

This guide describes the different SpeedCheck™ display feature options you have to choose from. The below index will help guide you through the document.

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SpeedCheck™ radar speed displays – slow down traffic immediately and over time.

We offer a broad range of products, optional display features and stand and mounting options to help you tailor your traffic calming solutions.

Display Size – Our large, easy-to-read LED displays come in two sizes.



Our SpeedCheck™ display with 15-inch digits provides remarkable visibility, recommended for lower speed areas since the size of the overall sign is appropriate for these types of roadways. Our display is 75 percent larger than the MUTCD minimum and the overwhelming customer choice for school zones, neighborhoods and playground areas.



Our SpeedCheck display with 18-inch digits is sized for MUTCD expressways and highway applications, making it the ideal solution for higher speed areas. This display is extraordinarily visible and easy to read at higher speeds.

Some manufacturers continue to offer 12-inch displays, which just aren't visible enough to be noticed quickly.

Federal Highway Administration (FHWA) manual uniformed traffic control devices (MUTCD) compliance.

SpeedCheck displays are sized to comply with all FHWA's MUTCD specifications. MUTCD stipulates the absolute minimum digit size for signs at 24x30 inches with 12-inch digits.

The MUTCD specification provides for larger dimensions in increments of six-inches; "where speed, volume, or other factors result in conditions where increased emphasis, improved recognition, or increased legibility would be desirable." [2003 MUTCD 2B.03]

	1520	1820
Posted Speed	Up to 45mph	Over 45mph
Display Size	26 ½" x 20" x 6" 67 x 51 x 15 cm	31" x 22 ¾" x 5" 79 x 58 x 13 cm
Sign Size	30" x 42" 76 x 107 cm	36" x 48" 91 x 122 cm
Weight	31 Lbs. (14.5 kg.)	35 Lbs. (15.9 kg.)



Maximum speed awareness – Constructed with vibrant UltraClear™ technology, SpeedCheck displays get noticed.

Our ViolationAlert™ standard option flashes the two LED digits when the detected vehicle speed exceeds the posted speed limit. The higher the speed, the faster it flashes, and the more likely drivers will pay attention.

Our “SLOW DOWN” optional message further intensifies driver awareness. The message can be set to alternate with the vehicles speed, or to remain until the driver reduces the speed. The Slow Down message is six inches high and nine inches wide with two, LED color options of red or amber.

Our High-Speed-Blanking™ standard option discourages prankster drivers from racing the sign by causing the display to go blank at higher speeds.

Our speed limit flash option gives extra emphasis on speed limit changes, such as in school zones or other applications where the speed limit changes during certain hours.

Below is an example of a SpeedCheck Driver Feedback display set up. It is for a 25mph speed limit with **ViolationAlert** set at 26mph, **Slow Down** at 31mph and **High-Speed-Blanking** at 40mph.

Speed Limit	Minimum Display Speed	Violation Alert™	Violation Alert™ with SLOW Down	High-Speed-blanking™
25 MPH	0-25 MPH	26-30 MPH	31-40 MPH	40 plus MPH
User definable	Drivers speed No Flashing	Speed flashing; higher speeds, flash faster	Alternate Speed & “SLOW DOWN”	“SLOW DOWN” Flashing or High-Speed-Blanking

For extra emphasis you might want to consider adding an external flasher, strobe, or camera.

Our **DeviceManager™** allows you to control up to two external devices, such as flashers or strobes; that are triggered by your predefined speed thresholds.

Flasher systems are another option to further alert drivers to slow down during school hours when children are present. Combined with our easy-to-use scheduling software, SpeedCheck flasher systems allow you to tailor sign operation for your specific application.



SpeedCheck Display programming is easy and flexible.
We designed our tools with you in mind.

Your traffic calming application may change after you have ordered the display. SpeedCheck displays are designed to accommodate that possibility. Here are two options:



With our classic main board – our factory programs your display speed settings. This is ideal when there isn't a need for changing or programming speed settings, scheduling, or traffic data collection. If you change your mind later, you can change your speed settings in the field by gaining access inside the display to change jumpers on the main board.

