Parcelcube Dimensioning System

User Manual PC900 & PC900 XL

Version 1.1

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Scale indicator

Back piece &
Height sensor

Scale platform

Calibration cube

Scale hardware

- Qty 3 M6 – 1.0 x 14 screws
- Qty 3 M8 – .9 x 12 screws
- Qty 1 M4 – Hex key tool
- Qty 1 M3 – Hex key tool

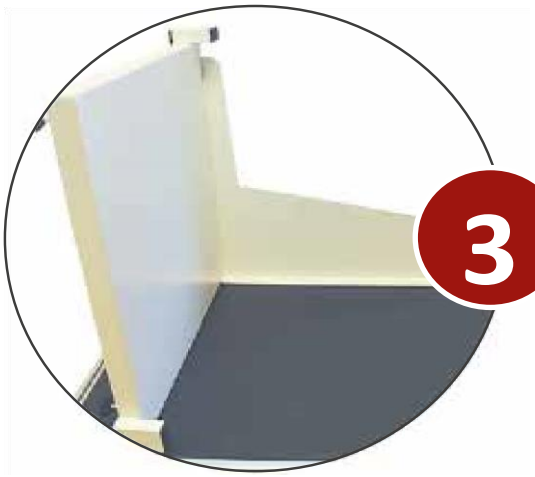
USB cable

Assemble the back piece and height sensor with the scale platform as shown in pictures.
Be sure to mount the back piece at a right angle.

1. Align the back piece and height sensor according to the picture.

2. Attach the back piece with the Qty 3 M6 – 1.0 x 14 screws and tighten after all screws are threaded using M4 hex allen key.

   Connect the height sensor cable to the scale platform as shown. The connector can only be connected one way.



3 Lie the scale on its side as shown.

4 Attach the indicator with the Qty 3 M8 – .9 x 12 screws. Tighten using the M3 hex allen key.

5 Place the scale on a level surface and using a level on the scale platform, adjust feet to level the scale.

6 Connect the serial cable attached to the scale platform to the indicator as shown.

7 Assemble the power supply, connect to a wall outlet and the indicator as shown.

8 Connect the USB to serial cable to the indicator as shown. At this time, DO NOT connect to the PC.

New models have USB cable

Software installation

Make sure to carefully follow the installation instructions below
Only with Windows 7. Windows 10 will automaticaly install USB serial driver.

Log in as Administrator to install the software and drivers.

Download serial driver
www.parcelcube.com/support/serial_installer.exe
Run the serial installer, again as administrator

Insert the USB cable into the PC. The found new hardware wizard will install the USB Seriial interface

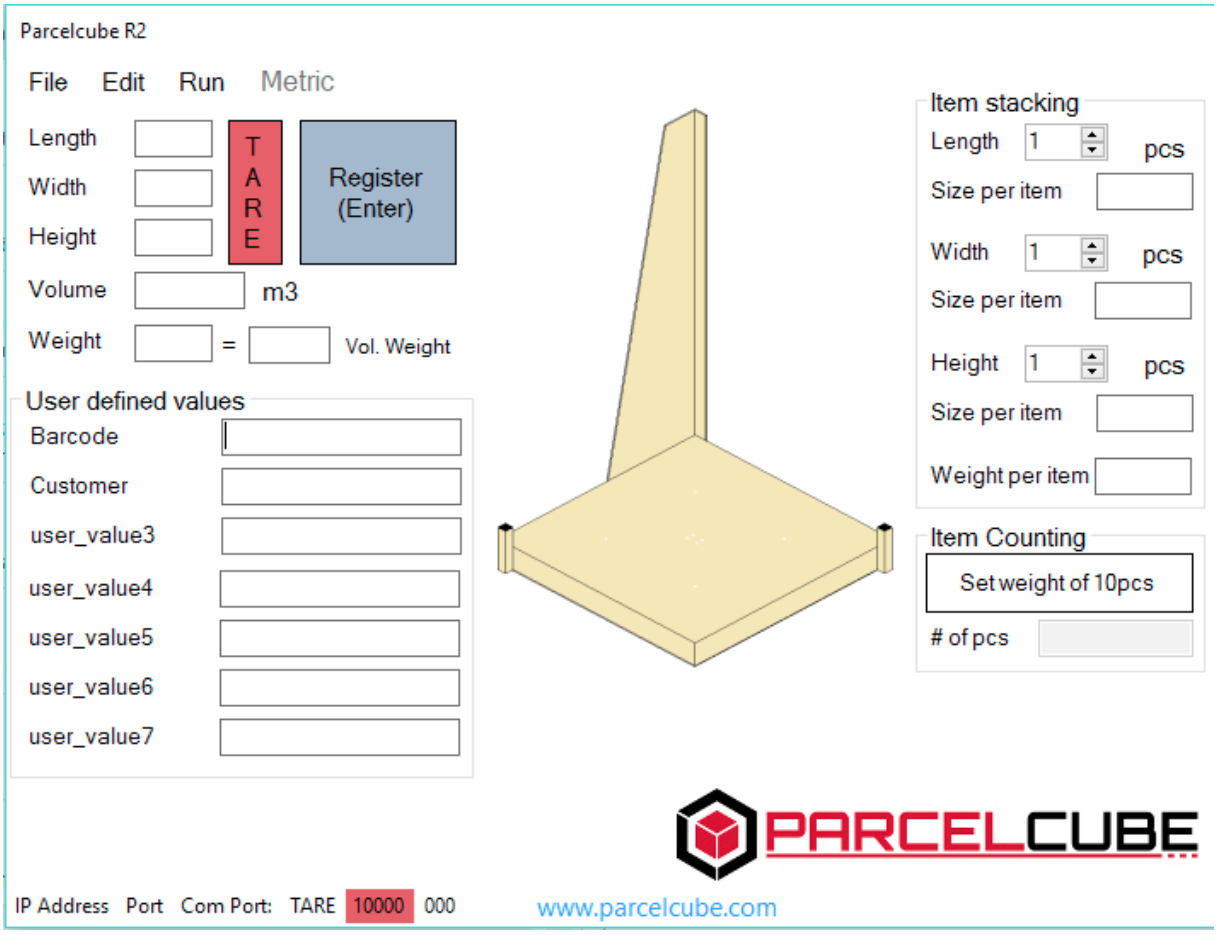
Download Software
www.parcelcube.com/support/pcclientlatest.zip
Extract to your final desitnation (where you will run the software from normaly c:\)

