ParcelCube 900 R2

User manual v1.0

Requires Philips screwdriver.

Assemble the back piece (Aluminum part with Parcelcube logo) with the main piece as shown in picture. Be sure to mount the back piece at a right angle.

1 Loosen the screws from the main section according to picture

2 Hang the back piece on the 2 screws and tighten in order 1, 2, 3

Make sure to carefully follow the installation instructions below.

- ✔ Connect the AC/DC adapter to the AC power outlet.

- ✔ Do **NOT** connect the USB cable.

- ✔ Download the following file and unzip to c:\ (root directory of the C drive) **https://dl.dropboxusercontent.com/u/3950023/parcelcube/Parcelcube%20 R2%20installation%20files.zip**

- ✔ Run serial_installer.exe located under c:\Parcelcube R2\publish (as administrator)

- ✔ Insert the USB cable from the Parcelcube into your computer. The found new hardware wizard should appear and install the USB serial port driver.

- ✔ Run setup.exe (located under c:\Parcelcube R2\publish)

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

The Parcelcube 900 software is preconfigured, although there are some minor settings that need to be adjusted.

Chose Edit → Admin login to enable configuration (password is dimwei)
Chose Edit → Configuration to open the configuration window.

Step one is to determine which serial port Parcelcube was assigned:

Device manager: Ports (COM and LPT)
Look for Teensy USB Serial (COMx)

Chose the COM port in the drop down box named COM Port that corresponds with the Parcelcube serial port.
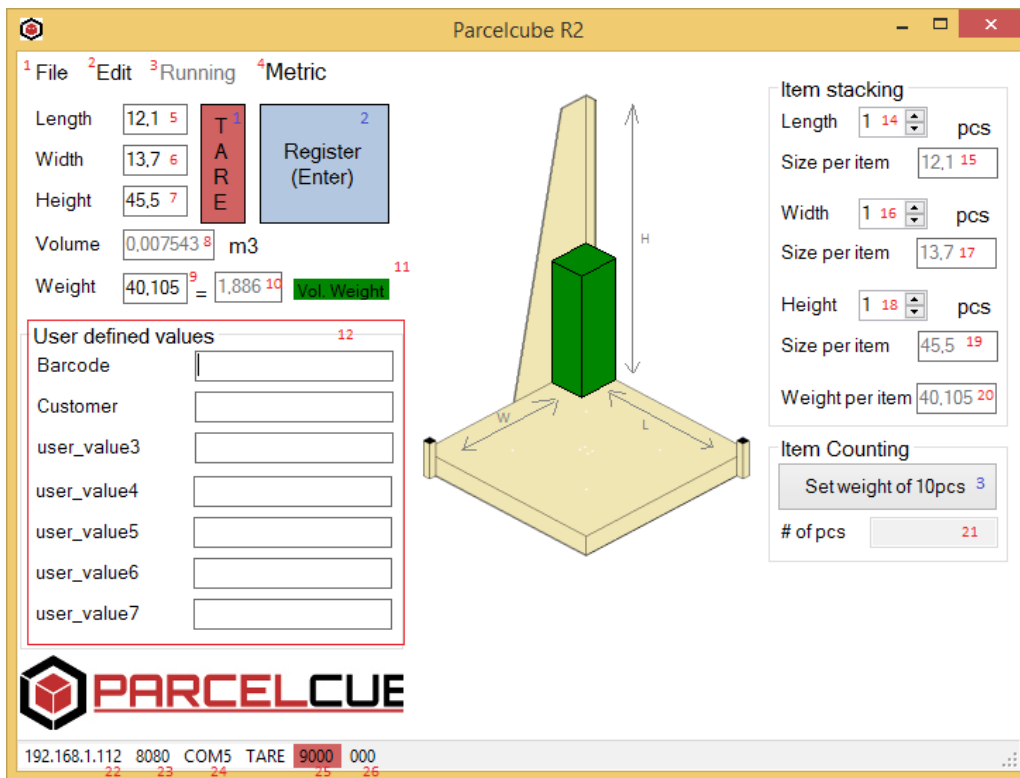
Set the Bind to IP address to the computer's IP address.

Using your calibration protocol delivered with the Parcelcube, populate the Table dimensions and Scale Calibration fields.

Press Save and OK in the popup window and close the configuration windows.

Press Run in the main window. The system is now up and running.