With our programmable main board – you have the maximum programming flexibility. Changing your speed settings or programming features is quick and easy, using one of our DisplayManager™ options. The main board is configured with a Bluetooth™ device for wireless onsite communication or a wireless modem for communication at a central office.



DisplayManager™ – Changing settings, downloading data and maintaining your display is simple.

You can manage your displays wirelessly with our DisplayManager program either on site or from your office using your desktop computer.



- With a Bluetooth™ wireless connection at the display location; you can configure and maintain an individual SpeedCheck display from up to 50 feet in front of the display. You may use a Bluetooth enabled Palm™ OS PDA (Personal Digital Assistant) or notebook computer.
- If you have multiple displays, you may want to choose the DisplayManager Central Office application. This allows you to manage your displays from your desktop via the internet and a wireless modem in each display.

DisplayManager™ Basic customizes speed awareness features and enables the display software to be upgraded by connecting onsite to an individual display with a Bluetooth-enabled Palm OS PDA with DisplayManager basic software. You can control many functions, including:

- Minimum display speed
- Speed limit
- ViolationAlert™ speed
- SLOW DOWN message
- High-Speed-Blanking
- Speed Limit Flash
- DeviceManager™ option which triggers flashers, strobes or other external devices



DisplayManager Plus is required for our TrafficAnalyzer™ and Scheduler options.

This option includes all DisplayManager Basic functions, plus the ability to program scheduling and traffic analysis options and download traffic data collected. It also uses a Bluetooth-enabled Palm OS PDA to connect to individual displays and comes with DisplayManager plus software.

DisplayManager Advanced allows you to use a Bluetooth-enabled notebook or laptop to connect to the individual display. In addition to all DisplayManager Basic and DisplayManager Plus features, you will be able to:



- Add increased scheduling functions, including a two-year calendar with up to 16 events per day and the ability to program for holidays.
- Save programmed settings for uploading to multiple signs.
- Immediately analyze traffic speed and flow data using the TrafficAnalyzer software on your notebook or laptop.

DisplayManager™ Central Office – It's easy. No need to leave the office to sit in traffic and waste precious time.

This system lets you manage all your SpeedCheck displays remotely by using your office PC and a wireless modem in the displays. You can monitor and change every display in your system without leaving your desk!

Our DisplayManager™ Central Office™ is ideal for managing our Driver Feedback displays, Speed Limit displays, and TrafficFlow Manager™ systems. You are able to:



- Update operation schedules at the last minute for school zones, HOV lanes, or special events
- Change awareness settings
- Download traffic statistics, speed and traffic flow information
- View current operational status of all displays
- Upload software changes

Our SpeedCheck™ Central Office system allows you to manage your signs as a group, programming them all at the same time rather than individually. You can also save profiles for your different display applications such as school zones, arterials, or changeable speed limits determined by commute times.

At the push of a button, you can verify that every SpeedCheck display in your system is operating properly, making SpeedCheck Central Office ideal for managing multiple displays within a city or over a large geographical areas.

Display Schedule Options. SpeedCheck™ Scheduler provides incredible flexibility in display operations.

You can tailor virtually every time of operation, from simple display and data collection times to awareness settings and external devices such as flashers.

Our scheduler even supports two speed settings on one roadway – such as one speed during school hours and another when school is out.



The easy-to-use scheduling software allows you to program the speed limit displays to suit your changing needs – useful anywhere the speed is reduced during certain hours, such as school zones, business campuses, or HOV lanes.



SpeedCheck™ Scheduler is a sophisticated scheduling program. It allows you to tailor the operation of all features and outputs to specific dates and times. Yet the user interface is so friendly you can program a basic seven-day year-round schedule with ease.

The basic Scheduler uses a Bluetooth-enabled Palm OS PDA to communicate with individual displays, and provides a weekly schedule with up to eight events per day.