Run setup.exe (located in c:\parcelcube R2\publish)

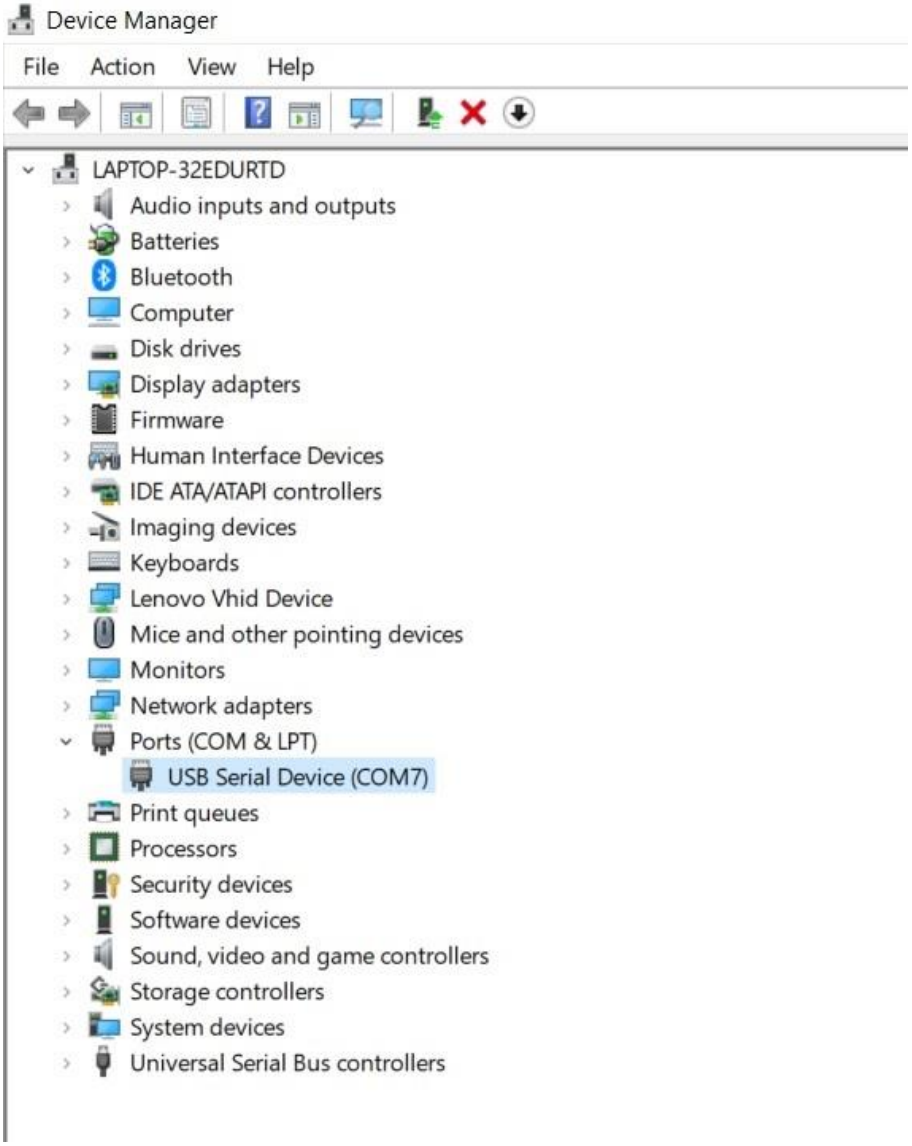
1. Click *Run*

2. Click I*nstall*

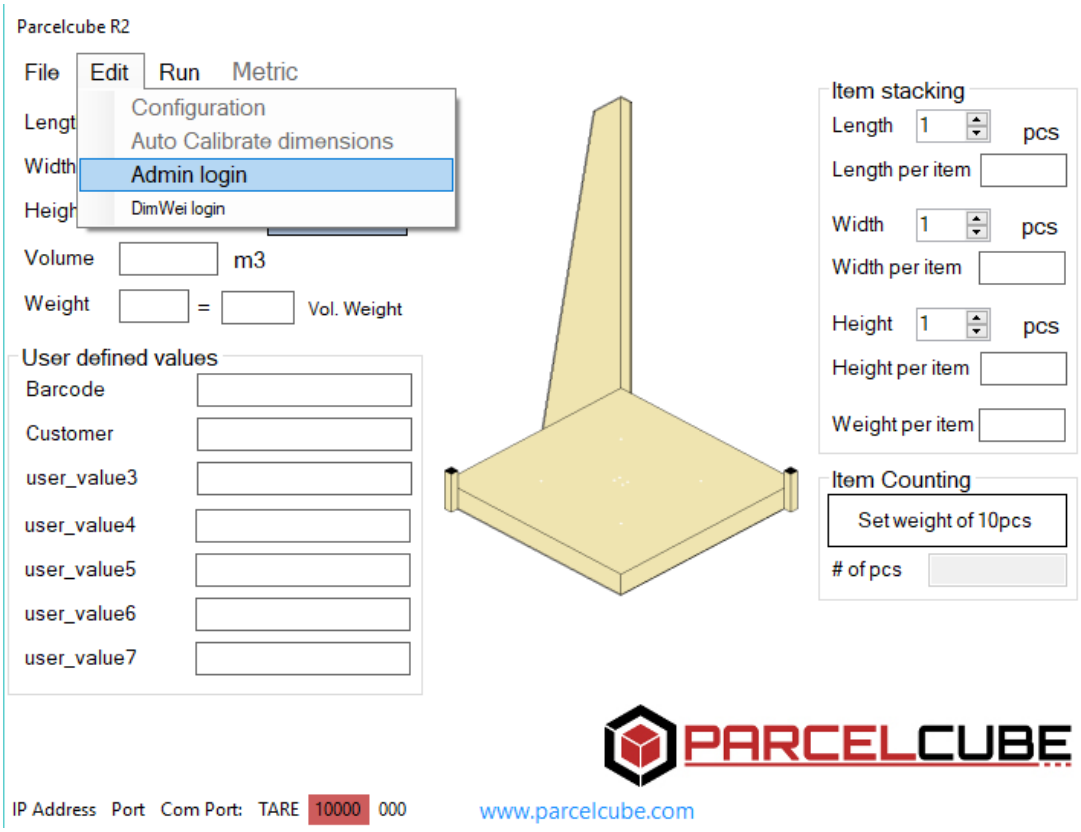
Once installation is finished, you will be presented with the below window.



