

*SpeedView*TM *Traffic Data* *Computer*

OPERATOR'S MANUAL

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Section 1 – Set-up Information

Setting up your computer to communicate with the SpeedView traffic data computer

Note: This is primarily done for setting date and time on the SpeedView computer

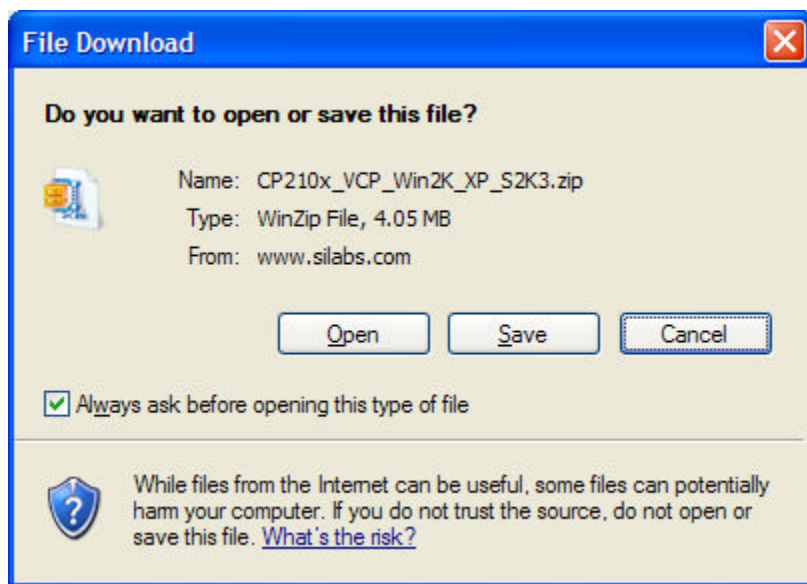
The SpeedView traffic computer communicates with you computer using the USB host port (identified in Drawing 1). In order to do so, it has to have a software program called a “Virtual COM Port Driver” set up on the machine. The particular one used by SpeedView is the CP210x.

In order to install this on your machine, use the following process. (If you have detailed questions, please refer to Application Note 335, “USB Driver Installation Utility Application Note” located on the internet at <https://www.silabs.com/Support%20Documents/TechnicalDocs/an335.pdf>.)

1. Refer to the disk supplied with your SpeedView system. Select the “Driver” folder that corresponds to you computer’s operating system. Open the folder and run the ZIP file in the folder. Go to step 2.

Alternately you can go to the webpage <https://www.silabs.com/products/mcu/Pages/USBtoUARTBridgeVCPDrivers.aspx>. (This page may be changed by SilLabs. If so, you can search their sit for “CP210X Drivers.”) This is the installation page for the “CP210x USB to UART Bridge VCP Drivers”. You will see listed several different versions of the CP210x driver listed, each one for a different operating system on your computer. Most users will need version marked “Download for Windows”. Click on the phrase “VCP Driver Kit” listed under the appropriate operating system for your computer.