SpeedCheck™ Advanced Scheduler uses a Bluetooth-enabled notebook at the display location or from your desktop with our wireless Central Office application. The Advanced Schedule provides a two-year calendar with up to 16 events per day and the ability to save programmed schedules by location type, such as school zones, neighborhoods

Take your schedule operation to a higher level – with daily time synchronization. **SpeedCheck TimeKeeper™** prevents a possible time drift in your display clock. Each day TimeKeeper automatically synchronizes the internal clock in your display to a government atomic clock, using a GPS signal via satellite.

Daily synchronization ensures that your set changes occur exactly on time, and that multiple signs are in sync within a fraction of a second. TimeKeeper is useful for timed operations, or when you need verification that our speed limit displays are changed at the precise time.

SpeedCheck TrafficAnalyzer™, precise traffic data – don't lose the details with grouped or binned data.

SpeedCheck TrafficAnalyzer™ allows you to collect traffic density and speed data, a great tool for measuring the results of your traffic calming programs or for identifying problem areas or times for targeted police enforcement.

You can download data from multiple displays using a PDA, notebook or Central Office system, and you can collect speed data for over 200,000 vehicles without installing road tubes or using police radar.



Maintaining data integrity is an important concern.

When TrafficAnalyzer is turned on, it stores data until it reaches capacity. Then it either stops or is downloaded to avoid overwriting your time sample. TrafficAnalyzer stores data in the display's firmware, ensuring data safety even if the display loses power.

Our TrafficAnalyzer collects date, time, and speed on individual vehicles, and then our reporting program integrates the raw data into an Excel spreadsheet, which automatically generates reports for full analysis.

Date	Time	Speed mph
05/23/07	3:56 PM	12
05/23/07	3:56 PM	22
05/23/07	3:56 PM	15

The Traffic Analyzer software delivers a pre-set report in on file tab within the excel worksheet, while another tab gives you access to the raw data for use with any other traffic analyzer software.

The chart to the left shows how the raw data is stored, showing three vehicles passing the display on May 23, 2007 within a minute at 3:56 PM.

SpeedCheck TrafficAnalyzer™, easy, effective reporting – anyone can download and analyze the traffic data.

Our SpeedCheck TrafficAnalyzer™ software programs the radar to lock on to the vehicle until it passes the display. The recorded speed is the last speed the vehicle was traveling when it passed the display. *Note: Given the limitations of Doppler radar, vehicle counts may differ from counts by road tube, but speeds will be accurate within one mile per hour.*

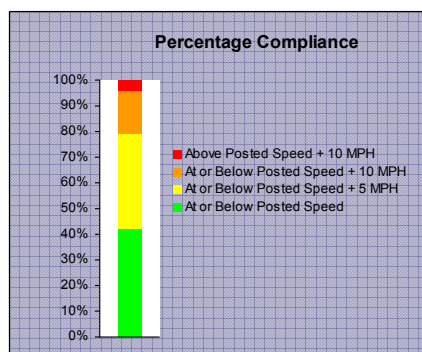
Police & Targeted Enforcement

Drivers slow down instantly and long-term with our radar speed displays. Increase the focus on speeders with targeted police enforcement. Our SpeedCheck TrafficAnalyzer is ideal to pinpoint speeding drivers during specific hours and days.

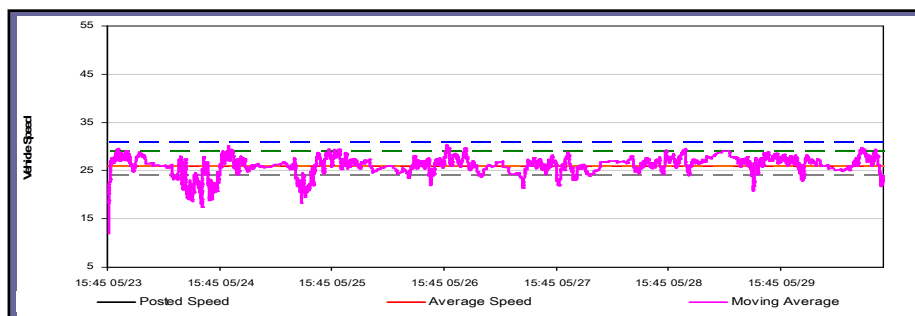


Here are samples of TrafficAnalyzer reports.

