Operating Instructions

SPEED DISPLAYS
TRAFFIC DETECTION

Radar. Detection. Software.

- **GR32/42 models**
- **GR33 models**
- **Speedpacer 1168/2368/4568 models**
- **Matrix models**

For any questions, please contact:

SIERZEGA
detects traffic!
www.sierzega.com

August 2020

Table of Contents

Overview

Our Speed Displays offer **active road safety education** as well as **statistics** of the traffic itself through integrated data logging. Our software delivers detailed analysis and evaluation of speed data.

When a vehicle drives through the radar coverage, the measured speed will be shown on the display and the start and end speeds will be saved with date and time in the memory of the device.

Speed data can be downloaded with **the App STerminal** and can then be analysed with the software **GRS Online** which simply runs in your web browser.

We kindly ask you to read this manual **carefully** as we have tried to cover all questions that may arise in the wake of day-to-day operations with the Speed Display.

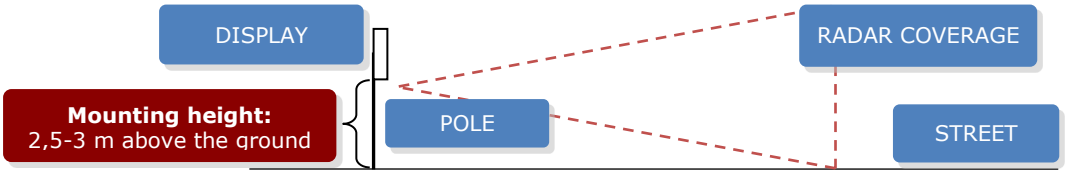
SETTING UP THE DISPLAY

Positioning

When determining the ideal location for your Radar Speed Display you should first consult the relevant state authority policy for specific guidelines and regulations.

Mount the Radar Speed Display in an area where traffic is free flowing and there is a clear line of sight for traffic signs. The display should be visible to drivers so that they can adjust to the situation of speed measurement while approaching the display, and will not be startled by an unexpected fast light up of the display.

In order to achieve an optimal performance of the Speed Display it should be installed parallel to the road, less than 1 meter from the curb. If the pole or mobile stand is not straight, ensure the display is not tilted backwards, otherwise the scope of the measurement can be greatly reduced. Ideally, the slant of the rack should correspond to the gradient of the road.



Mounting

Mounting on a Pole

All of our displays can be mounted on various kinds of poles using variable pole clamps (Ø 60 - 180 mm) which can house up to 2 batteries and a battery charger. There are several pole clamps available: **VG2, VG2L and VG4.**

The back plate (which tightens the clamp to the pole) can be used with any of the variable pole clamps. If no back plate was ordered the variable pole clamps come with a steel band.

If the display is mounted on a light pole, a battery charger can be put inside the VG. The charger then needs to be connected to the electricity of the light pole and to the batteries.

In case you run the Speed Display by mains power only, you could use brackets without the variable pole clamps as these brackets just fit on the back bars which were delivered with the display.

There is a separate information sheet explaining how to set-up the variable pole clamps.

We have summarised many accessories available on page 24/25.

Power Supply

All of our Speed Displays run on 12V. Please bear that in mind when buying batteries or chargers locally.

The supply cable has to be connected to the back of the display as well as to the battery cables. Just plug the jacks with the same colour together.

CAUTION:
All works on public lightning should be done by a professional.

Switching on the Device

Immediately after connecting to the battery your Speed Display will show the following message:

GR32/42: U1 followed by a 3 digit figure = open-circuit voltage, zB: 128 = 12,8 V
U2 followed by a 3 digit figure = operating voltage, zB: 125 = 12,5 V

A fully charged battery should have more than13 V.

GR33 :	Sierzega.com and model
Speedpacer 1168/2368/4568:	Sierzega.com and model
Matrix:	Sierzega.com and model

If the capacity of the battery is too low, the display will show **Lo** and will then switch off.

Interference of Detection

The course of measurement of a vehicle may be interrupted by various influences in the measuring field. The measurement may be interrupted if a vehicle drives past the display from the opposite direction at the same time the measuring of an oncoming vehicle occurs, even if the oncoming vehicle is still in the measuring field.

Movements within the measurement field which are not originating from the oncoming vehicle, such as from bushes or trees in the wind or by pedestrians, may be sufficient to irritate the radar equipment. It is hence possible that in some cases two data records will be saved in the storage of the radar equipment.

Otherwise, it is possible, that in situations of standing or slow moving traffic, the distance between vehicles is not big enough for the radar equipment to measure the gap between vehicles. At such an instance, vehicles driving in close succession will be saved by the radar equipment as one vehicle.

Due to the measurement set-up, a clear traffic census in connection with speed displays is not possible! For conducting unaffected traffic census with exact counting and classification, we recommend our Traffic Counters.

ANDROID APP STERMINAL

The Android App is the easiest solution to change settings in the Speed Display as well as to download speed data. Besides, the software enables to send this data to your email address together with an indication on the location.

The App can be used for all Sierzega Speed Displays that are equipped with Bluetooth. Depending on the model the main screen might look a little different as shown in this manual.

Pairing

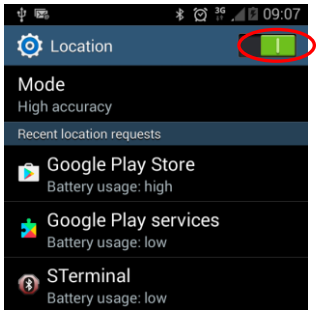
You can download the App STerminal from the Google Play Store on your mobile phone.

Click on this button on your mobile phone and enter „Sterminal".

After having installed the App you will find the button under "Programs."Now click on this button to start the app.

Bluetooth
The App needs Bluetooth to be activated in order to communicate with the Display. In case Bluetooth is not activated, the App requests permission to activate Bluetooth. Refusing this will make the App shut down.

Location Service (GPS)



The location service of your phone is used in order to retrieve the location of the Display. This data is then embedded in case you choose to send the speed data by email. On every start-up the App asks to activate the location service feature. If you click on Yes, you will be directed to the *Location menu* where you can activate the location service. The App runs also if this feature is switched off.

Pairing/Connecting to a Speed Display
Simply press the CONNECT button at the bottom of the screen. All paired devices will then be shown. If you have not paired your phone with the Display yet, then please click on Scan for devices. Select the Bluetooth number of your Speed Display and enter the PIN code.

Now you get to the main screen which is explained on the next page.

Offline mode
The App can simulate many of its features without having to connect to a Speed Display. This can be very useful when you want to check the settings of the Display.

To run this feature please click on the 3 dots in the upper right corner of the screen. Then select the Speed Display you want to simulate to connect.

