





























Regular Calibration Ensures Accuracy of Measurements

-  Recommend calibration to be done daily when in heavy use – best practice is first thing before starting measurements
-  Go to Calibration Mode
 -  Insert battery, turn on, and wait for it to boot
 -  Tap **Return to Menu**, then **Calibrate**
-  Set Unit to Zero
 -  Place black felt side of the calibration plate against front of unit and pull trigger
-  Calibrate Unit
 -  Flip calibration plate over placing reflective sheeting side against front of unit and pull trigger
 -  This should return you to the measurement screen
-  Confirm Calibration
 -  Measure the reflective sheeting side of the calibration plate again
 -  Measurement should be within 2 points of the calibration plate standard (value is noted on the calibration plate and on the Report of Calibration supplied with the instrument)
 -  Tap **Comments**, then **Set User Comments**, type “CALIBRATED” tap **Return to Comments**, then **Return to Measure**
-  Calibration is complete – tap **Next Sign** and begin work











GPS Global Positioning Satellite Reading

-  When the instrument is turned on, the GPS automatically activates
-  Current GPS position is located at the top of the screen below the date and time. A GPS icon will appear in the top bar with its position fix accuracy (in meters) when a valid GPS position has been found. If the icon does not appear, the GPS has either been disabled or is not in communication with the satellites
 -  Tap **Return to Menu**, then **Setup**
 -  Ensure **Internal GPS Enabled** is set to “On”
 -  Tap GPS Detail to view connectivity, accuracy, or adjust GPS display format

Bluetooth

-  Built-in Bluetooth is available for use in conjunction with a GIS data management device (e.g. a Trimble unit)
-  Disable / Enable the Bluetooth as needed to extend battery life
 -  Tap **Return to Menu**, then **Setup**
 -  Adjust **Bluetooth Enabled** to On or Off
-  Connecting to Remote Devices
 -  The 922 will show up as “RV922” when being searched for on a remote device
 -  Use “0000” as the passkey to pair the devices
 -  Open a Serial connection
 -  When connected, a Bluetooth icon will appear at the top of the 922 screen next to the GPS

Cleaning the 922

-  Ensure the unit is off before cleaning
-  Touchscreen Cleaning
 -  Use a lint-free lens cloth or microfiber towel
 -  Gently wipe the screen to remove any fingerprints or debris
-  Exterior Surface Cleaning
 -  Use only water and a mild detergent – DO NOT use any chemical cleaning agents
-  Lens Cleaning
 -  Use a lint-free lens cloth or microfiber towel
 -  Gently wipe the lens to remove any fingerprints or debris
 -  If necessary, a non-ammonia glass cleaner can be used

922 Tips & Tricks

Power up the 922 using the On/Off rocker switch. The logo screen will display briefly and then you will be taken directly to the measurement screen.

Fully charge the batteries before each use

The green LED light will pulse when functioning properly

Black is non-retroreflective – no measurements are required

Take a minimum of one measurement per quadrant for both legend and background – 4 measurements per color

Make it easier to see the screen by adjusting the “Backlight Intensity” slider on the Setup screen

RoadVista’s recommendation for setting up the preloaded comments:

- Pass
- Fail
- White Regulatory
- Yellow Warning
- Stop Sign
- Damage

For additional help, please visit www.roadvista.com/922 or call 858-279-6044





922 Retroreflectometer Quick Start Guide

Taking Measurements

- Ensure the instrument is On and the Measurement screen is displayed
- If the legend lettering on the sign is less than 1 inch (25mm) wide, attach the appropriate aperture reducer and RECALIBRATE before beginning sign measurements or scanning barcodes
 - Recalibrate again after the aperture reducer is removed
- If applicable, scan the Barcode on the subject sign
 - Do not place the 922 against the sign, simply point and pull the trigger
 - A barcode icon will appear at the top of the 922 display when the barcode reader is activated
 - Line up the barcode scanner line as central as possible until the instrument beeps
 - The barcode reading displays beneath the measurement chart on the Measurement screen
- If applicable, take sign Legend measurements
 - Place unit directly against the sign over the lettering
 - Use the largest rib on each side of the case and the seam on top and bottom as a guide to ensure the instrument is centered on the letter or number
 - Ensure the contact button on the front of the 922 is fully depressed, then pull the trigger
 - If the contact button is not fully depressed, the barcode reader will activate
 - The 922 will beep and a measurement will appear on the screen when engaged successfully
 - Repeat legend measurement in each quadrant of the sign – measurements are automatically averaged
- Take sign Background measurements
 - Tap **Background** on the Measurement screen
 - Place unit directly against the sign, ensuring it's not covering any of the legend
 - Ensure the contact button on the front of the 922 is fully depressed, then pull the trigger
 - Repeat background measurement in each quadrant of the sign – measurements are automatically averaged
- If applicable, add comments
 - Tap **Comments** and select any or all the available preloaded comments
 - Custom comments up to 17 characters can be added
 - Tap **Set User Comment** and type the custom comment using the onscreen keyboard
 - When finished, tap **Return to Comments**
- Save Measurement
 - Press **Next Sign**

Viewing Measurements in the Field

- Tap **Return to Main**, then **View Data**
 - Use the arrows to scroll through signs and delete duplicates
 - Internal storage accommodates approximately 5,800 measurements of 2,600 signs

Downloading Measurements to a Computer

- Connect the 922 to a computer that has the software installed using the USB cable
- Open the 922 Software and click the **Upload Data from 922** button
 - When the download is complete, all measurements stored within the 922 will be displayed
- Save data in standard format for sign management practices
 - Save the measurements as a .CSV file for 3rd party software importing on Microsoft Excel
 - Save the measurements as a .KML file for mapping purposes in Google Earth and Google Maps
 - Save the measurements as a .SHP file for other GIS program integration

MUTCD Minimum Maintained Retroreflectivity Levels Chart *

Sign Color	Beaded Sheeting Type (ASTM D4956)			Prismatic Sheeting	Additional Criteria
	I	II	III		
White on Green	White shall not be used Green ≥ 7	White shall not be used Green ≥ 15	White shall not be used Green ≥ 25	White ≥ 250 Green ≥ 25	Overhead
	White shall not be used Green ≥ 7	White ≥ 120 Green ≥ 15			Post-mounted
White on Blue	White shall not be used Blue ≥ 3	White shall not be used Blue ≥ 5	White shall not be used Blue ≥ 12	White ≥ 250 Blue ≥ 12	Overhead
	White shall not be used Blue ≥ 3	White ≥ 120 Blue ≥ 7			Post-mounted
White on Brown	White shall not be used Brown ≥ 1	White shall not be used Brown ≥ 5	White shall not be used Brown ≥ 10	White ≥ 350 Brown ≥ 10	Overhead
	White shall not be used Brown ≥ 1	White ≥ 150 Brown ≥ 5			Post-mounted
Black on Yellow or Black on Orange	Yellow shall not be used Orange shall not be used	Yellow ≥ 50 Orange ≥ 50			For word legend and fine symbols signs measuring at least 48 inches and for all sizes of bold symbol signs
	Yellow shall not be used Orange shall not be used	Yellow ≥ 75 Orange ≥ 75			For word legend and fine symbols signs measuring less than 48 inches
White on Red	White ≥ 35 Red ≥ 7			Minimum sign contrast ratio $\geq 3:1$ (white retroreflectivity \div red retroreflectivity)	
Black on White	White ≥ 50				

* The minimum maintained retroreflectivity levels shown in this table are in units of cd/lx/m^2 measured at an observation angle of 0.2° and an entrance angle of -4.0°