Regularity event - Competitor Tracking

MiRally Smartcontrol system will be used for calculating the results of the Regularity class. The system records the location of the competitor during the competition, transmits the data over a network connection to the system and calculates the difference between the competitor's ideal time and real time at each predetermined checkpoint.

Location data is specified using Garmin Glo- GPS receiver and forwarded by mobile phone network connection. **The competitor must have both devices on and running on the day of the competition.**

```
                 Bluetooth                        network
                 connection
  ┌──────────┐              ┌──────────────┐              ┌──────────────┐
  │  Garmin  │ ───────────▶ │ MiRally Crono│ ───────────▶ │   Results    │
  │          │              │     App      │              │  MiRally.net │
  └──────────┘              └──────────────┘              └──────────────┘
```
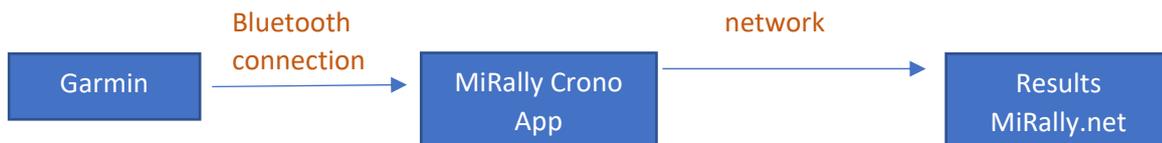
Below is information and instructions how to use the system and settings for different devices. Once the settings are done correctly, they will normally remain in the memory of the devices.

Garmin Glo
The newer or higher the quality of the device, the more accurate the location data. In addition, there are significant technical and qualitative differences between phone manufacturers and phone models.

In order to compensate the differences in the margin of error for competitors, it has been decided to use an external GPS-receiver. Garmin Glo was selected as the device. It replaces the phone's own GPS-locator.

Tablet or/and telephone
Your tablet or phone must have an Android or iOS (Apple) operating system and a **network connection**. The device must be running an iPhone 4S or later or an Android operating system, from 2014 onwards.

You must install the MiRally Crono-app, which is available from both the Android or Apple app store. The app should be allowed to use location services, in addition make sure that the app does not optimize battery usage and that the application will be updated to the latest version.

Today, Crono is also part of the competitor Rabbit 2.0 app, which can be used to display the ideal time of a competitor's driving performance and to measure the distance, so one device could be used for driving and transmitting positioning information. However, the device using Rabbit 2.0 must be connected to network.

It is recommended to be connected to at least two Crono contacts during the race.

Use
The competitors can use more than one device or just one phone during the **competition. It is recommended that the device used is connected to a charged throughout the competition.**

The availability and operation of the necessary equipment and applications during the competition are the sole responsibility of the competitor.

Connect Garmin Glo with your phone or tablet

1) **iPhone** (https://support.garmin.com/en-US/?faq=a8WwgwdMSS3LeIsW8lavJ6)
   a) Start Garmin Glo
      i) Make sure the blue light blinks
   b) Open iPhone settings
   c) Select Bluetooth
      i) make sure Bluetooth is on
      ii) select Garmin Glo from the device menu, connect
   d) Done when the blue light on your Garmin Glo is on and your iPhone notifies you of your Garmin Glo "connected"

2) **Android** (https://support.garmin.com/en-US/?faq=1BEq2yXIPj5SdcTfdXrdd6)
   a) Install the Bluetooth GPS app (Google Play Store) on your device
   b) Start Garmin Glo
      i) Make sure the blue light blinks
   c) Open device settings and select connections
   d) Select Bluetooth
      i) make sure Bluetooth is on
      ii) select Garmin Glo from the device menu, connect
   e) Bluetooth connection is in order when the blue light on the Garmin Glo is on and the device notifies the Garmin Glo "connected"
   f) Open Bluetooth GPS-app
      i) select "Enable Mock GPS Provider" located at the top left
         (1) If an Android settings page appears and the option "Allow mock locations" appears, use the return button to accept and return back to the Bluetooth GPS app
      ii) Select "Settings" from the Bluetooth GPS app menu
         (1) service settings, accept "Reconnect"
         (2) Connection Problems Related, accept "Use Insecure Connection"
         (3) return to the main Bluetooth GPS page and press "Connect"
            (a) If the fields fill up and update, your Garmin Glo and phone will function correctly. You can still switch between the "Status" and "Map" pages to see the data update.
      iii) In some cases, the device does not accept external devices and a separate change must be made to the settings. Instructions e.g. https://docs .google.com/document/d/1zy_0N6MyI0uSwZMPoEK5O8EmLZeHfERRlDIoiRw2bR0/mobilebasic ?pli=1)
      iv) On some Android devices, it is possible to "turn off" the phone's own GPS.

There are several different help videos available in the settings of both operating systems **on Youtube. Search for Garmin Glo for Android/iPhone.**

Necessary steps before the competition

1) Make personal IDs for MiRally.net website
   a) **Remember the specified email and password**
2) Select the competition you want to participate in
   a) Check or complete name of the driver's, co-driver and car details and register for the race.
   b) Check your phone numbers, the organiser may be in contact in case of problems during the race.
3) Connect your Garmin Glo and mobile device (Bluetooth)
4) Make sure that the GPS data comes from Garmin, e.g. Bluetooth with GPS app (Android)
5) Make sure the MiRally Crono-app works
6) Charge Garmin Glo before the race

Activities on the day of the competition

1) Turn on Garmin Glo and make sure Bluetooth is turned on
   a) Android phone external locator access can be ensured by launching the Bluetooth GPS app, the app can run on in the background throughout the competition
   b) If necessary, connect your Garmin Glo to a charge
2) Launch the MiRally Crono-app and log in to the app with the existing credentials.
   a) It is recommended to restart your phone before launching the app.
   b) Connect your phone to the charger for the entire duration of the race
   c) Always keep the app on the screen "top" during the race, after launching the app, do not return to the main screen!
   d) Do not use the phone for other functions during the competition, other use is allowed in an emergency
3) Check the time of the app when the system is connected to a GPS signal.
   a) Make sure the Crono-app works (clock is ticking, fields other than power management are "green")
   b) App messages, note if in red
      i) ERR (01): cell phone not registered
      ii) ERR (02): it's not the rally day
      iii) ERR (03): not registered or not approved in the rally
   c) Check location margin of error
      i) With Garmin Glo operating, the margin is in the category+/- 1.5 – 3 m
4) **If the weather is hot, the temperature of the phone or Glo may rise too high on the dashboard, resulting in the appliance switching off.**
5) **During the competition, the competitor can use the same user id to activate more than one device to transmit location information. The operating model is strongly recommended even if the other phone is** without **Garmin's GPS data. The system uses the best information for each checkpoint.**
6) After the competition switch the phone off/on in order to close MiRally Crono completely.