Main screen

The App detects if the Speed Display is set to km/h or mph. On startup, the main screen then shows the current settings/bitmaps that are stored in your display (Fig. A) and also informs on:

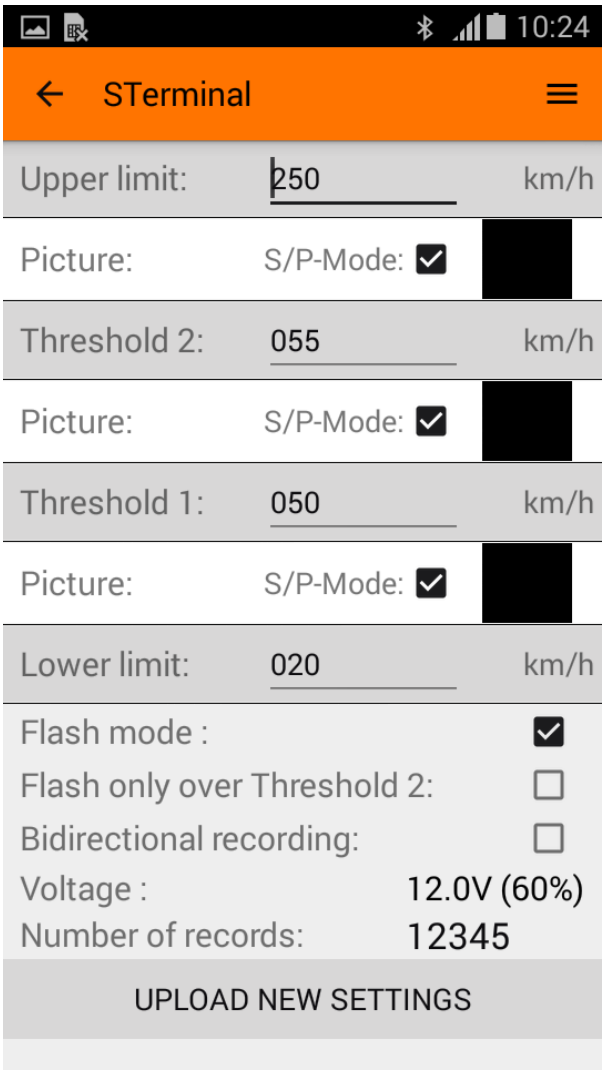


Fig. A

- Flashing mode
- Flashing mode only above Threshold 2
- Bidirectional recording
- Voltage of the battery
- Number of records

How to choose the proper settings?

1. Enter speed figures for the lower and upper limit.

2. Enter the figures for Threshold 1 and 2.

3. Choose which bitmaps you want to show. Simply click on one of the bitmaps to choose from a list of bitmaps Sierzega has already created (Fig. B). In case you want to upload all bitmaps available click on Upload standard pictures (Fig. C).

4. Activate the S/P-mode so that the speed and bitmaps such as smiley or Slow down... are shown alternating.

5. In case you just want to show the speed only, choose bitmap xx/kmh as shown in Fig. B. You can choose to show the speed only for all speed thresholds.

Bitmaps to choose from in the App:

Fig. B

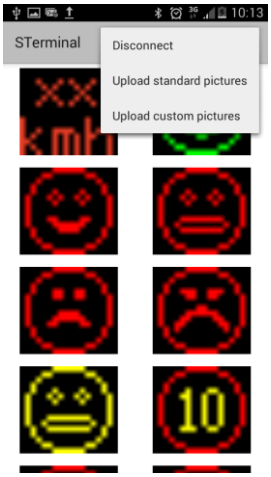
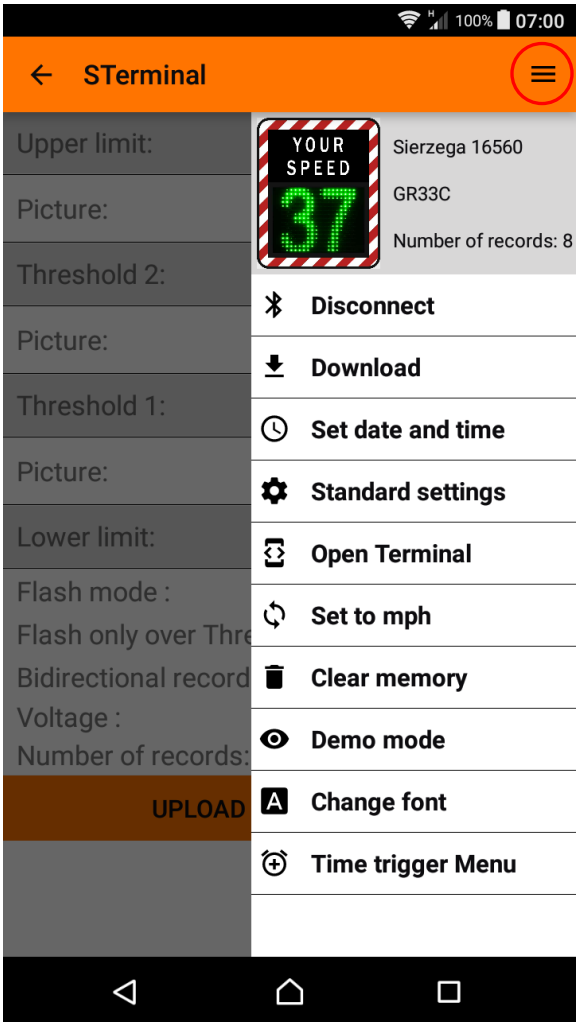


Fig. C

Feature menu
If you click on the 3 lines in the right upper corner of the main screen a menu will come up showing the following features:



Disconnect
Disconnects the Bluetooth connection between the Speed Display and the phone.

Download
Lets you download speed data to your phone and have it sent to your email-address.

Set date and time
Transfers the date and time settings of your phone to the Speed Display.

Standard settings
Please have a look at Speed zone change explanation below.

Open Terminal
This feature is needed for older Speed Displays only.

Set to mph / kmh
Change settings from kmh to mph or from mph to kmh. If "Set to mph" appears in the menu, then the Speed Display is set to kmh.

Clear memory
This feature deletes all data in the memory.

Demo mode
The demo mode can make the Speed Display to start counting down from a certain speed so that you can check the settings. When you close the App, demo mode is switch off.

Change font
You can decide whether you want the display to show the round speed figures or 7-segment ones.

7-segment speed figures

Round speed figures

Time trigger menu
This feature enables the display to work only at certain days of the week and at certain times of the day.

Speed Zone change

When you change the location of the Speed Display the speed limit also changes in many cases (e.g. from 30 to 50 kmh). The App offers a certain feature which helps you to adapt the display to the new speed limit easily. Simply choose Standard settings (Fig. D) and choose the proper speed zone. Then your choose settings will appear in the main screen. Click on Upload New Settings to transfer them to your Speed Display.

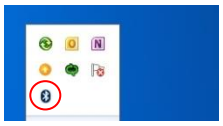
B L U E T O O T H C O N N E C T I O N

Connecting to a computer/Laptop/Netbook

In order to download data from the speed display you need to pair your display with a computer first. Nowadays most computers have internal Bluetooth. Unless your computer does not have Bluetooth built in, you will need a Bluetooth adapter.