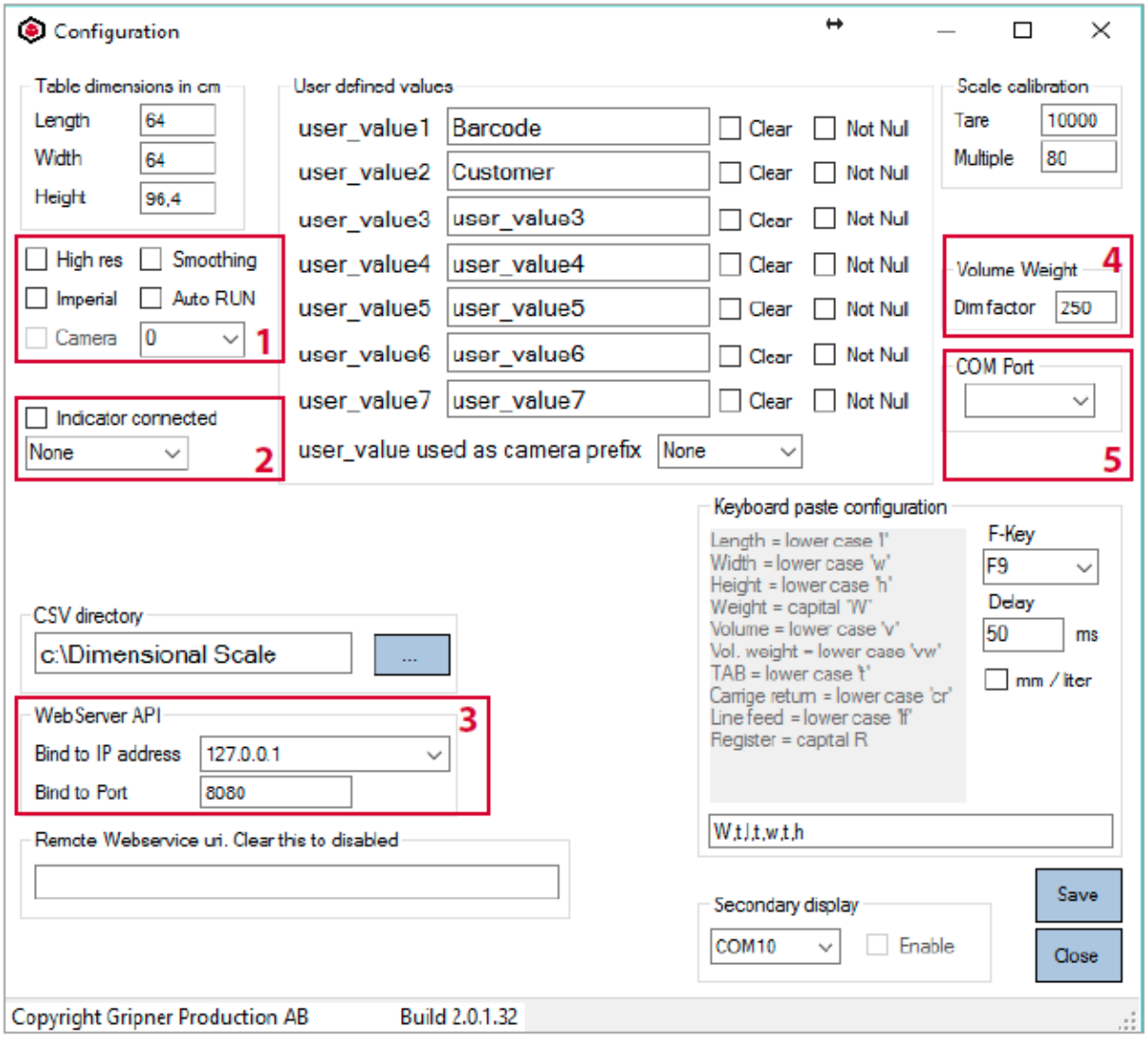
The software is pre-configured, although there are some settings that need to be adjusted.



Determine which serial port the scale was assigned to by navigating to the Device Manager (*Start* > *Control Panel* > *Device Manager*). Look for USB serial port (COMx) as shown above.

