TachyBT

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

App Version 1.0, Sept. 2017

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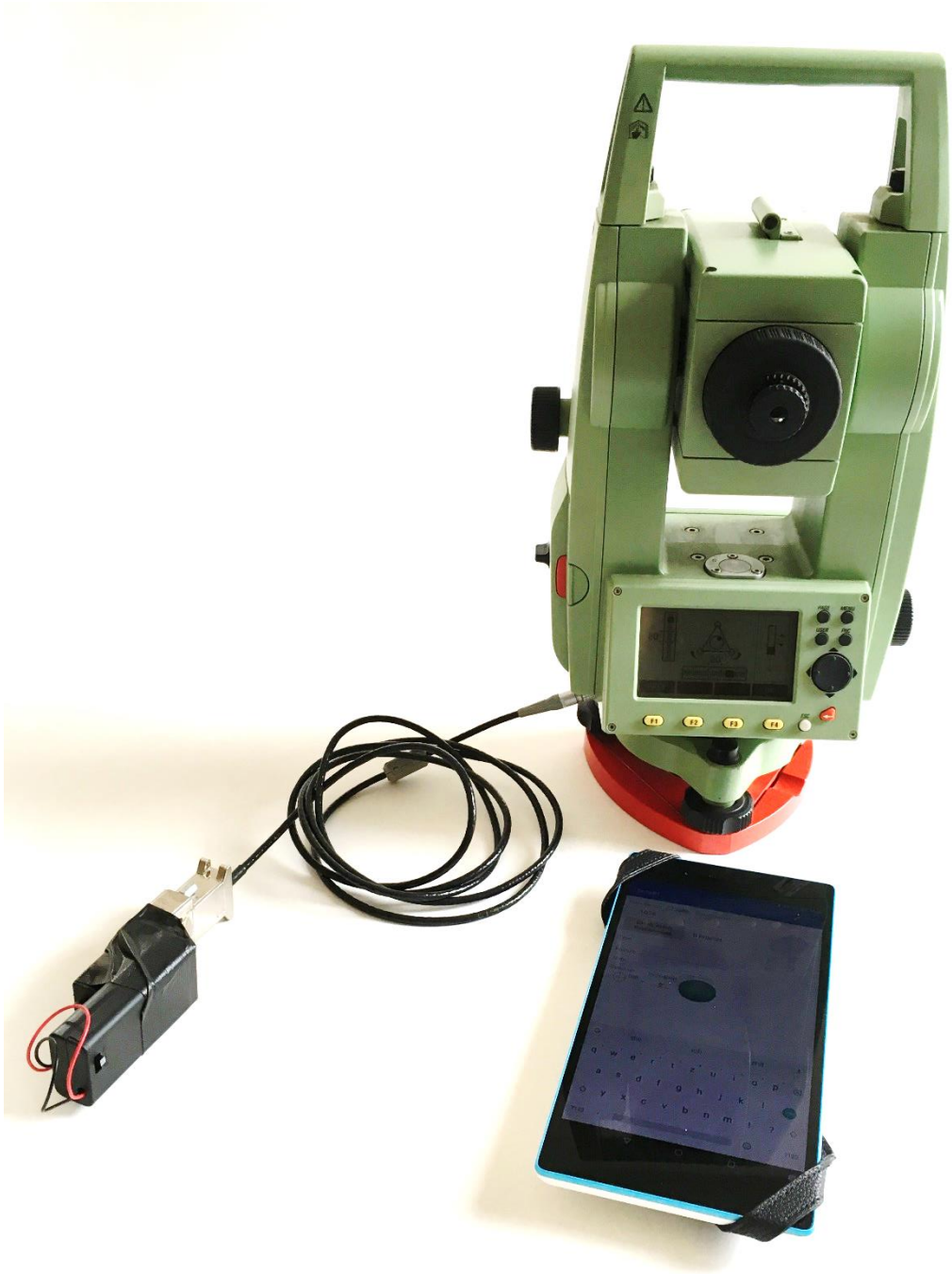
1 Hardware connection