2. Windows users will normally see something similar to the following screen.

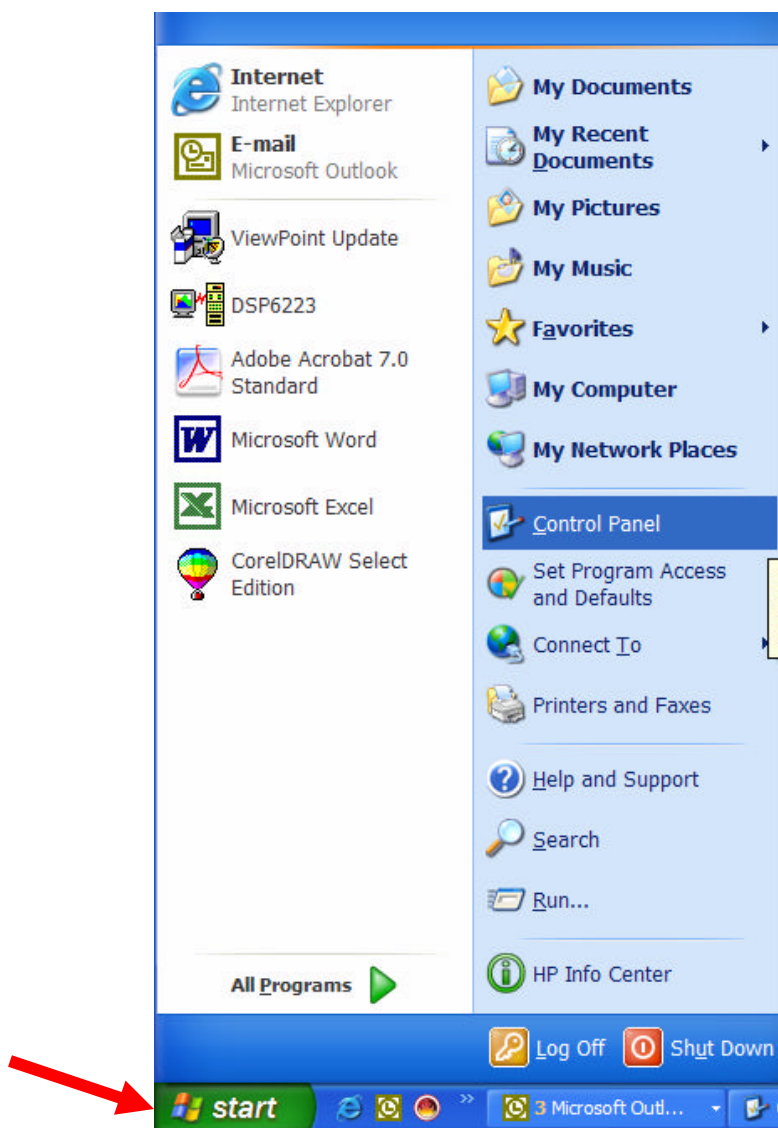


We recommend that you temporarily save this file to your Desktop, and then run it. To do this, press the button marked “Save”, and in the menu that follows, select that it be saved to your Desktop.

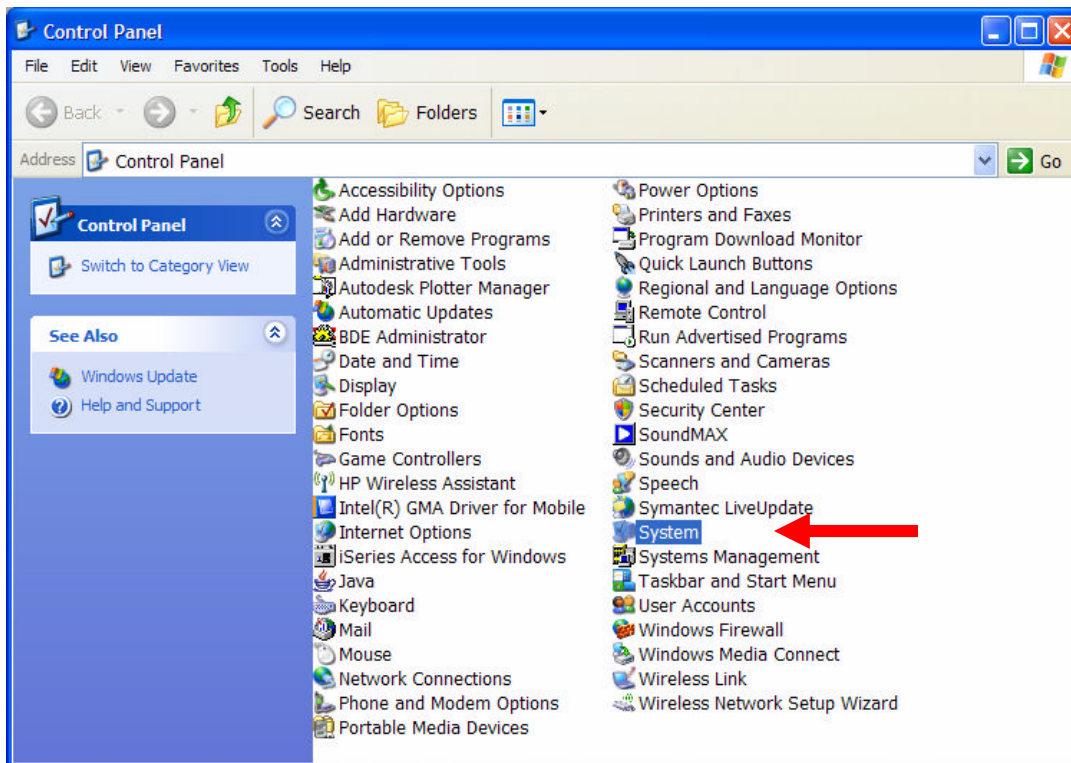
3. From your desktop, run the file. For Windows users, the file should be called something like “CP210x_VCP_Win2K_XP_S2K3.exe”