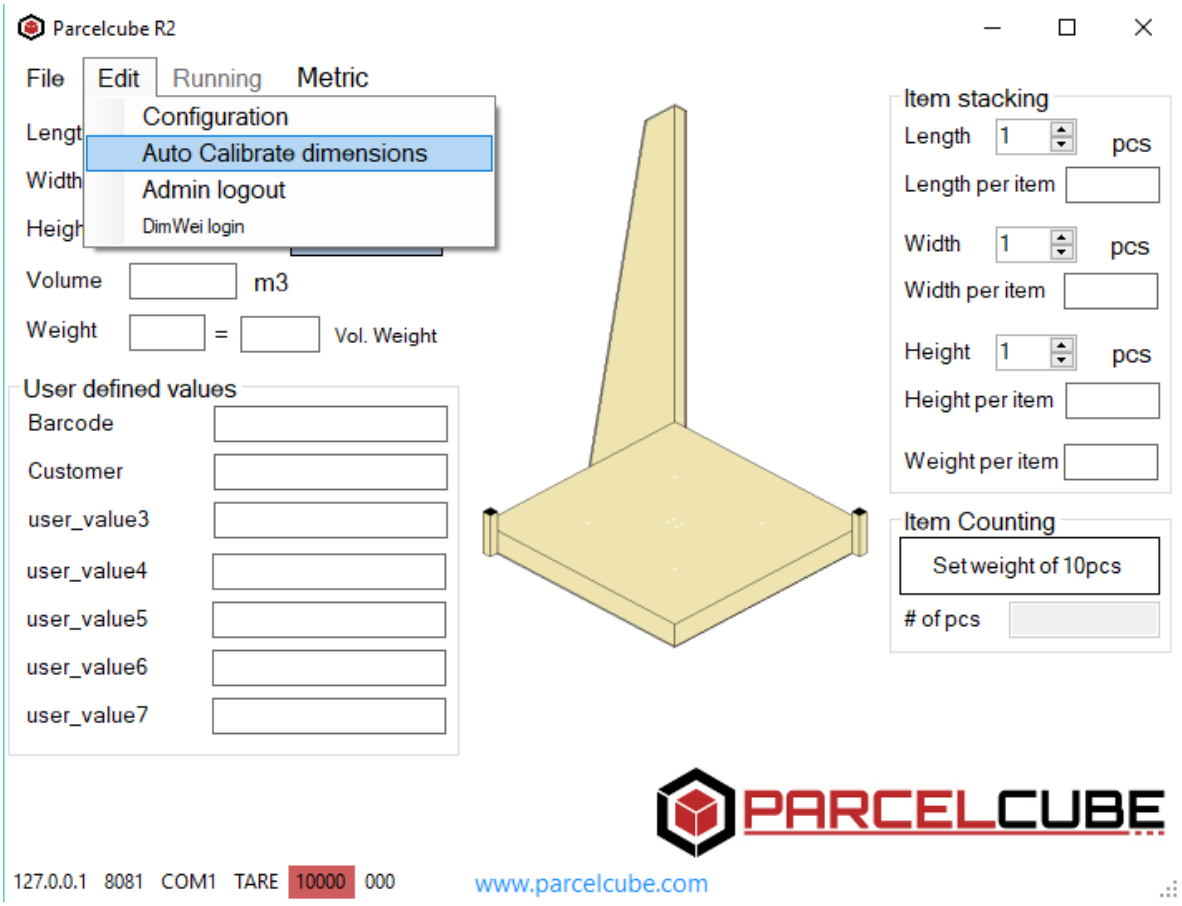


Click *Edit* > *Admin login* to enable the configuration menu item.
The password is *dimwei*.
Click *Edit* > *Configuration* to open the configuration window.



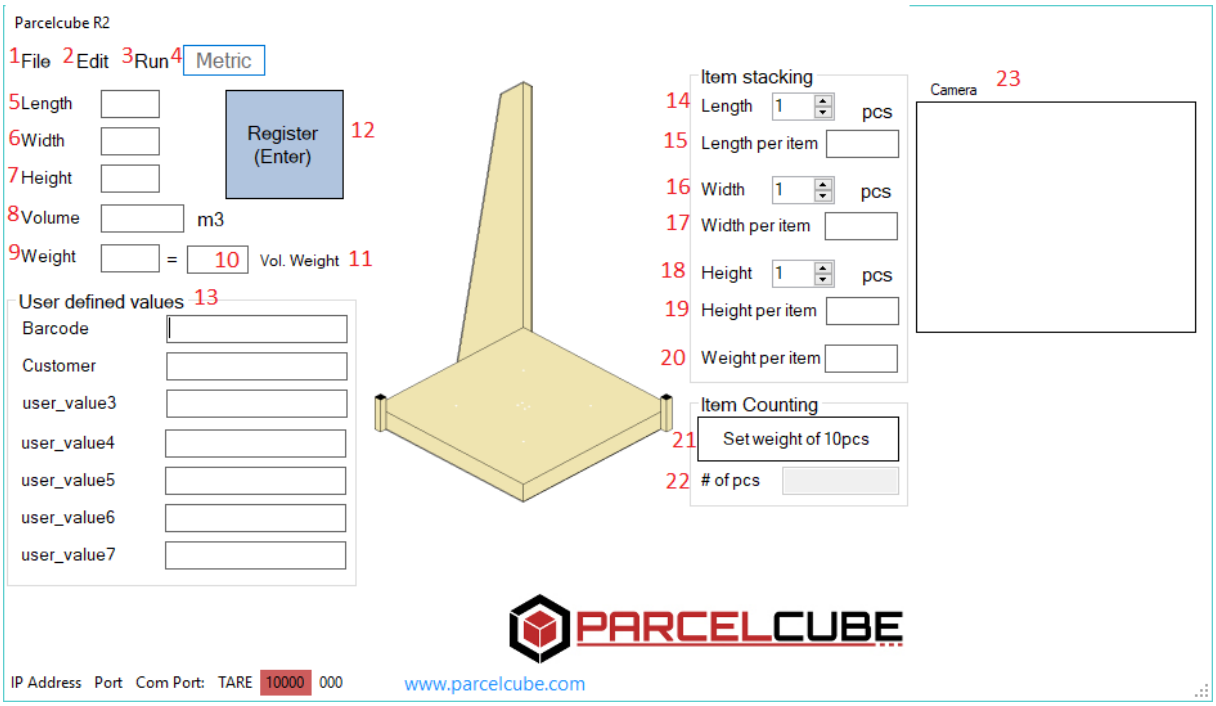
1 Check *Metric* and *Smoothing* check boxes.
2 Check *Indicator connected* check box and select RinstrumR320.
3 Set the *Bind to IP address* to the computer's IP address.
4 Enter the *Dim factor* for your freight company.
5 Choose the *COM Port* in the drop down box that corresponds to the scale serial port shown in Device Manager.

l Click *Save*.