1   File menu
2   Edit menu
3   Start the Parcelcube software communication with the hardware and webservice
4   Toggle Metric or Imperial units, Units used iand shown are in Metric.
5   Measured objects Length (L)
6   Measured objects Width (W)
7   Measured objects Height (H)
8   Volume in m3 or ft3 (LxWxH)
9   Weight
10   Volume weight (calculated from dimensions and dim weight)
11   Green if Weight > Volume weight. Red if Volume weight > Weight
12   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   Number of pcs

1   Fast TARE, not saved just used until restart or next time TARE is pressed.
2   Save all measurement data and additional information as User defined fields
         If you have configured   Remote webservice URI a call will also be made with all the data.   *1
3   Set the weight for 10pcs see Item counting on page 8

Table dimension in cm, calibration values for dimensioning.
High res   Dimensions measured with 1 decimal. Weight with 3 decimal
Smoothing   Stabilize the measurements
Imperial   Use imperial units instead of metric
NTEP/OIML Used if you have a Parcelcube NTEP/OIML approved indicator
User defined values: Nicknames for the 7 fields of additional data you can save, can be configured to clear or not clear after each Registering of data.
Scale calibration, calibration values for scale, not used if you have NTEP/OIML
Dim kg/m3:   Dim weight
COM Port: Comport the Parcelcube is connected to
CSV directory: Location where the CSV file will be saved
Webserver API: IP address and port Parcelcube software will bind to
Remote webservice url: See Remote Webservice uri (page 12)
F9 configuration: See F9 configuration (page 8)
Display port: Only used with special Parcelcube Display, must NOT enable if you do not have the extra display

You have to click Save to apply any changes you do in the configuration.
All settings uses comma not period!

Item stacking.
If you wish to measure many small objects (smaller then minimum allowed size) you can use item stacking. Say for example you have 200 business card. Stack them along the height, put in 200 in the Height pcs field. The field Height will show total height and the field Height 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 Parcelcube you can still use the Parcelcube to register the data. Under File menu chose Pause Serial, now you can manually enter the dimensions and weight. Register the data and again under File menu chose Start Serial.

F9 configuration.
This option allows you to configure the Parcelcube 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 dimension.
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 (L20, W20, H30cm)

Auto calibrating weight.
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 weight. You need to follow the on screen instruction and have the calibration weight (20kilos).

Make sure you followed the steps outlined on pages 3-4.
Chose Edit → Admin login to enable configuration (password is dimwei)
Chose Edit → Configuration to open up the configuration window.
Select High res, ensuring that Smoothing Imperial and NTEP/OIML are NOT selected.
Click Save and OK

Position the main window and configuration windows so that you can see both.

Calibrate dimensions
Place an object of known size, for example 20 x 20 x 20 cm and preferably made of wood or metal on the Parcelcube. 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.

Calibrate weight
To set the TARE (zero weight of the Parcelcube):
Make sure the Parcelcube is totally empty.
In the Parcelcube main window, locate the status bar at the bottom and find the value to the RIGHT of the value with a red background. In this example the value is 8905.

192.168.1.237 8080 COM7 TARE 9000 8905

Enter this value (8905) under Scale Calibration TARE in the configuration. Click Save and OK. Now the weight in the main window should be hovering around 0.

To calibrate the weight:
Place a known weight on the Parcelcube, around 20 kilos. Observe the weight in the main window. If it displays as less than 20 kilos, increase the multiple under Scale Calibration in the configuration window. Make sure to click Save and OK to see changes.

Once you are satisfied with the result, you can use Imperial and/or smoothing as you see fit. You should also remove high res if using non-Imperial measurements.

For a full explanation of all fields in the main window and configuration, please see our online video.

File → View CSV

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 Parcelcube 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.

The Parcelcube software has a built-in webserver offering a simple web service.

The webserver is based around a client issuing a http GET and the Parcelcube webservice replying with a standard HTTP 200 and text/plain header followed by a single line of ascii encoded data. For example:

Format is same as in CSV file
Field 1;Field 2;………..Field 19<CRLF>

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

```vbnet
----------------------------------
    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.CRLF.

This is used to send data to other systems via an http get.
Configure the Webservice uri with the correct uri. Parcelcube software will add an equal character and an uri encoded data string to the uri.

For example if your webserver running the webservice have ip address 192.168.20.1 and use port 8900. Your webservice is called pcdata and expect an http get variable named 'data' the uri would look like this:
http://192.168.20.1:8900/pcdata?data

The Parcelcube software will add and equal character and the same string as in CSV.
http://192.168.20.1:8900/pcdata?data= Field 1;Field 2;………..Field 19<CRLF>

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