Connecting the SpeedView traffic data computer to your computer

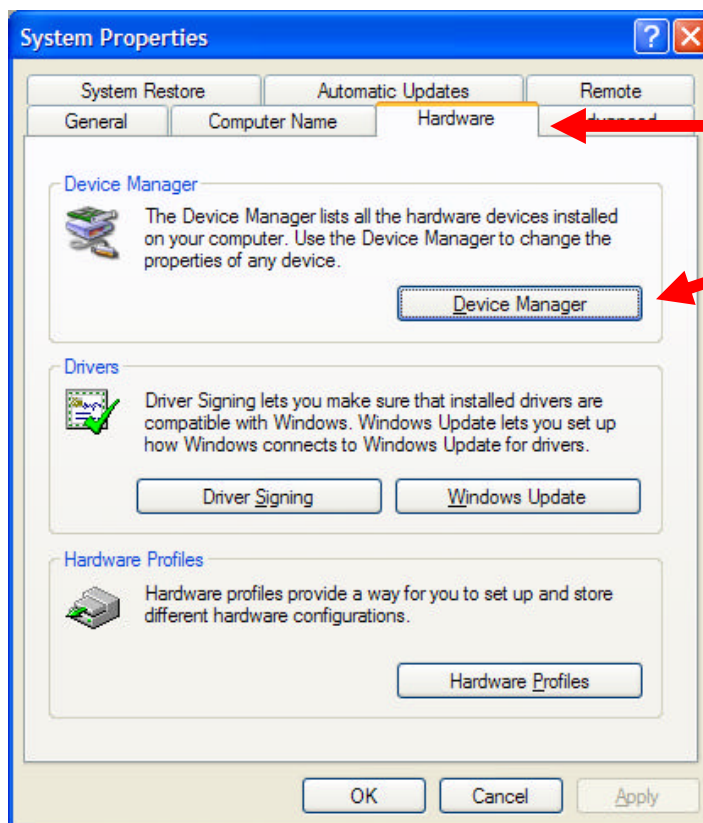
1. Plug the supplied USB device to USB host cable into one of the USB ports on your computer. Plug the other end of the cable into the host port on the SpeedView SpeedView computer.
2. Plug the supplied AC adapter into the SpeedView computer and then into the wall socket.
3. Turn on the SpeedView. The computer should recognize the traffic computer as a USB device and may prompt you with the statement “New USB device found. ”.
4. Press the Start Button on your taskbar, followed by Control Panel.