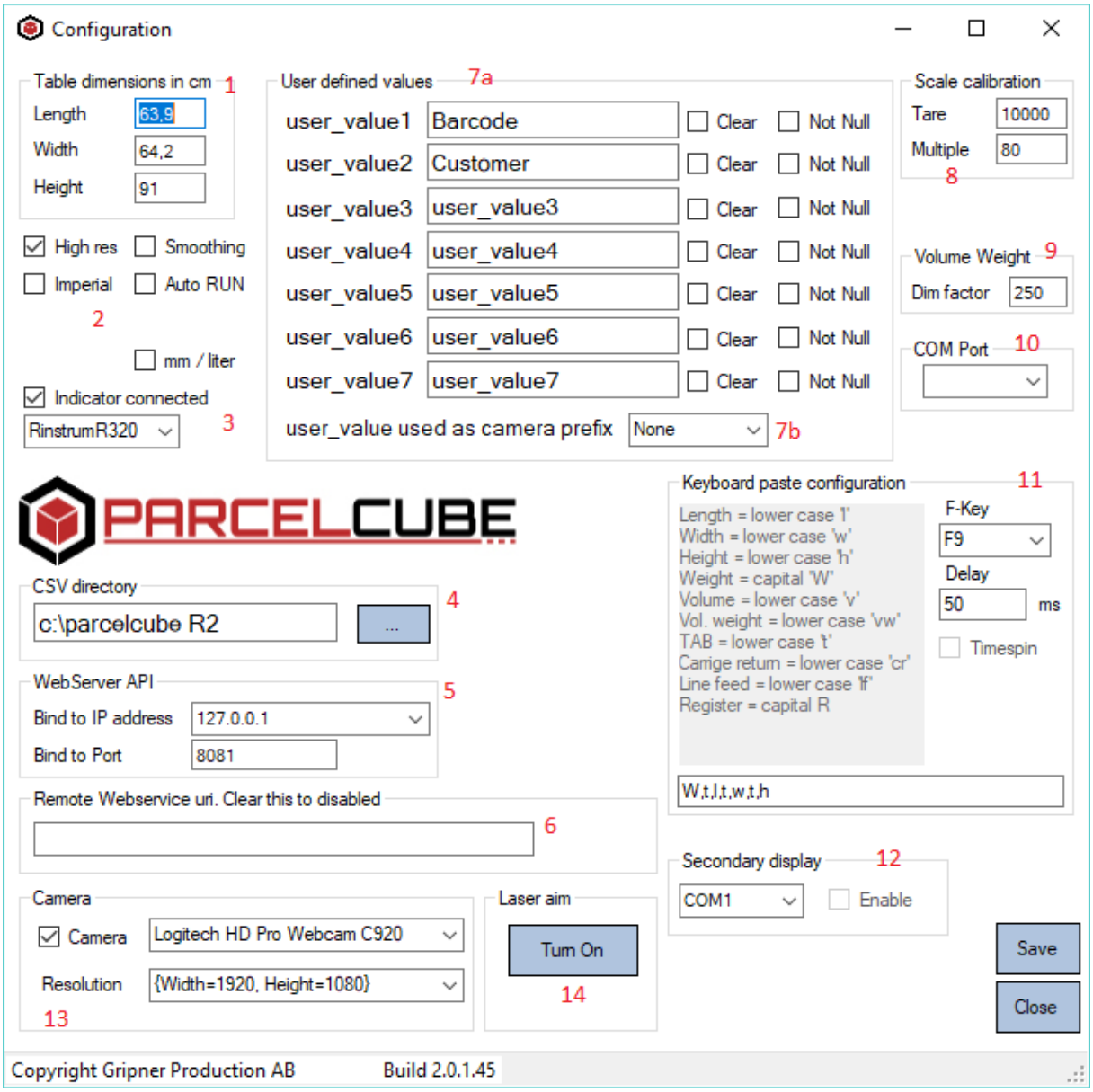
The scale is pre-calibrated for weight, but the dimensioning system must be calibrated.

- Click *Edit* > *Auto Calibrate dimensions*.
- Follow the on screen instructions.



1 File menu
2 Edit menu
3 Start the scale software communication with the hardware and Webservice
4 Toggle Metric or Imperial units.
5 Measured objects length (L)
6 Measured objects width (W)
7 Measured objects height (H)
8 Volume in (L x W x H)
9 Weight
10 Volume weight (calculated from dimensions and dim weight)
11 Green if weight > Volume Weight. Red if volume weight > Weight
12 Save all measurement data and additional information as User defined fields in .csv file. If you have configured Remote Webservice uri, a call will also be made with all the data.
13 Seven (7) User definable fields. First field will always have focus at program startup and after registering data.
14 Number of items stacked along the length
15 Length per item
16 Number of items stacked along the width
17 Width per item
18 Number of items stacked along the height
19 Height per item
20 Weight per item
21 Set the weight for 10 pcs
22 Number of pcs
23 camera preview (only displayed if camera is licensed and enables)

You must click *Save* to apply any changes to the configuration and re-starting the software is recommended.



1 Scale table dimensions in cm – Calibration values for dimensioning
2 High res – Dimensions measured with 1 decimal
Smoothing – Stabilizes the dimensional measurements
Imperial – Use imperial measurements instead of metric
Camera – Enables USB camera interface
Auto RUN – Automatically runs scale software when PC is restarted
mm / liter Not used

Continues on next page.

3 Indicator connected – Must be checked and RinstrumR320 must be selected
4 CSV directory – Location where the .csv file will be saved as well as pictures from camera
5 WebServer API – IP address and port the scale software will bind to
6 Remote Webservice uri – See pages 18–21
7 a User defined values – Rename the 7 user-defined fields of additional data saved with the .csv file.
Each field can be configured to clear after enter.
b User value can be used to add prefix to pictures standard date-time based file name.
8 Scale calibration – Not used
9 Dim Factor – Freight carrier dimensional weight factor
10 COM Port – Serial port of PC used to connect to the scale
11 F9 Configuration – See page 15
12 Secondary display – Not used
13 Camera settings
14 Aiming tool to aim laser, Not used on SN1 and BN1 models

Item stacking
If you wish to measure many small objects (smaller than the minimum size allowed) you can use item stacking. As an example, if you have 200 business cards, stack them along the height, put in 200 in the height pcs field. The field height will show total height and the field size per item under item stacking will show the size of each business card.