You can then start pairing your devices. Depending on the operation system, there are several ways to do so:

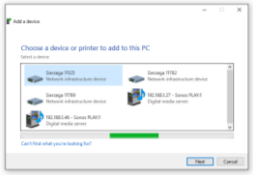
Windows Vista/7/8



1. On the right lower part of the screen there is a white arrow. Click it with your left mouse button and then again with the left one on the Bluetooth symbol. After that select Show Bluetooth Devices.

2. A new window pops up showing all paired devices. Click on Add a device and the computer starts searching for new devices.

3. Select the Sierzega device of which the Bluetooth number is shown and click on Next.

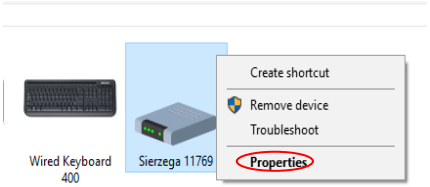


4. Enter the passcode for your device (PIN) which you find on the invoice and on the dispatch note as well.

5. Now the 2 devices have been paired successfully.

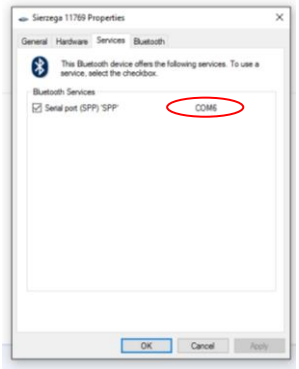
Where to find the COM port in Windows Vista/7/8?

1. On the right lower part of he screen there is a white arrow. Click here with the left mouse button and then again with the left one on the Bluetooth symbol. After that Show Bluetooth Devices.



2. Now all paired (Sierzega) devices are shown. Choose your Speed Display (Sierzega 11769 as an example) and click on this symbol with the right mouse button. Then select Properties and a new window will appear.

3. Select the tab Services and the COM number will be prompted on the screen (next to Serial port SPP). The COM port in this screenshots is just shown as an example.

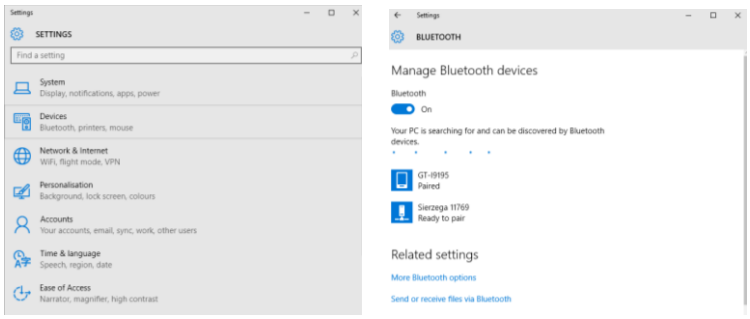


4. Please remember the COM number as you need to enter it on BT-COMM.

5. Every new Speed Display that will be paired with this computer gets a new COM port number. However the COM port number always stays the same for a certain Sierzega Speed Display.

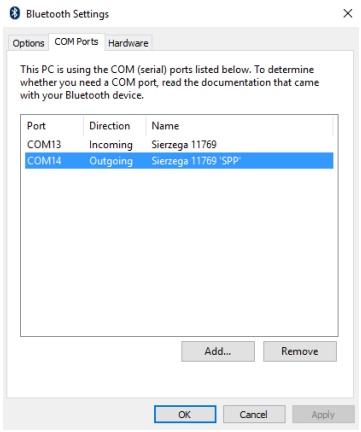
Windows 10

When using Windows 10 pairing a Sierzega device with your computer is very easy. Simply open the Settings menu and then choose Devices. Select Bluetooth from the new windows. Your Speed Display is now shown (Sierzega 11769). Click on Ready to pair and enter your PIN code. Now the 2 devices have been paired successfully.



Where to find the COM port in Windows 10?

To find out the right COM port click on More Bluetooth options under *Related Settings* and a new windows showing 3 tabs pops up. Select the tab COM ports and remember the COM port that is shown in the line *Outgoing*. The COM port in this screenshot is just shown as an example.



Every new Speed Display that will be paired with this computer gets a new COM port number. However the COM port number always stays the same for a certain Sierzega Speed Display.

B T - C O M M

Preparation

After having paired your devices successfully you can use BT-COMM which runs on Windows XP, Vista, 7, 8 and 10. The purpose of this software is to change the settings of a Speed Display and to transfer data to a PC using a Bluetooth connection.

The software GRS should only be used for analysing speed data. Do not establish the Bluetooth connection with GRS.

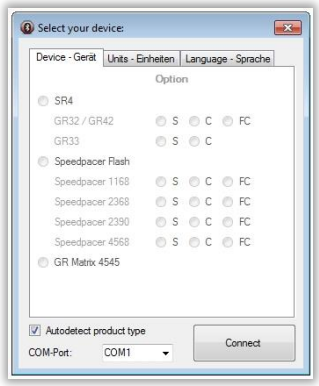
BT-COMM needs Microsoft.NET Framework to run. You can download the software the package the Microsoft Download Center (search for .NET Framework) and install it on your PC.

However, current computers already have .NET Framework installed.

Unzipping BT-COMM

BT-COMM is an executable file that doesn't need to be installed.

1. After downloading BT-COMM from our website you need to unzip the file.
2. Then open the folder BT_COMM_V2.0 and double-click on Sierzega BT Comm.exe
3. If this start screen comes up (as shown on the right picture), you will be able to use the software. If you receive an error message you might want to check, if .NET Framework is installed on your computer.



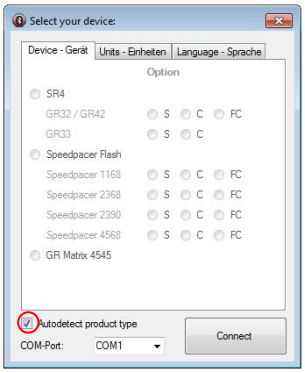
The following pages inform about how to download speed data and change settings with BT-COMM depending on the display you have.

BT-COMM with GR32 and GR42 models

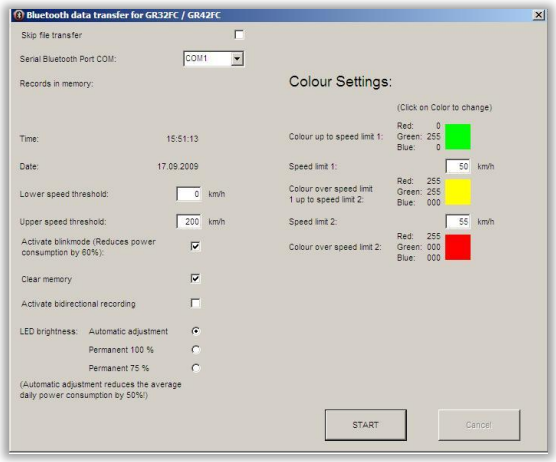
This chapter explains how to use BT-COMM with **GR32S/GR42S, GR32C/GR42C and GR32CL.** The models GR32 and GR32L have no data logging option.