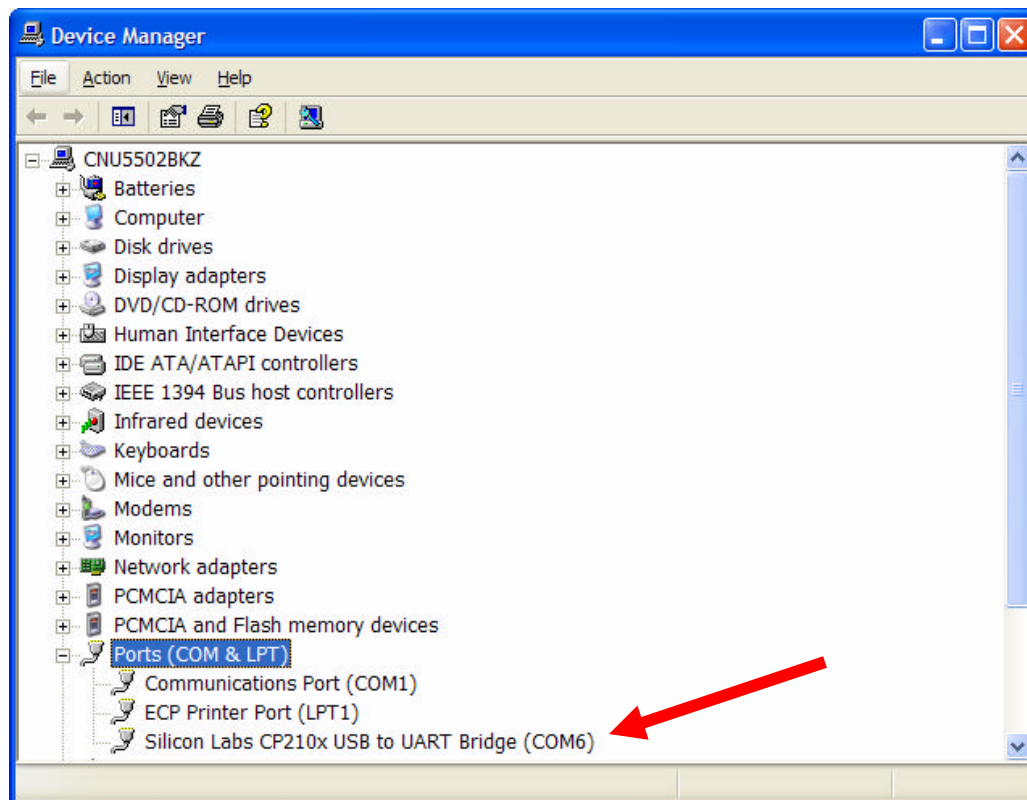
5. In Control Panel, select System.



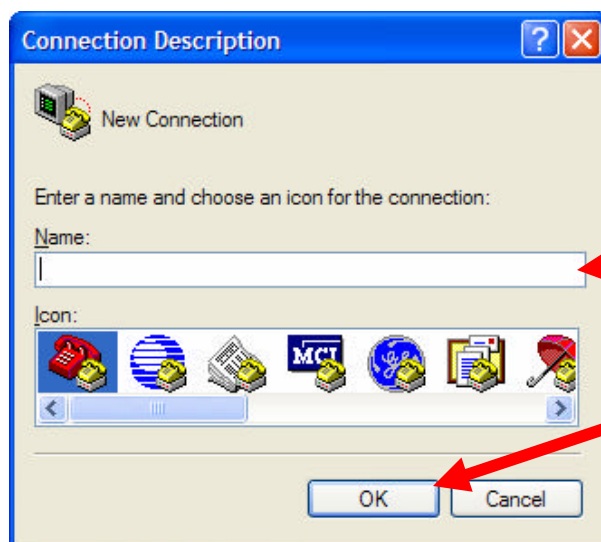
6. In the System Window, select the Hardware tab, and click on Device Manager.



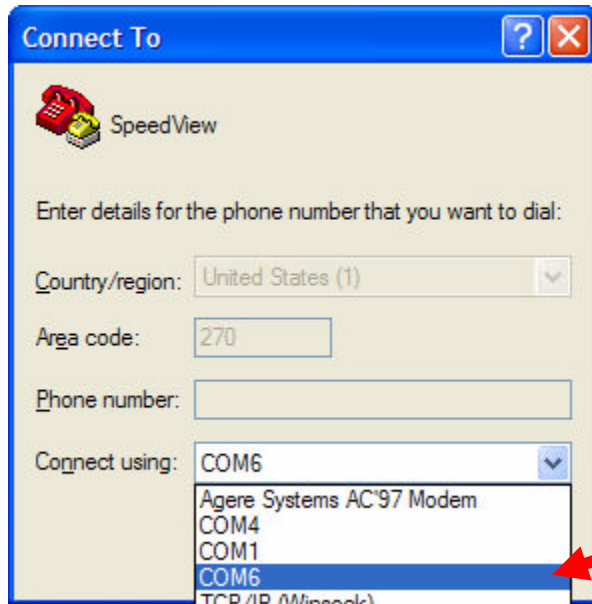
7. Windows will then display a list of all of the devices and hardware on the computer. Scroll down to the list of ports that are active, as shown below. Write down the number of the port that is titled “Silicon Labs CP210x”. We will use this information in a few minutes. In the example below, “Silicon Labs CP210x” is connected to port COM6.



