab after device connection to use Track Manager.

Please note that preloaded tracks can not be viewed for the time being.



For more information, please go to the R4 download webpage and watch the tutorial videos.



Connect and download
<https://youtu.be/g08RyxMiObQ>

Track Manager
<https://youtu.be/ELW3T0o5Z4>