1. Open the folder BT_COMM_V2.0 and click on

2. Now the start screen opens and you can select your device manually or enable **Autodetect product type**. Also select **Units** and **Language**. Then simply enter the COM port and click on **CONNECT**.



3. This will take you to the main screen.



Data Transfer
If you want to download traffic data to your PC, leave the **Skip file transfer** box unchecked. After clicking on the START button you will be asked where you want to save the file. Note: if you have **Clear memory** ticked then the flash memory inside the device will be deleted after connecting.

Time/Date: the PC's internal clock is sent to the speed display.

Lower/upper speed threshold: speeds below or above the limit are not shown.

Activate blink mode: speeds will be shown flashing

Activate bidirectional recording: speeds from both oncoming and departing traffic are recorded.

LED brightness: choose between automatic or permanent brightness. We advise to keep Automatic adjustment.

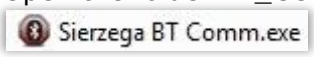
Colour settings for GR32 and GR42
Colour settings can be changed by specifying the desired thresholds and clicking on the coloured boxes. Please note, since the GR32S can only display one colour there are no colour settings for the S version.

Sending to device:
Having chosen your settings, click on the start button and the device will begin to receive the new settings by Bluetooth. As each setting is applied, a tick will appear next to each line. When all parameters have been ticked, the transfer of data and settings is finished and the display can be used again.

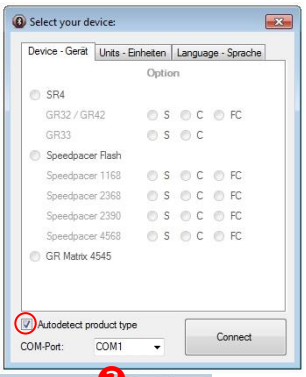
Hidden Detection
If you want the Speed Display to log the speeds of vehicles passing by but not show them, set the lower and upper speed thresholds to the same figure (for example: 20 km/h).

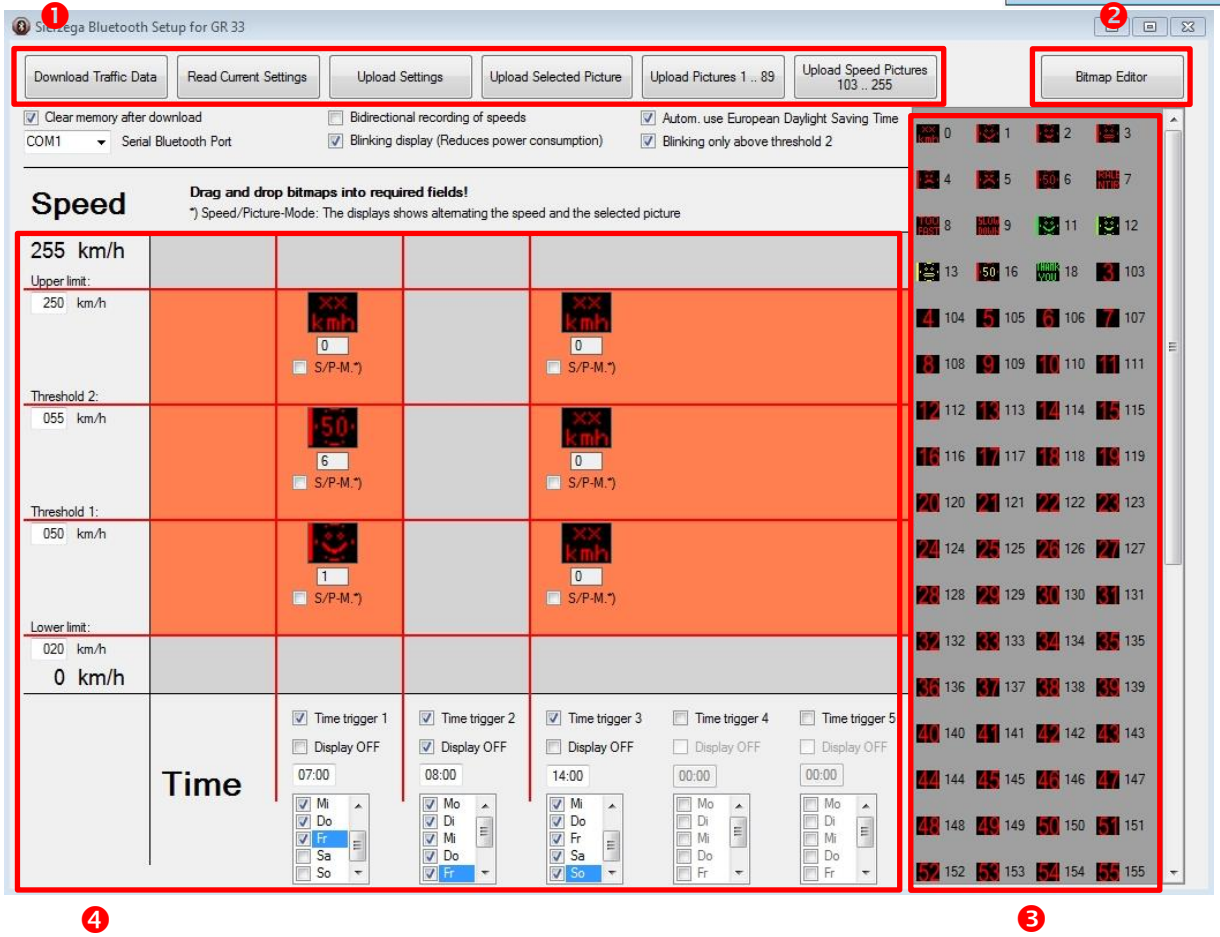
BT-COMM with GR33 models

This chapter explains how to use BT-COMM with **GR33S, GR33C und GR33CL.** The model GR33L has no data logging option but certain settings (speed threshold, bitmaps, …) can be changed.

1. Open the folder BT_COMM_V2.0 and click on
   

2. Now the start screen opens and you can select your device manually or enable **Autodetect product type**. Also select **Units** and **Language**. Then simply enter the COM port and click on **CONNECT**.
3. This will take you to the main screen for your device.





You need 5 steps to make the display show the bitmaps that you want.

Step 1: Click on **Upload Pictures 1..89** and **Upload Speed Pictures 103 .. 255**
Step 2: Setup the Day and Time
Step 3: Simply choose one bitmap in box **3** and drag it to one of the black boxes in the orange field. You can set different bitmaps for different times zones.
Step 4: Setup the Speed Thresholds
Step 5: Click on Upload Settings

The bitmaps shown in box **3** are taken from the folder *Bitmaps GR33 (which is a subfolder of BT_COMMV2.0)*. All files that are in this folder will appear in this grey box.

❶ Explanation of the buttons:

Download Traffic Data:
Data recorded by the GR33 will be downloaded to a PC (into a GRS-file).

Read Current Settings:
Reads the settings of the device and displays them in the orange field.

Upload Settings:
Upload the settings of your choice to the device. This does not transfer the picture itself to the device, but only the speed and time range when a certain picture needs to be displayed.