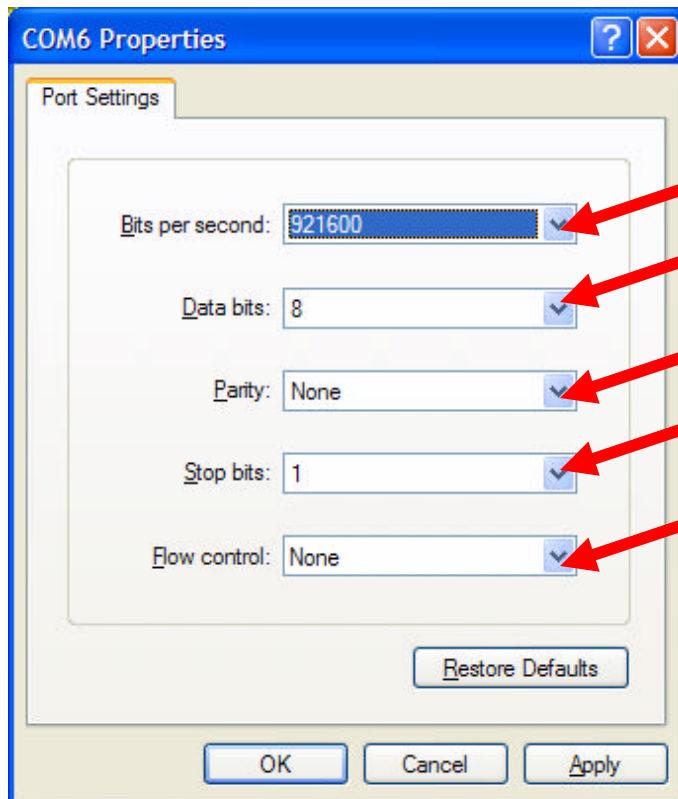
8. Start the program HyperTerminal. It is a standard part of Windows, and is found in the Accessories folder. The typical path is to press the Start button, followed by All Programs > Accessories > Communications > HyperTerminal
9. HyperTerminal will first ask you to name the connection you are using. You can use this to simply connecting to the traffic computer in the future. Type “SpeedView” for the name, and choose any of the icon choices you wish. Press OK when done.



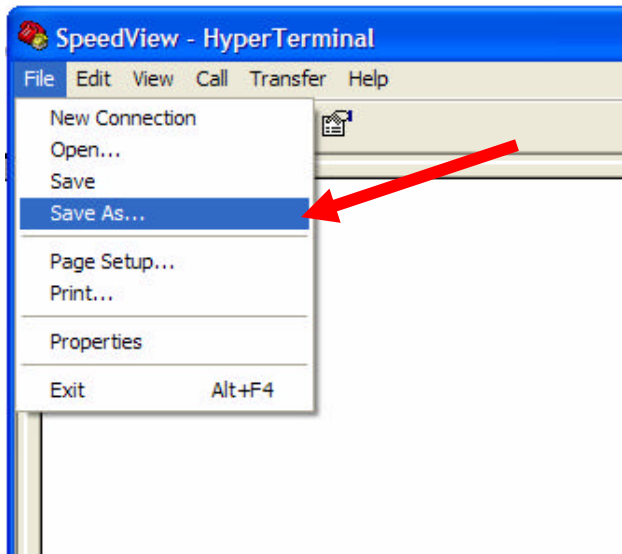
10. Now we need to tell HyperTerminal the name of the port to which the SpeedView computer is attached. In the pull-down menu titled “Connect using”, select the port that we wrote down in Step 7 above. (In the example, this is COM6, but in your situation, your computer may need to select a different COM port to use to communicate with the SpeedView computer



11. The following screen will appear to set the of the COM6 port. Select the fastest speed available in the “Bits per second” pull-down. Ensure that “Data bits” is set to 8, “Parity” is set to None, “Stop bits” is set to 1, and “Flow control” is set to None, as shown below.