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**

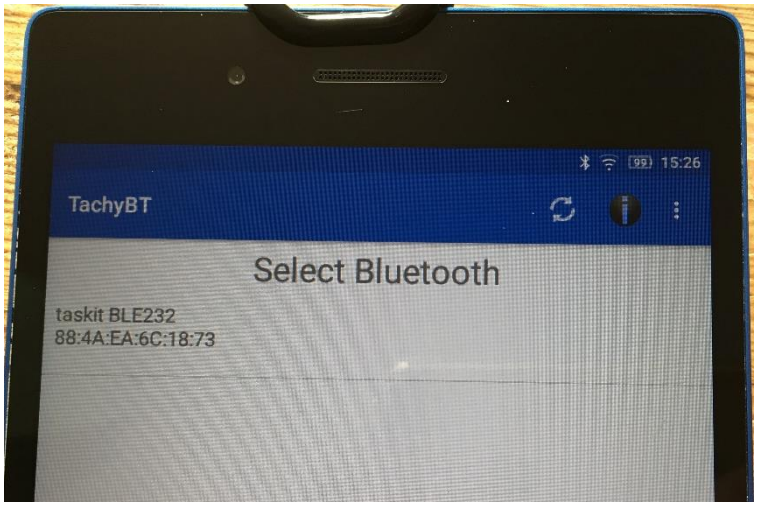
2.2 Start TachyBT

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.



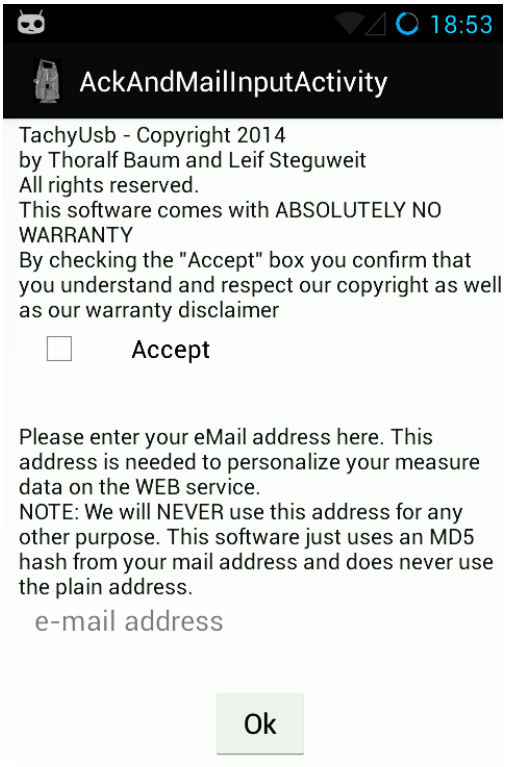
2.3 First Time Input

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

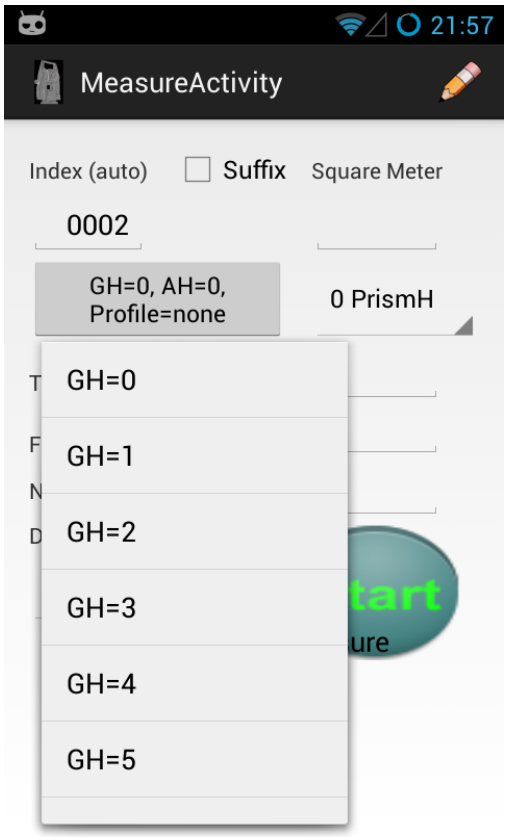
A job is used in the same way as in the total stations.