Upload Selected Picture:
Upload a single picture of the right column to the device. You have to select a picture first.

Upload Pictures 1 .. 89:
Upload all pictures (text messages 1 - 89) of the right column to the device.

Upload Speed Pictures 103 .. 255:
Upload all speed pictures (speed messages 103 - 205) of the right column to the device.

❷ Bitmap Editor:

The editor helps you to create text messages for the Speedpacer.
The pictures shown in the grey area of the software are not the ones that are already in the memory of the display. To make sure that you have all the pictures on your display please click the *Upload Pictures 1 .. 89* button.

Since the Speed Displays have been on the market for several years now, there are already various bitmaps for each Speed Display model available. Thus you might not need to create a bitmap yourself. Ask your local distributor for more information on this.

❸ Bitmap box:

This grey box lists bitmap files that are in the subfolder of the program BT-COMM:

- 1 to 89 … these are bitmaps such as SLOW DOWN, Smileys or speed limits.
- 103 to 255 … these bitmaps are the speed pictures.
- Bitmap 1 is used for showing the speed only.

Thus it is necessary to upload these pictures to the memory of the Speedpacer.

❹ Description of the main screen:

Lower/upper limit:
Enter the values which determine when the speed display will start and stop displaying speeds/pictures. The data recording will not be affected by this.

Threshold 1/2:
Enter the values at which you want certain messages to be displayed. According to the settings above drivers will see the Smiley face if they are driving between 20 and 50 km/h. Between 51 and 55 km/h they will see the speed limit sign 50. If they are faster than 55 km/h, the device will display the speed only.

Time trigger 1-4:
Ticking one of the time triggers means that the display is activated at a certain time. The figure shows the configuration for the display in front of a school that is activated between 07:00 and switched off at 08:00 (Display OFF) and again switched on at 14:00 until the next day. The

GR33 displays also let you set the day on which the display should be on or off. If no time trigger is ticked, then the display is activated all time.

Text message and speed:
The GR33 displays are able to show text and speed alternating. Simply tick the *S/P-M* box.

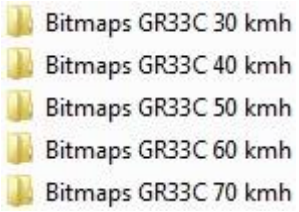
Blinking only above threshold 2:
If this boxed is ticked, then only speed/pictures set for threshold 2 will flash.

Colour settings for GR33C and GR33CL

The GR33C and the GR33CL can show bitmaps in more than just one colour. *Generally your local distributor has already preconfigured your Speed Display.*

The following steps explain how to change colour settings for these displays in case you want to use different settings than the ones already made.

The downloaded file also has a further folder "Farbbilder" (which means colour pictures). Inside this folder you find several subfolders for certain speed zones.

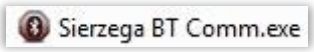


Depending on the speed zone please copy the selected bitmaps inside one of these folders to the subfolder *Bitmaps GR33* of your local version of BT-COMM (the one on your computer). The existing bitmaps will be replaced by the *new* ones. Then start BT-COMM.

Now you have to click on **Upload Pictures 1 .. 89** and **Upload Speed Pictures 103 .. 255.** This will upload the new bitmaps to the Speed Display. Then you can follow the steps on page 10.

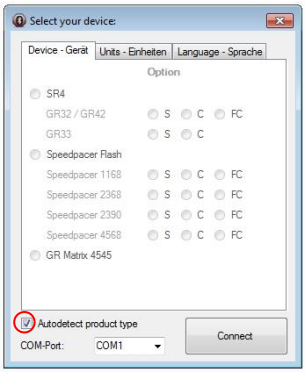
BT-COMM with Speedpacer/Matrix

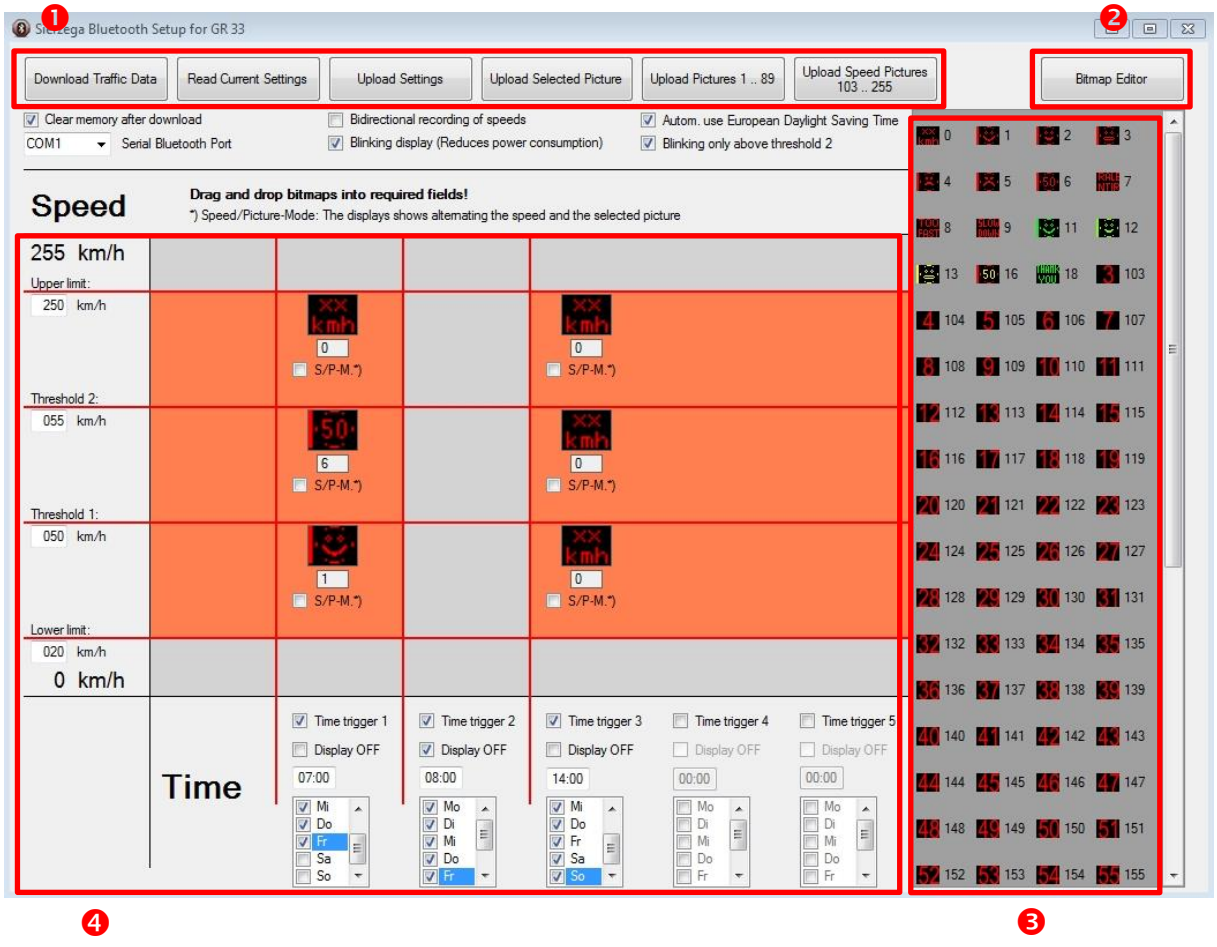
This chapter explains how to use BT-COMM with **the Speedpacer 4568.** This is just an example as BT-COMM works the same way for all Speedpacer (1168, 2368, 4568) and Matrix (4545) models.