12. You may want to save this configuration on your computer. To do this, select File on the HyperTerminal taskbar, followed by Save:

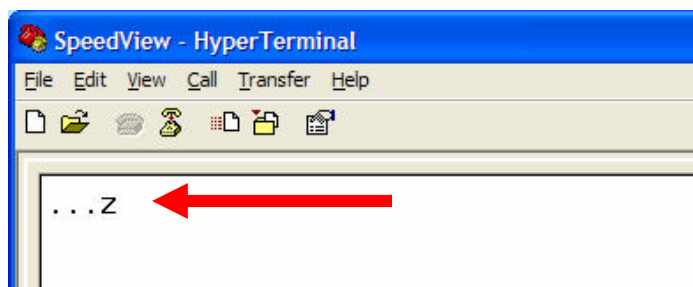


Choose a convenient name and location for the configuration file, so you can find it in the future. To connect to the SpeedView traffic computer in the future, you can simply

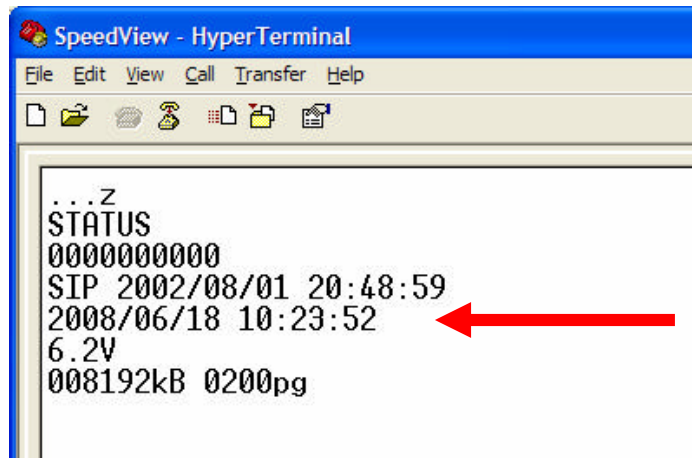
- Plug the AC adapter into the SpeedView computer and into a wall outlet
- Connect the USB cable between your computer and the SpeedView computer
- Turn on the SpeedView computer
- Double-click on the configuration file to start HyperTerminal and immediately connect to the SpeedView counter. You may have to select Call on the HyperTerminal taskbar to begin communicating with the SpeedView computer

Setting the date/time on the SpeedView traffic data computer

1. Connect your computer to the SpeedView traffic computer as described above.
2. Try typing in ...z (period period period z). This prompts the SpeedView traffic computer to tell you its status. If you do not see anything appear in the large white area of the window, you will need to select "Call" on the Toolbar, and "Call" in the menu.



3. Press “Enter”. This sends the information “...z” to the SpeedView computer. “...z” is the command to make the SpeedView tell you its status. If your command is received successfully, you should see something like the following:



A screenshot of a HyperTerminal window titled "SpeedView - HyperTerminal". The window has a menu bar with "File", "Edit", "View", "Call", "Transfer", and "Help". Below the menu bar is a toolbar with icons for file operations and communication. The main text area displays the following output:

```
...z
STATUS
0000000000
SIP 2002/08/01 20:48:59
2008/06/18 10:23:52
6.2V
008192kB 0200pg
```

A red arrow points to the date and time string "2008/06/18 10:23:52".