The below example shows from 5/23 through 5/29, a total of 9,543 vehicles were measured in a 25mph zone. The average speed was 25.9 mph. 41% of those vehicles were no more than five mph over the speed limit, with the 80th percentile at 31 mph.



Number of Data Points	9543
Posted Speed	25
Average Speed	25.9
Percentiles:	
80 th	31.0
70 th	29.0
50 th	26.0
30 th	24.0





THE BEST IN THE BUSINESS

SPEEDCHECK™

Display Feature Options

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SpeedCheck™ Stand and Trunk mount displays are delivered with everything you need, (except the battery).

Our **SpeedCheck™ Portable powered displays** are ideal for temporary traffic calming solutions, saving much travel and deployment time by using batteries for power.



Stand-mount displays can run on a deep-cycle battery for five to seven days of daily operation. It can be deployed within minutes.

The 12VDC battery recharge time varies with usage: After one day of use, it will recharge within a few hours. For one week of use, it may take 24-30 hours to fully recharge. (We recommend a deep-cycle 24 battery, available at any sporting goods store at prices ranging from \$50.00 to \$70.00).

Trunk-mounted displays can either get power from the vehicle battery with an adapter plug for the cigarette lighter, or from a deep-cycle 24-battery placed in the trunk.

Our Trailer-mount is collapsible and light weight - making it easy to store and move for setup.

Trailer-mount displays are ideal when you want to leave the display in place for longer periods and require more security. Our displays are powered with a large solar-assisted battery pack and self-regulating solar charge controller.

With solar assist, the display can operate up to six weeks without recharging. Without the aid of a solar panel, the Trailer-mount will operate for up to 15 days with the battery.

All SpeedCheck Trailer-mount displays are equipped with a single 12-volt 245 amp-hour battery, a 10-amp charger that automatically shuts down once the battery is fully charged and a 120-volt battery charger.

Lowest Power Consumption – unique technologies combine to dramatically lower power needs.

SpeedCheck™ displays consume only 50 to 67 percent of the power required by displays from other manufacturers. With lower power requirements, our SpeedCheck displays are a savings today and over time. If you are installing solar, the display will use smaller, lower-cost solar equipment, meaning upfront savings on your investment. If you are installing AC your lower power bills mean increased savings over time.

Our AC-powered displays support 110/220 and 220/240 VAC; typically, 25 watts draws ¼ to one AMP depending on conditions. Our AC-powered displays consume 80 to 120 kilowatt-hours annually when connected to AC grid power and operating 24/7. Even in areas where power cost is high, the power bill for your display typically is less than \$50.00 per year.

A flat rate is usually available on our pole-mount installations, removing the need for a utility power meter. If you contact the power company with the average power draw, they will often honor a flat rate. This is a standard practice for streetlights and signals and can greatly reduce the cost over an AC installation requiring a power meter.

We can guarantee full-time solar-powered operation even in the worst winters.



Our Solar-powered displays are designed with a low power draw, meaning they can operate reliably on solar power in low-light locations. At Information Display Company, we understand how to size solar even for overcast climates and with obstructions of sunlight. We consider the right things, such as traffic volume and hours of operations for each display location. In addition, we verify geographic solar data by location, including the worst winter conditions. While most battery-powered equipment is sized for three-year battery life; SpeedCheck displays keep the battery charged at the appropriate levels which can add 5 to 7 years to the battery.

Be wary of vendors using average weather data; with solar-power, one size does not fit all. Using averaged data for sizing solar panels may mean your display will not work some days during a bad winter year or you have too large of a solar panel increasing your upfront cost.

SpeedCheck Solar-powered displays are delivered with everything you need to install the solar system, (except the pole). The 10-16VDC solar system includes solar panels, racks, wiring, and pole-mounting battery package with: battery, battery box, brackets, and solar charge controller.