1. Open the folder BT-COMM and click on 

2. Now the start screen opens and you can select your device manually or enable **Autodetect product type**. Also select **Units** and **Language**. Then simply enter the COM port and click on **CONNECT**.

3. This will take you to the main screen for your device.





You need 4 steps to make the display show the bitmaps that you want.

Step 1: Click on **Upload Pictures 1..89** and **Upload Speed Pictures 103 .. 255**
Step 2: Setup the Day and Time
Step 3: Simply choose one bitmap in box **3** and drag it to one of the black boxes in the orange field. You can set different bitmaps for different times zones.
Step 4: Setup the Speed Thresholds
Step 5: Click on Upload Settings

The bitmaps shown in box **3** are taken from the folder *Bitmaps … (which is a subfolder of BT_COMMV2.0)*. Choose the right subfolder based on your Speed Display model. All files that are in this folder will appear in this grey box.

❶ Explanation of the buttons:

Download Traffic Data:
Data recorded by the Speedpacer will be downloaded to a PC (into a GRS-file).

Read Current Settings:
Reads the settings of the device and displays them in the orange field.

Upload Settings:
Upload the settings of your choice to the device. This does not transfer the picture itself to the device, but only the speed and time range when a certain picture needs to be displayed.

Upload Selected Picture:
Upload a single picture of the right column to the device. You have to select a picture first.

Upload Pictures 1 .. 89:
Upload all pictures (text messages 1 - 89) of the right column to the device.

Upload Speed Pictures 103 .. 255:
Upload all speed pictures (speed messages 103 - 205) of the right column to the device.

❷ Bitmap Editor:

The editor helps you to create text messages for the Speedpacer.
The pictures shown in the grey area of the software are not the ones that are already in the memory of the display. To make sure that you have all the pictures on your display please click the *Upload Pictures 1 .. 89* button.

Since the Speed Displays have been on the market for several years now, there are already various bitmaps for each Speed Display model available. Thus you might not need to create a bitmap yourself. Ask your local distributor for more information on this.

❸ Bitmap box:

This grey box lists bitmap files that are in the subfolder of the program BT-COMM:

- 1 to 89 … these are bitmaps such as SLOW DOWN, Smileys or speed limits.
- 103 to 255 … these bitmaps are the speed pictures.
- Bitmap 1 is used for showing the speed only.

Thus it is necessary to upload these pictures to the memory of the Speedpacer.

❹ Description of the main screen:

Lower/upper limit:
Enter the values which determine when the speed display will start and stop displaying speeds/pictures. The data recording will not be affected by this.

Threshold 1/2:
Enter the values at which you want certain messages to be displayed. According to the settings above drivers will see the Smiley face if they are driving between 20 and 50 km/h. Between 51 and 55 km/h they will see the speed limit sign 50. If they are faster than 55 km/h, the device will display the speed only.

Time trigger 1-4:
Ticking one of the time triggers means that the display is activated at a certain time. The figure shows the configuration for the display in front of a school that is activated between 07:00 and switched off at 08:00 (Display OFF) and again switched on at 14:00 until the next day. The Speedpacer and the Matrix also let you set the day on which the display should be on or off. If no time trigger is ticked, then the display is activated all time.

Text message and speed:
Speedpacer and the Matrix are able to show text and speed alternating. Simply tick the *S/P-M* box.

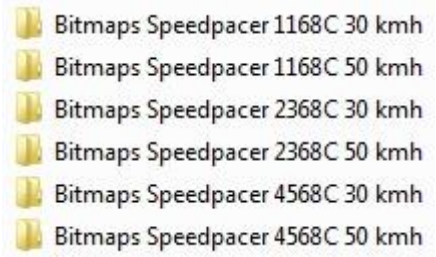
Blinking only above threshold 2:
If this boxed is ticked, then only speed/pictures set for threshold 2 will flash.

Colour settings for the Speedpacer and Matrix

All C and FC version of the Speedpacer and the Matrix can show bitmaps in more than just one colour. *Generally your local distributor has already preconfigured your Speed Display.*

The following steps explain how to change colour settings for these displays in case you want to use different settings than the ones already made.

The downloaded file also has a further folder "Farbbilder" (which means colour pictures). Inside this folder you find several subfolders for certain speed zones.



Depending on the speed zone please copy the selected bitmaps inside one of these folders to the subfolder *Bitmaps Speedpacer ...* of your local version of BT-COMM (the one on your computer). The existing bitmaps will be replaced by the *new* ones. Then start BT-COMM.

Now you have to click on **Upload Pictures 1 .. 89** and **Upload Speed Pictures 103 .. 255.** This will upload the new bitmaps to the Speed Display. Then you can follow the steps on page 13.

ANALYSIS SOFTWARE

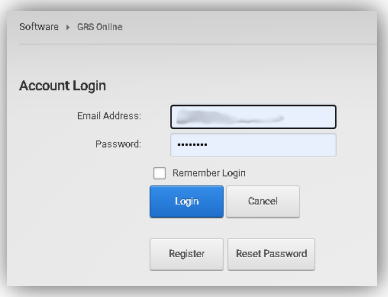
Sierzega offers the possibility to quickly evaluate data of your speed display and send it as a pdf file. **Please note that the GR33L does not store speed data and therefore no analysis can be made.**

GRS Online

The evaluation of the data takes place in your web browser. We recommend this method, since no installation on your computer is necessary. This allows every registered user to evaluate the speed data**. Please note that the speed data will remain on your computer and will not be sent to Sierzega.**

To access GRS Online, click on the following link:
https://www.sierzega.com/de-de/software/grs-online

Enter your user name and your password.