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)

→ Select an Archaeological Horizon (AH)

→ Select the Profile

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

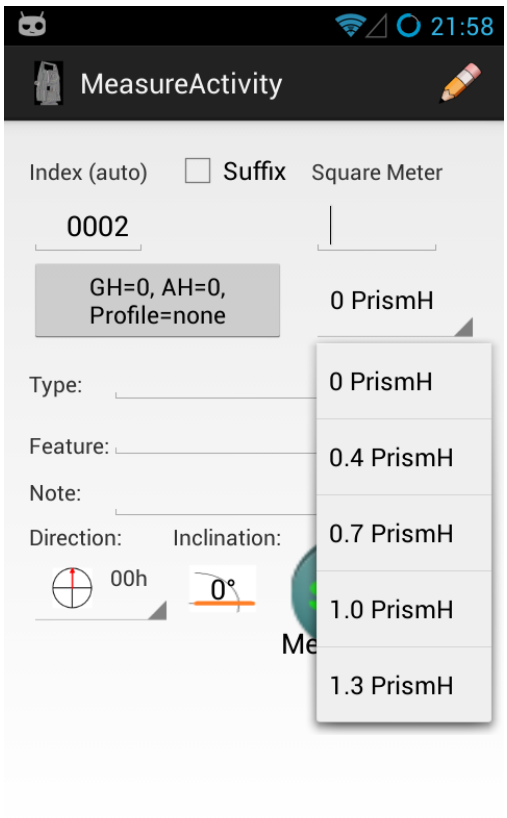
+ 0.70 m

+ 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.

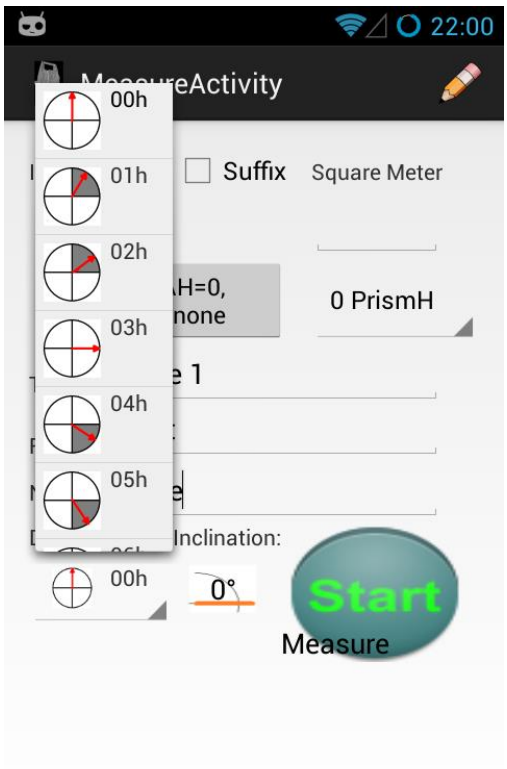
(Feet are not supported!)