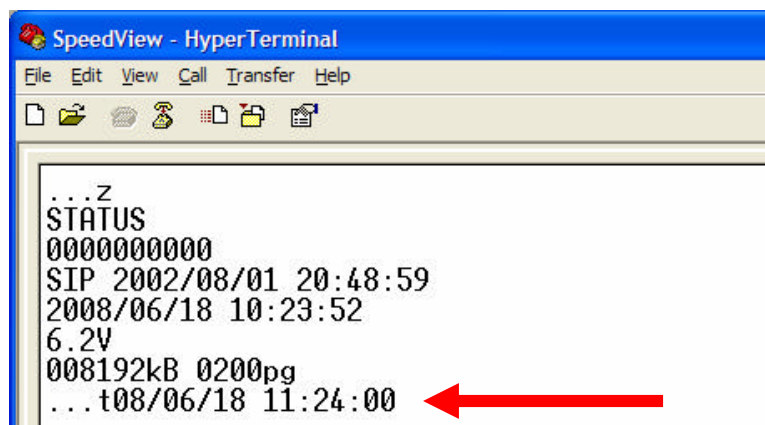
If the command was mistyped, the SpeedView computer will respond with “?”. You can resend the correct command.

In the figure above, the third line after “STATUS” is telling you the current date and time setting of the SpeedView. In the example above, it is 10:23 AM on June 18, 2008. If the time that your SpeedView is reporting is not correct for your location, you can change it by doing the following.

4. To changing that date and time of the SpeedView traffic computer, type “...t (period period period T) followed by the current date and time into white area of the HyperTerminal window. The format of the date needs to be **YY/MM/DD**, followed by a space, then followed by the time in the format of **hh:mm:ss** with hours in a 24 hour format. Here is an example:

...t08/06/18 11:24:00 Changes time to 11:24 AM on June 16, 2008

Here’s how it looks on the screen.

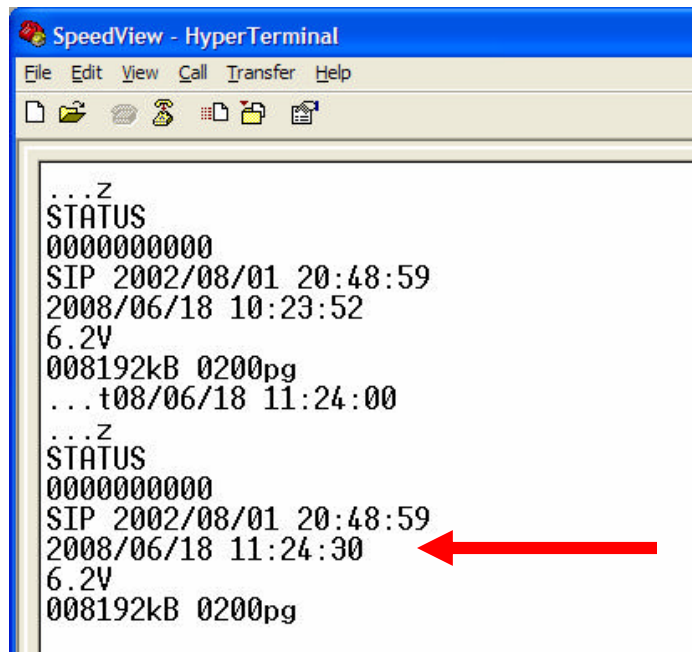


A screenshot of a HyperTerminal window titled "SpeedView - HyperTerminal". The window has a menu bar with "File", "Edit", "View", "Call", "Transfer", and "Help". Below the menu bar is a toolbar with icons for file operations and communication. The main text area displays the following output:

```
...z
STATUS
0000000000
SIP 2002/08/01 20:48:59
2008/06/18 10:23:52
6.2V
008192kB 0200pg
...t08/06/18 11:24:00
```

A red arrow points to the command "...t08/06/18 11:24:00".

5. Press Enter to send the command to the SpeedView computer. If the command is mistyped, the traffic computer will respond with a question mark (“?”). The traffic computer will not give you any response if the command you type is correct. You confirm the date and time by entering “...z” again to see the status:



```
SpeedView - HyperTerminal
File Edit View Call Transfer Help

...z
STATUS
0000000000
SIP 2002/08/01 20:48:59
2008/06/18 10:23:52
6.2V
008192kB 0200pg
...t08/06/18 11:24:00
...z
STATUS
0000000000
SIP 2002/08/01 20:48:59
2008/06/18 11:24:30
6.2V
008192kB 0200pg
```

You can see in the figure that the time has now been changed.