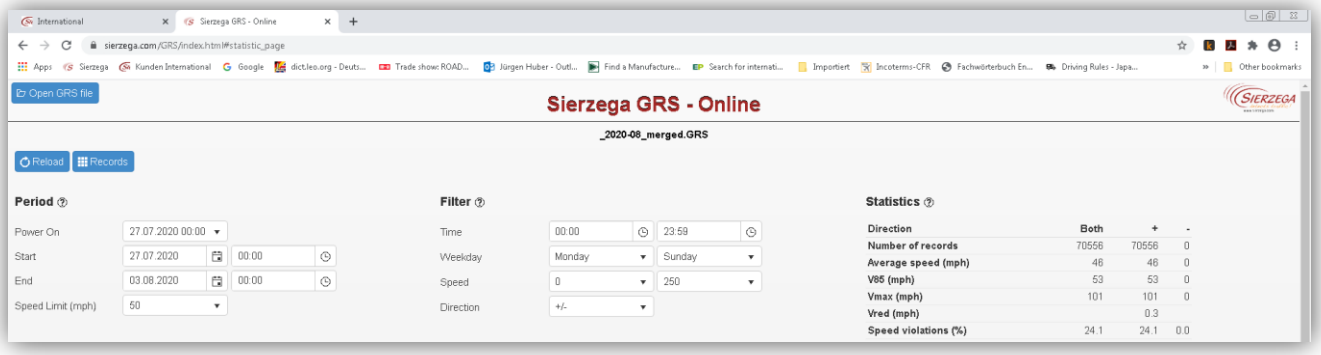
Then click on Login and you will be taken to the GRS online start page. If you are not yet registered, click on Register and follow the instructions.

Open a GRS file:

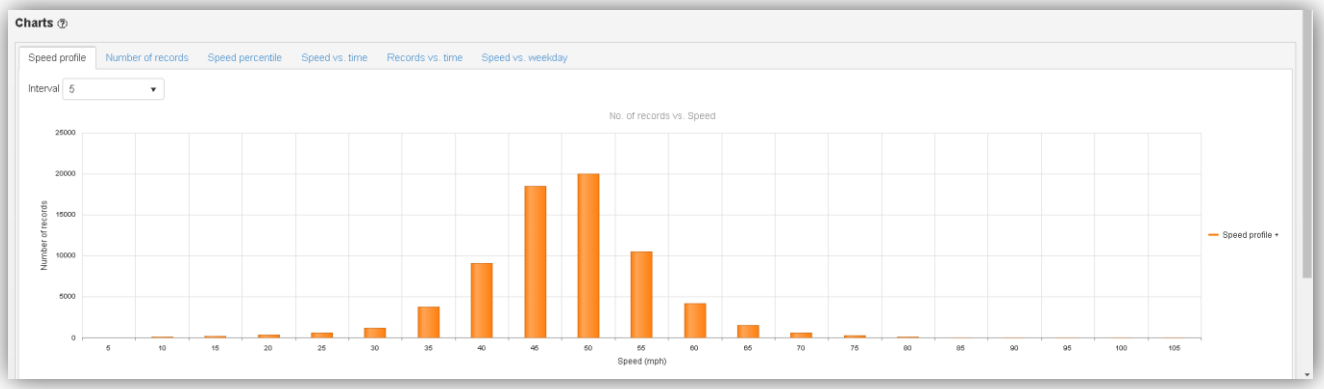
Click on the button Open GRS file to open the file. This will take you to the overview page of GRS online, which is split into 2 sections:

- Period, Filter, Statistics
- Diagrams, Chart Data

The upper half of the screen shows the recording period, filter options and the statistical evaluation of the data.



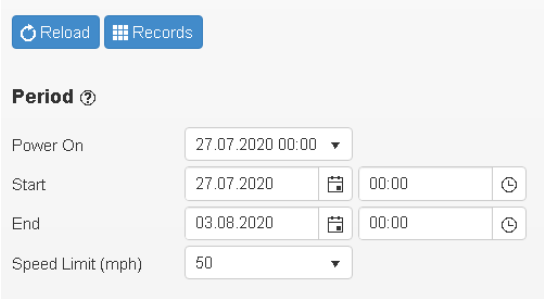
The lower half shows possibilities for the graphical preparation of the data and data export.



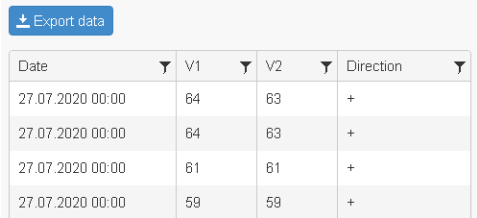
Note - Data processing:
It is important for us to point out that the entire evaluation of the speed data is done **locally** on your computer. The data will therefore not leave your computer.

Below please find details of the sections:

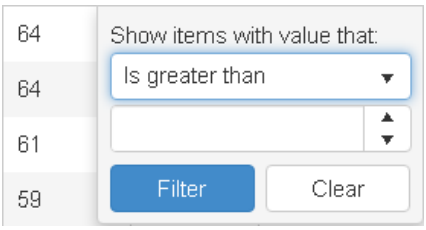
Period



This feature lets you filter the start and end date as well as the time. The Speed limit you set under Period will effect the Speed violations under Statistics. After changing the values for Start/ End/Speed Limits, click on Reload to apply the new settings. If you click on Records, you will then get a list of all the measured values contained in this file.

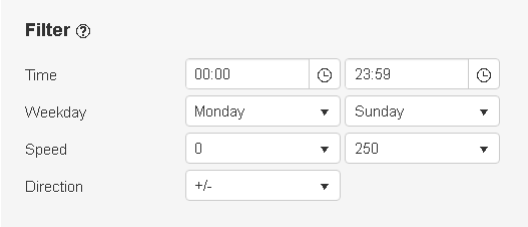


You can sort this list by clicking on one of the filter icons.



To edit the data in for example Excel click on the Export data button. The data is then available as a csv file which can be imported into Excel.

Filter



In order to get certain information out of the total amount of all speed data, it is often necessary to filter this data (for example: speed of weekend traffic …). Various filters are available for this purpose:

- **Time**
  This feature lets you filter the time range for which you want speed data displayed under Statistics.
- **Weekday**
  The data is filtered by day of the week, regardless of the date. First day of the week is Monday, last day is Sunday.
- **Speed**
  Only speed data that are within a certain speed range will be shown under Statistics.
- **Direction**
  The data can be filtered by direction, where + stands for the incoming vehicles and - for the outgoing ones. The selection +/- indicates that both directions are shown.

To apply the filter settings, click on Reload.

Statistics

Statistics

Direction	Both	+	-
Number of records	70556	70556	0
Average speed (mph)	46	46	0
V85 (mph)	53	53	0
Vmax (mph)	101	101	0
Vred (mph)		0.3	
Speed violations (%)	24.1	24.1	0.0

The individual statistical data provide a quick overview of the different speed values of a measurement:

- Number records: Specifies the number of speed measurements recorded. The number of measurements does not mach to the number of vehicles passing. To measure the number and category of the individual vehicles, you need an SR4 traffic statistics device.
- Vd: Average speed
- V85: 85% of the vehicles drive slower or at most this speed.
- Vmax: Maximum speed that a vehicle has reached.

- Vred: Average reduction of speed by the display (V1 - V2)
- Violations %: Percentage of speeding violations based on the set limit (see Period).

Charts and Chart data

For all diagrams, we recommend that you indicate the street name, direction of travel and speed limit. The data can be entered in this field and will then be taken over when the diagram is created.

The button Print page creates a new page for a selected diagram. This page can easily be saved as a pdf file. You can also include your own logo. Click on the Own Logo and select a new file.