3.4 Select Direction

Describe oblong objects with their main axis

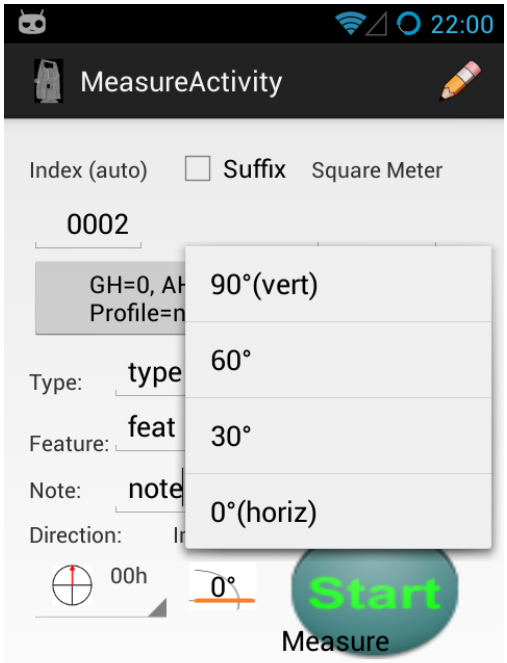
(e.g. to detect their alignment in the sediment due to geological debris flow).



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).



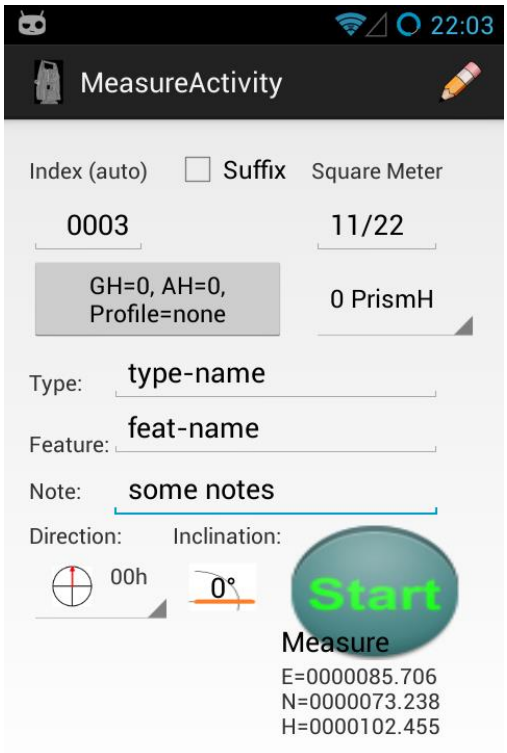
3.6 Brief Description

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*

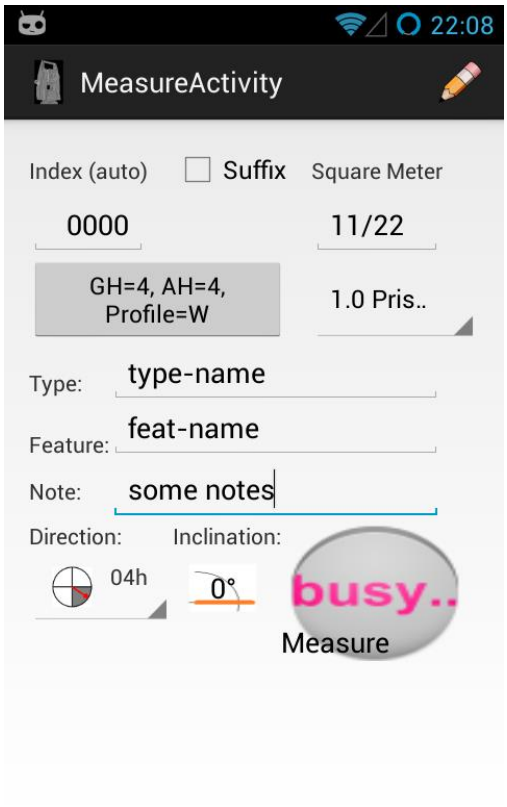
Note: *other observations*



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.)