6. When you are finished, disconnect the SpeedView traffic computer from the computer, close HyperTerminal, and unplug the AC adapter from the SpeedView.

Section 2 – Using the SpeedView traffic data computer

The basics

- Every time the power of the SpeedView is turned on, the traffic computer begins a new traffic study.
 - The SpeedView data is saved in a comma-separated variable (CSV) file format. All SpeedView files have the file extension of “.csv”.
 - The SpeedView files are numbers sequentially. For example, 00000009.csv would be the ninth file recorded by the traffic computer during its life.
 - The traffic computer writes a data header file as soon as it is powered on. This is used by the back-end software to identify the study. Then, every 5 minutes after the hour, the traffic computer writes data to the file summarizing the speed and volume data that it recorded since the last time it wrote to the file. The traffic computer continues to record the data received from the radar unit the traffic computer is turned off.
 - If the traffic computer is only briefly turned on and then off, without the clock going through a “five minutes after the hour” period (:00, :05, :10, etc.), the data file will only have the header information.
- When the SpeedView is turned back on again, it closes out the previous study and begins a new one.
- Traffic studies are downloaded from the traffic computer by inserting a memory stick into the USB device port on the traffic computer.

IMPORTANT NOTE: SpeedView only downloads files to the memory stick that have been “closed out”. If the SpeedView is running a study when you insert the memory stick, that study will not be downloaded to the memory stick. You must turn off the traffic computer and turn it back on again to close out the study, and then insert the memory stick to download it.

- Studies are analyzed on your computer using the SpeedView Traffic Analysis Software.

Detailed steps

Starting a study

- Turn the SpeedView traffic computer ON. This will begin a new study. A new study is begun every time the unit is turned ON.
- When the traffic computer is turned ON, all of the LEDs will power up for one second to indicate that the unit is ON.

What occurs during a study

- The SpeedView computer is designed to count only approaching vehicles and to count each vehicle only once, at the time they pass through a defined distance (factory preset to 40 feet from the radar).
- Each time a car passes through that distance, the cars speed is recorded in memory and the Radar LED flashes.

- Every five minutes after the hour (:00, :05, :10, etc.), the traffic computer writes a summary of the data from that five minute period to the active data file. This continues until the study is ended.

Ending a study

- Turn the SpeedView traffic computer OFF. This will begin a end the current study. When the unit is turned ON again, this study will be “closed out” and a new study will begin.
- When the traffic computer is turned ON, all of the LEDs will power up for one second to indicate that the unit is ON.

Downloading a study from the SpeedView traffic data computer

- Turn the SpeedView traffic computer ON.
- Ensure that the Status LED is flashing. This verifies that the traffic computer has a study in memory ready to be downloaded. If the Status LED is not flashing, turn the traffic computer off to end the current study, and then turn it back on to “close out” that study.

IMPORTANT NOTE: SpeedView only downloads files to the memory stick that have been “closed out”. If the SpeedView is running a study when you insert the memory stick, that study will not be downloaded to the memory stick. You must turn off the traffic computer and turn it back on again to close out the study, and then insert the memory stick to download it.

- Insert an USB memory stick in the USB device port of the traffic computer. The traffic computer will recognize that a memory stick has been inserted and will transfer onto the memory stick all data files that have not been downloaded previously.

CAUTION: Do not remove the memory stick until the study is downloaded. Doing so may corrupt the data and result in the loss of the study data.

- When the Status LED stops flashing, the downloading is complete and the memory stick can be removed.

General notes about SpeedView data files

- The SpeedView data is saved in a comma-separated variable (CSV) file format. All SpeedView files have the file extension of “.csv”.
- The SpeedView files are numbers sequentially. For example, 00000009.csv would be the ninth file recorded by the traffic computer during its life.
- The traffic computer writes a data file every time it is turned ON. If the traffic computer is briefly turned ON and then OFF, a data file can be recorded that has little or no data. The SpeedView Traffic Data Analysis Software recognizes these files and alerts you to them.

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