To view and export the data underlying a chart, click on the Chart Data button to display the data in a table.

The following diagrams can be displayed in GRS:

Speed profile
This diagram shows the speed profile which is a combination of the number of records for certain speed ranges.

Number of records
This diagram shows the speed and traffic volume in the course of a week. For the creation of this diagram, each vehicle is attributed to a certain time.

Speed percentile
This diagram shows the number of records as a percentile against the speed.

Speed vs. time
This diagram shows the average speed, V85 and the maximum speed during the course of a day. If the time period is greater than 24 hours, the average values of Vd, V85 and Vmax will be calculated for each day and each data point.

Records vs. time
This diagram shows the number of records during the course of a day. If the chosen time frame is greater than 24 hours, the average number of vehicles will be calculated for every day and every data point.

Speed vs. weekday
This diagram shows Vd, V85, Vmax and the number of records against weekday.

GRS 5.2

The evaluation software GRS 5.2 can be downloaded from the website www.sierzega.com. Right-click on the setup.exe file and select Run as administrator. Then follow the installation dialogue. The software was developed for use under Windows (8, 10).

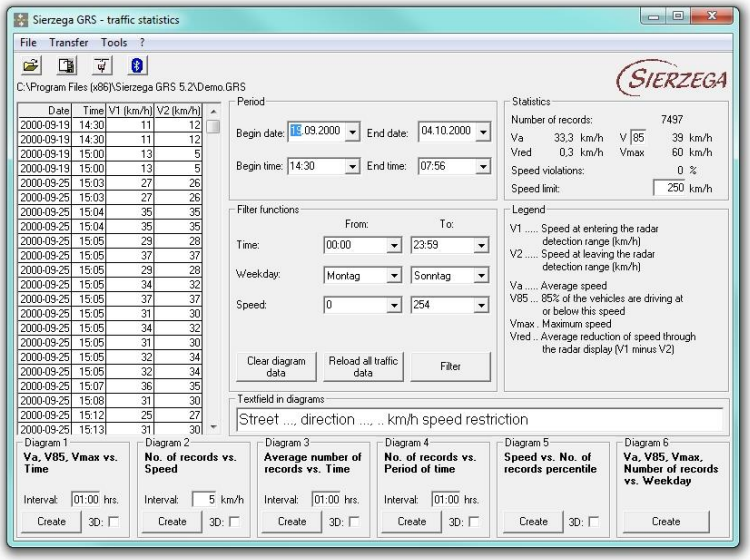
Please note that for the installation the user must be given temporary admin rights and that full read and write rights must be available in the program folder Sierzega GRS 5.2. The admin rights of a user can be set to standard after successful installation.

The following functions are available to the user of the software:

File

Open...
Please note, only GR-files can be opened, otherwise data import may be interrupted.

Export...
While working with the analysis software the original GR-file will not be altered. This function will export the data to a text file, separated by tabs. From there, the data may be accessed with Microsoft Excel.



Transfer

We recommend using BT-COMM with any Bluetooth connection with your Speed Display.

Tools

Here you can set the **Language** and the **Units**. Your settings will be saved.

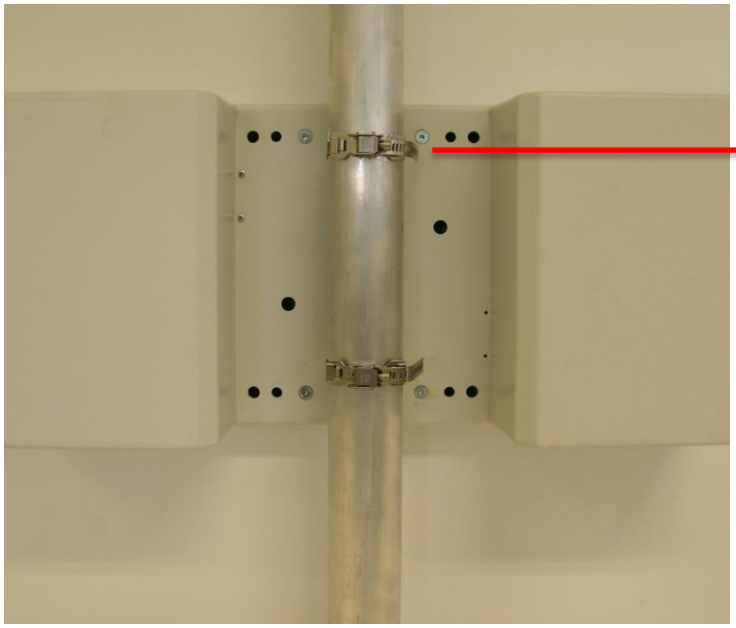
Design of the Software

GRS is divided into the following sections:

- Table of Listed Vehicles
- Period
- Filter Functions
- Statistics
- Text field in Diagrams
- Diagrams
- Legend

Accessories

VG2L with steel band



VG2L with back plate

Brackets for mounting on a pole

Cables

The power cable has to be connected with the Speed Display and the batteries.

Power Supply Cable 12V with connector

Battery cable

Power Supply cable 12V with alligator clamps

In case the Speed Display is mounted on a light pole, please connect a charger to the red-black jack of the power cable in addition to the batteries.

Additional accessoires:

Base stand 1 x 1m with a 3m pole

Battery 12V, 18 Ah

Mascot Battery charger 2140

Solar kit 50 W

Solar option for a Sierzega Speed Display.
Ask your local dealer for further information on the Solar package.

Terms of Warranty

Sierzega is liable for damage to its Speed Displays which occur despite proper handling for the period of two years after the date of sale.

Place of fulfilment of warranty is 4062 Thening, Thürnau, Austria.

General terms and conditions:
https://www.sierzega.com/LinkClick.aspx?fileticket=H-qImzUkJ6I%3d&tabid=73&mid=504&language=de-DE

Technical Data

All of Sierzega's Speed Displays run on 12 V.

Scope of Supply
- Speed Display
- Control Software BT-COMM and analysis software GRS
- Pole Brackets (60 or 76mm)
- Power Supply Cable 12V

LEDs
- OSRAM-LEDs
- Long Lifetime and Reliability
- Main Radiation Angle: 30° Lense
- Viewing Angle > 120°

Display
- Update Rate: approx. 1 sec
- Automatic Brightness Regulation

Radar sensor
- Operating Frequency K-Band (24 GHz)
- Transmitting Power 5 mW
- Certification FCC, IC, CE approved
- Operating Speed 2 ...199 km/h or 2…150 mph
- Detection Range min. 100 m, typ. 200m, Truck typ. 300 m
- Accuracy ± 3 %

Miscellaneous
- Protection Degree IP67
- Front Window Lexan, Anti-Glare Coating
- Ambient Temperature -25 to 60°C

TÜV AUSTRIA

Sierzega is TÜV Austria EN ISO 9001 certified. The company develops, produces and delivers high-performance radar systems like radar controlled LED displays and traffic detection systems.

CE

This device complies with EEC directive 89/336/EEC of 03/05/89 (electromagnetic compatibility) and following changes.