Measuring oversized objects
If you have an object too big to fit on the scale, you can still use the scale to register the data. Under *File* menu choose *Pause Serial.* Now you can manually enter the dimensions and weight. Register the data and when complete, click *File* menu and choose *Start Serial*.

F9 configuration
This option allows you to configure the scale software to emulate a keyboard typing in the volume and weight data to any application. Say you want to save the measurements to an Excel file with the column layed out as:

Length	Width	Height	Weight

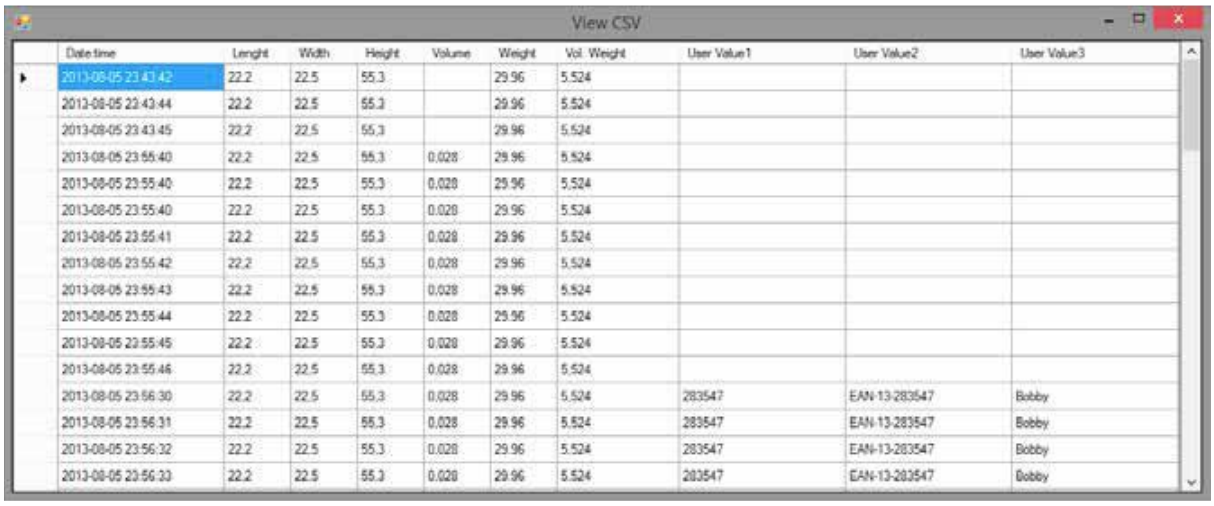
You configure the F9 as l,t,w,t,h,t,W,lf
The Excel file will be filled in when you press the F9 key: (fictional volume and weight data)

Length	Width	Height	Weight
23	41	12	0.77
43	23	12	1.33

Auto calibrating dimensions
To do an auto calibration you need to be logged in as admin in the software. *Edit* > *Admin login* (password dimwei). Once logged in you have access to *Edit* > *Auto calibrate dimensions*. You need to follow the on-screen instruction and have the calibration object. Make sure you followed the steps outlined during assembly, installation and start-up.
Choose *Edit* > *Admin* login to enable configuration (password is dimwei)
Choose *Edit* > *Configuration* to open up the configuration window. Select *High res*, ensuring that *Smoothing* is NOT selected.
Click *Save* and *OK*.
Position the main window and configuration windows so that you can see both windows at the same time.

Calibrate dimensions (Must be done using centimeters, not inches)
Place an object of known size, for example 20 x 20 x 20 cm (8 x 8 x 8 in) and preferably made of wood or metal on the scale. Observe the dimensions in the main window. If a dimension, such as width, is listed as too small, such as 19.5, in the configuration window, manually change the width under Table Dimensions in cm to current value + (20 – 19.5). So if the current value was 63.5 you would change it to 64. If, for example, the length shows as 20.5 you would then decrease the current length value according to current value – (20.5 – 20). Thus, if the current value was 64.5 you would then change it to 64.

File > View CSV



Date time	Lenght	Width	Height	Volume	Weight	Vol. Weight	User Value1	User Value2	User Value3
2013-08-05 23:43:42	22.2	22.5	55.3		29.96	5.524			
2013-08-05 23:43:44	22.2	22.5	55.3		29.96	5.524			
2013-08-05 23:43:45	22.2	22.5	55.3		29.96	5.524			
2013-08-05 23:55:40	22.2	22.5	55.3	0.028	29.96	5.524			
2013-08-05 23:55:40	22.2	22.5	55.3	0.028	29.96	5.524			
2013-08-05 23:55:40	22.2	22.5	55.3	0.028	29.96	5.524			
2013-08-05 23:55:41	22.2	22.5	55.3	0.028	29.96	5.524			
2013-08-05 23:55:42	22.2	22.5	55.3	0.028	29.96	5.524			
2013-08-05 23:55:43	22.2	22.5	55.3	0.028	29.96	5.524			
2013-08-05 23:55:44	22.2	22.5	55.3	0.028	29.96	5.524			
2013-08-05 23:55:45	22.2	22.5	55.3	0.028	29.96	5.524			
2013-08-05 23:55:46	22.2	22.5	55.3	0.028	29.96	5.524			
2013-08-05 23:56:30	22.2	22.5	55.3	0.028	29.96	5.524	283547	EAN-13-283547	Bobby
2013-08-05 23:56:31	22.2	22.5	55.3	0.028	29.96	5.524	283547	EAN-13-283547	Bobby
2013-08-05 23:56:32	22.2	22.5	55.3	0.028	29.96	5.524	283547	EAN-13-283547	Bobby
2013-08-05 23:56:33	22.2	22.5	55.3	0.028	29.96	5.524	283547	EAN-13-283547	Bobby

This option will bring up a view of the current CSV data.
The CSV file is located in the path defined in the configuration form.

