

# **A Customised Android App**

## for your Archaeological Field Work



## **User's manual**

Proofed with Leica total stations TCR 110C, TC & TCR 300 / 400 / 700 series and mobile devices operating Android 5.0 or higher

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## **1** Hardware connection

TachyBT works with all devices (smartphones and tablets) operating Android 5.0 or higher.



- Connect the Leica RS232 Cable (9-pin Sub-D jack) with the tachymeter.
- Connect the Taskit Bluetooth Adapter (taskit BLE232) with the Leica cable (if not fixed).

## 2 Before You Start

### **2.1 Installation**

For purchase of TachyBT please contact: a-sf@arcor.de

#### 2.2 Start TachyBT

After Hardware connection, activate Bluetooth on your Android device.

The app can be started as usual in Android via the launcher.

After starting, select **taskit BLE232** as Bluetooth connection.

**NOTE:** Make sure that there is no other Bluetooth device around, because **taskit BLE232** will connect only with one device. If **taskit BLE232** will not be found, that would be the most likely failure.



#### **2.3 First Time Input**

Please accept copyright and the warranty disclaimer.

Secondly, the app needs a valid **e-mail address** to personalise your data.

The app starts only after filling in (only one time, with initialisation).

PLEASE NOTE: Your e-mail address will be only stored in your local settings. The data upload and the server software use only a hash of the e-mail address (MD5). There is no display as plain text.



## **3 Getting Started**

#### 3.1 Create a Job ID

A job is used in the same way as in the total stations.

After filling in the Job name

→ Press "Start Survey"

**Note**: There's an edit field below the JobID field. Here you can enter a short description.



#### 3.2 Select GH/ AH/ Profile

Use the consecutive dropdown menu:

- → Select a Geological Horizon (GH)
- $\rightarrow$  Select an Archaeological Horizon (AH)
- → Select the Profile

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#### **3.3 Working with Prisms**

If you use the prism for indirect measuring, TachyUsb calculates the difference in height.

Standard heights of the prism are:

- +/- 0 m (direct shot, without prism)
- + 0.40 m
- + 0.70 m
- + 1.00 m
- + 1.30 m

**Note:** TachyUsb automatically subtracts the height you choose in the dropdown menu. This value should be entered in meters.

(Feet are not supported!)

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#### **3.4 Select Direction**

Describe oblong objects with their main axis

(e.g. to detect their alignment in the sediment due to geological debris flow).



### **3.5 Select Inclination**

Describe the inclination of objects with their main axis.

(e.g. to detect their erection in the sediment due to geological debris flow).



#### **3.6 Brief Description**

Three fields provide for a brief description of the measuring point or the object.

Type: e.g. find category

Feature: e.g. special tool type

Note: other observations

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## **4 Launch Measuring**

Launch the **Start Button** for the current index and import E-N-H (East – North – Hight) data from your total station.

(Your android device triggers the total station.)

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Note:	some notes	
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#### 4.1 Edit Data

Edit previously measured points ("Prev")

or set "invalidate MP" to mark a point as invalid.

- edit fields
- "Save"
- "Leave Edit Mode"

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🚹 Me	easureActiv	ity	ø
Index (auto) Suffix Square Meter			
000	1 0	0 11/22	2
GH	H=4, AH=4, Profile=E	1.0 Pr	is
<sub>Type:</sub> type-name			
Feature: feat-name Note: another note			
Direction	: Inclination	on:	
03h <b>30°</b>			
9: 2014-05-21 => invalidate MP <sup>20:32:52</sup>			
Prev	Prev Save Leave Edit Mode		

## **5 Send Database to Server**

→ Go back to main menu (Android's rebound button)

 $\rightarrow$  Push "Setting button" in menu (3 dots, upper right)



#### → "Send Database"



Upload result		
Upload data succeeded		
Ok		

## 6 Exit

After the information about the **successful upload** push the Ok button.

You can exit the app by pushing the **home button**.

With the next TachyUsb session you can either continue

- the same job by filling in the same job name (see Job ID, step 3.1)
- or start a new job.

### 7 Web Frontend & Data Transfer

#### 7.1 View the Data in WEB Browser (online)

- → Visit the website <a href="http://www.tachyusb.de/index\_data.php">http://www.tachyusb.de/index\_data.php</a>
- → Fill in your **E-mail address** for **login** to your personal web space.
- → Click the link View Data to screen your jobs, open a job by second click to display the data sheet in HTML.
- → Data transfer is possible with Copy & Paste, for instance to a Microsoft Excel list.

(An \*.xml export of data is in progress. The XML data can later be imported directly or via an XSLT file to your favourite edit software).

All compressed	SQLite-Files in your uplo:
View Data or download:	<u>20140521 153658.gz</u>
Older uploads: View Data or download	20140521 083520 07

#### **7.2 Download Of the Entire Database**

PLEASE NOTE: The following description is for advanced users only. It's not required for processing your field job data.

You can download the database to your PC by clicking the \*.gz-file in the right column of the file list. The file name has the format **YYYYMMDD\_HHmmSS.gz** (Year, **M**onth, **D**ay, **H**our, **M**inute, **S**econd).

All compressed SQLite-Files in your uplo:		
<u>View Data</u>	or download:	20140521 153658.gz
Older uploads: View Data	or download.	20140521 083529 07

After downloading you may unpack the file with your favourite ZIP tool (7-Zip, WinZip, WinRAR, GNU-Zip etc.). Unpacking the content of the .gz file generates a plain SQLite database file with the same file name as the .gz file (without .gz suffix). It can be opened for instance with the free **SQLite Database Browser** (<u>http://sqlitebrowser.org</u>).

Note that the data table (tachy\_data) does not only contain the pure measure data but also control and state data. The data comes in raw format straight from the total station via the serial interface.