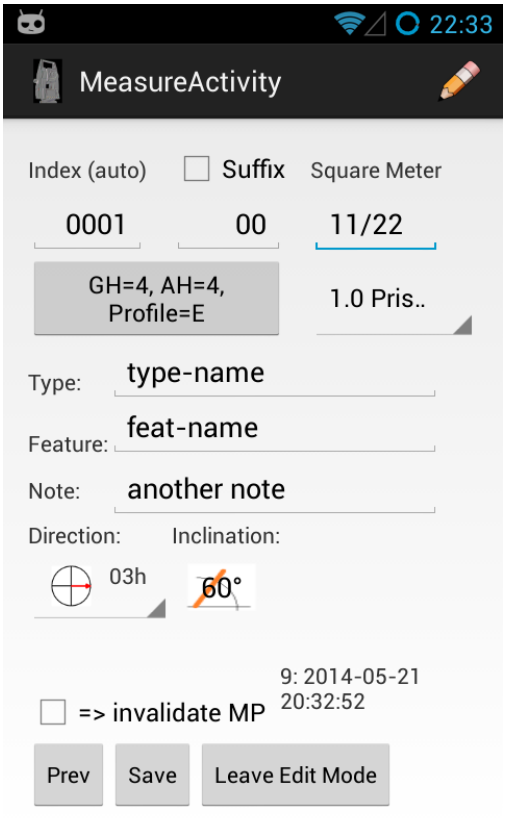


4.1 Edit Data

Edit previously measured points (“Prev”)

or set „invalidate MP“ to mark a point as invalid.

- edit fields
- “Save”
- “Leave Edit Mode”

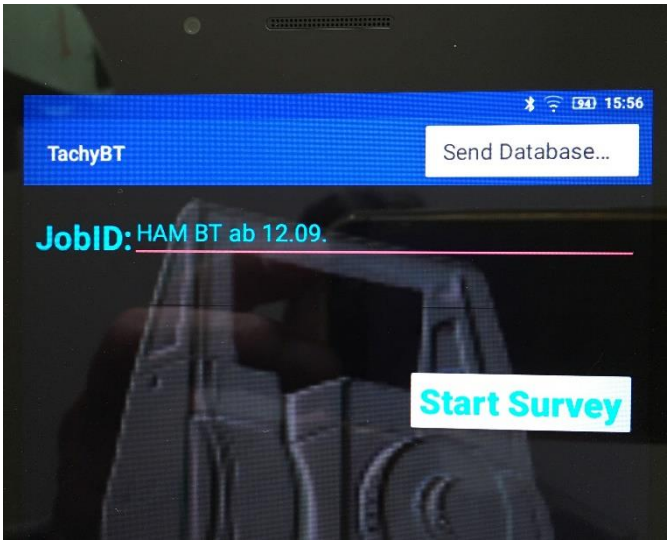


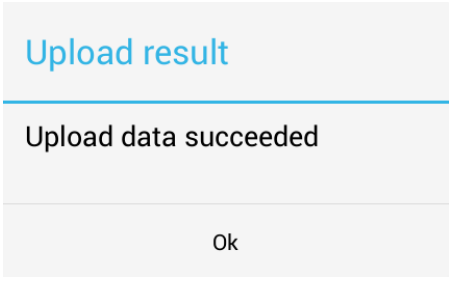
5 Send Database to Server

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

→ Push “Setting button” in menu (3 dots, upper right)

→ “Send Database”





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 http://www.tachyusb.de/index_data.php

→ 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.

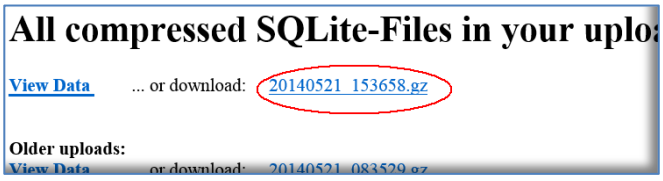
→ Data transfer is possible with **Copy & Paste**, for instance to a Microsoft Excel list.

(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).

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** (**Y**ear, **M**onth, **D**ay, **H**our, **M**inute, **S**econd).



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** (http://sqlitebrowser.org).

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.