The scale CSV file format is as follows:

Field 1 Date and time in computer's current format, variable size
Field 2 Length, variable size
Field 3 Width, variable size
Field 4 Height, variable size
Field 5 Volume, variable size
Field 6 Weight, variable size
Field 7 Volume Weight, variable size
Field 8 User Value 1, variable size
Field 9 User Value 2, variable size
Field 10 User Value 3, variable size
Field 11 User Value 4, variable size
Field 12 User Value 5, variable size
Field 13 User Value 6, variable size
Field 14 User Value 7, variable size
Field 15 Item stacking length, variable size
Field 16 Item stacking width, variable size
Field 17 Item stacking height, variable size
Field 18 Item stacking weight, variable size
Field 19 Item counting # of pcs

Each field ends with a semicolon except the last field, which ends with CRLF.

Indicator Zero / Span Calibration Procedure

With the indicator powered on and in normal weighing mode, perform the following functions to calibrate the Rinstrum scale indicator.

1. Press  +  Power & “F” key together for 2 seconds to access setup mode.
2. Press  ZERO key (2X) until CAL Menu is displayed.
3. Press  TARE key (1X) and “ZERO” will be displayed.
4. Remove all weight from the scale platform.
5. Press  GROSS/NET Key (1X). Display will flash current weight.
6. Press  PRINT key (1X). Display shows “Z in P” (Zero in Process) followed by the newly captured zero reference flashing on the display.
7. Press  TARE key (1X) to return to ZERO menu.
8. Press  TARE key again (1X) to display SPAN menu.
9. Press  GROSS/NET key (1X). Display will flash current weight.
10. Add calibration weight to scale platform.
11. Press  GROSS/NET key (1X) to enter the calibration weight value.

     GROSS/NET will select the digit.

     PRINT will edit the digit (scroll up).
12. Press  “F” key to accept weight value and perform calibration. Display shows “S in P” (Span in Process) followed by the newly captured span reference flashing on the display.
13. Press  +  Power & “F” keys together for 2 seconds to save settings – and exit.

Indicator: Enabling Unit Switching

With the indicator powered on and in normal weighing mode, perform the following functions to enable unit switching on the indicator (NOT PC interface).

1. Press  +  Power & “F” Key together for 2 seconds to access setup mode.
2. Press  ZERO key (3X) until SPEC Menu is displayed.
3. Press  TARE key (9X) until PUR.FN parameter is displayed.
4. Press  GROSS/NET Key (1X). Display will show the current setting “NONE” by default.
5. Press  PRINT key (1X) to change the setting to “UNITS”.
6. Press  “F” key to accept the new value and return to PWR.FN.

Press  +  Power & “F” keys together for 2 seconds to save settings and exit.

There are two methods for retrieving data from the ParcelCube client software. These methods are the*Webservice* and the *Remote Webservice uri*. The Webservice is used to *pull* data from the ParcelCube client and the Remote Webservice uri is used to *push* data from the ParcelCube client to a web service that is awaiting the data.

1. Webservice *(pull data)*

In order to utilize the Webservice for pulling data from the ParcelCube client there must be software written (web or desktop) to perform an HTTPWebRequest (e.g. button or link click). The web request must be made to the PC where the ParcelCube client software resides.

Example c# code:

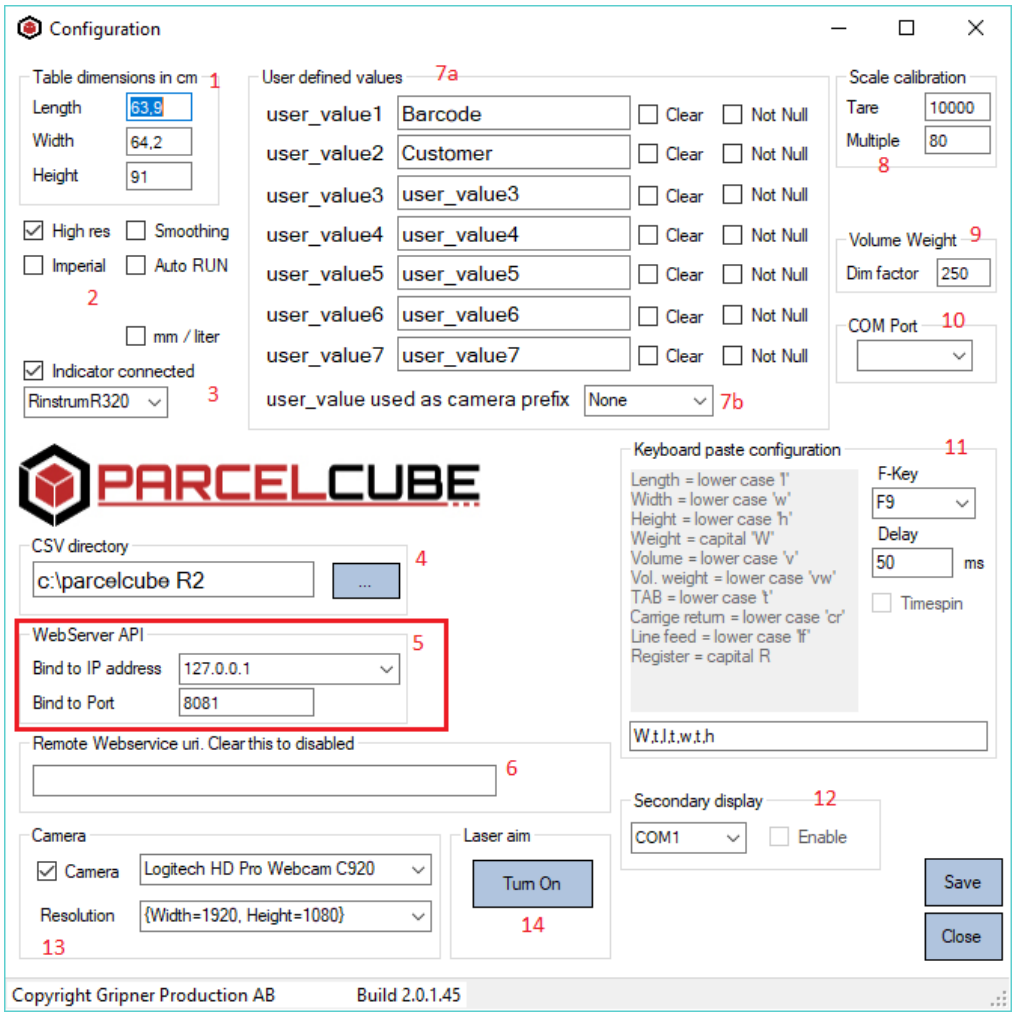
```
Dim request As HttpWebRequest =
CType(WebRequest.Create("http://192.168.43.37:8080/"), HttpWebRequest)
// IP and port should be the one in the parcelcube config
Dim response As HttpWebResponse = CType(request.GetResponse(), HttpWebResponse)
' Get the stream associated with the response.
Dim receiveStream As Stream = response.GetResponseStream()
' Pipes the stream to a higher level stream reader with the required encoding format.
Dim readStream As New StreamReader(receiveStream, Encoding.UTF8)
'MsgBox(readStream.ReadToEnd())
Dim parcelcube_string() As String
Try
parcelcube_string = readStream.ReadToEnd().Split(";")
Catch
End Try
item_lenght_txtbox.Text = parcelcube_string(0)
item_width_txtbox.Text = parcelcube_string(1)
item_height_txtbox.Text = parcelcube_string(2)
item_weight_txtbox.Text = parcelcube_string(4)
response.Close()
readStream.Close()
```

---

parcelcube_string() has all the data, even though this example only uses 4 values. If you want the calculated volume
parcelcube_string(3) will hold it.

Configure ParcelCube client Web Service

In the ParcelCube client software configuration screen fill in the following fields:
1 Bind to IP Address – This is the IP address of the PC that is running the ParcelCube client software (127.0.0.1 may be used for testing locally on the PC).
2 Bind to Port – Enter the port number.
** Note – If you have problems connecting, verify that the port entered is allowed in your firewall.*



Test Connectivity

To test connectivity on your network PC. With the ParcelCube client software running, enter http://192.168.10.80:8080 *(substitute your IP and Port)* using either Microsoft Internet Explorer or Mozilla Firefox on a network PC. After you press the Enter key the ParcelCube client should return the following:

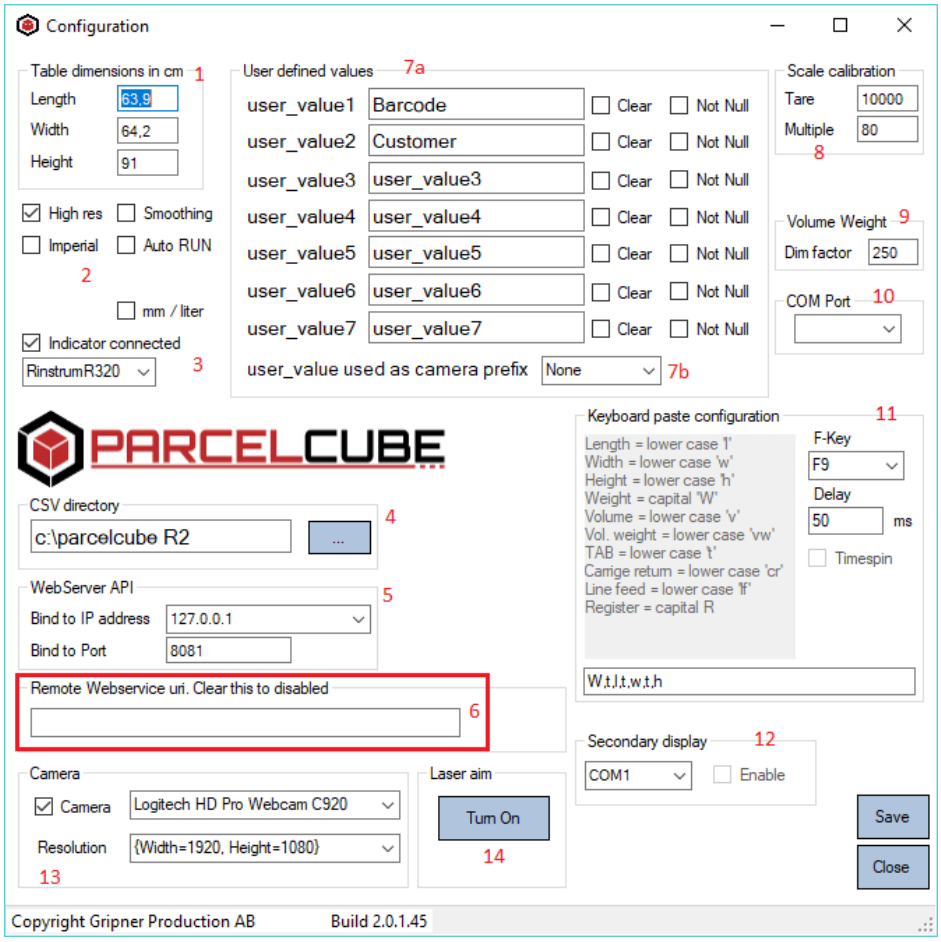
2. Remote Webservice uri *(push data)*

In order to utilize the Remote Webservice uri for pushing data from the ParcelCube client to your host application there must be a web service written and running that has a variable waiting to be populated (e.g. variable named *data*).

Example :
The web server that is running your web service has an ip address of 192.168.10.20 and uses port 9090.
Your web service name is *pcdata* and contains a variable that is expecting an **http: get.** The uri that you would put into the *Remote Webservice uri* in the ParcelCube client would be as

follows:
http://192.168.10.20:9090/pcdata?data
ip address port webservice?variable

Configure ParcelCube client
In the ParcelCube client software configuration screen fill in the following field:
• *Remote Webservice uri*



Usage

Once your web service is in place and you have configured the *Remote Webservice uri* in the ParcelCube client you simply click on the *Register* (Enter) button in the ParcelCube client software and it will be retrieved by the web service in the format.

Example of data returned to your web service:
http://192.168.10.20:9090/pcdata?data=12;8.6;6.5;0.388194;1.5;4.041; ; ; ; ; ;12;8.6;6.5

NOTES