



Mobile phone lap timing application

Operating Manual

Standard and PRO versions



By Scale Race Engineering
www.speed-feed.com



The Speed-Feed mobile phone lap timing application was designed and developed with the Radio Control (RC) community in mind. However it can be applied to many other sports where lap time monitoring is required.

Currently this application is only available on the Android mobile phone operating system.

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Speed-Feed PRO v 1.0.0
Speed-Feed v 1.1.0
www.speed-feed.com





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This document assumes you have access to a compatible lap timing system with Wi-Fi connection available.



Ensure you have your mobile phone Wi-Fi turned on, as well as your 'Background Data' option.

1. Downloading and installing

If you haven't already done so, visit the Google Play Store to download and install the Speed-Feed Android mobile phone application:

<https://play.google.com/store/apps/details?id=scalrace.engineering.speedfeed>



2. Configuring Speed-Feed settings

Open Speed-Feed on your phone by clicking the Speed-Feed application icon, and then click your phone's menu button and tap the *Settings* menu item to open the settings screen.

On the PRO version choose the *Race* menu item on the pop up Settings menu.



2.1 Maximum run time

Here you can set the maximum session time. It is designed so you can start the lap time monitoring and not need to remember to press the stop button. The phone will automatically stop recording and save your session. It will then disconnect from the timing system and await further input from you.

- Touch and drag the slider to the desired setting.
- The number above the slider bar will indicate the setting in seconds.
- Press the phone's back button to navigate back to the Main menu.

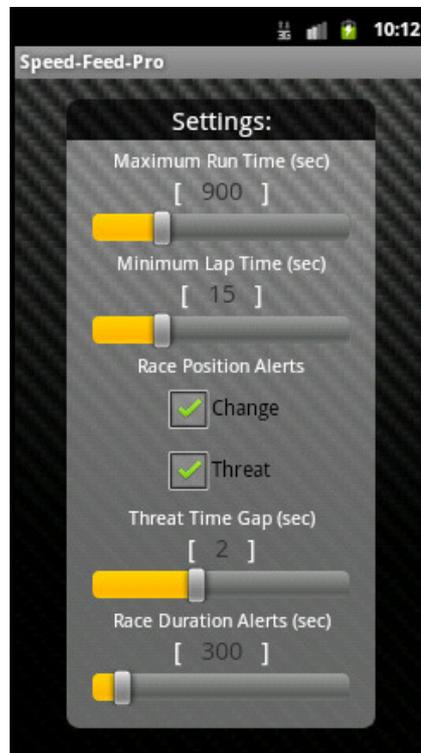


Maximum Run Time default is 900 seconds (15 minutes).

2.2 Minimum lap time

Here you can set the minimum lap time accepted by Speed-Feed. If a transponder passes the timing loop in a time less than this specified time, Speed-Feed will ignore it.

- Touch and drag the slider to the desired setting.
- The number above the slider bar will indicate the setting in seconds.
- Press the phone's back button to navigate back to the Main menu.



Settings screen



Minimum Lap Time default is 15 seconds.

2.3 Race position alerts PRO version only

Here you can choose to receive audible alerts notifying if you have changed position, or if your position is under threat.

2.3.1 Change alert

- Tap the *Change* checkbox to turn the alert on or off.
- Press the phone's back button to navigate back to the Main menu.

2.3.2 Threat alert

- Tap the *Threat* checkbox to turn the alert on or off.
- Press the phone's back button to navigate back to the Main menu.

2.4 Threat time gap PRO version only

This setting is the 'time window' that determines when you receive a threat alert (described above). If the car in the position behind you crosses the timing loop within this time frame, you will receive an audible notification stating "Position Threat".

- Touch and drag the slider to the desired setting.
- The number above the slider bar will indicate the setting in seconds.
- Press the phone's back button to navigate back to the Main menu.



Threat Time Gap default is 2 seconds.



2.5 Race duration alerts

Here you can set the frequency (in seconds) that you receive audible alerts on how long there is left to go in the current race session.

- Touch and drag the slider to the desired setting.
- The number above the slider bar will indicate the setting in seconds.
- Press the phone's back button to navigate back to the Main menu.



Threat Time Gap default is 300 seconds (5 minutes).
To turn this feature off, set this time to 0 seconds (zero).

3. Connecting to a Timing Feed

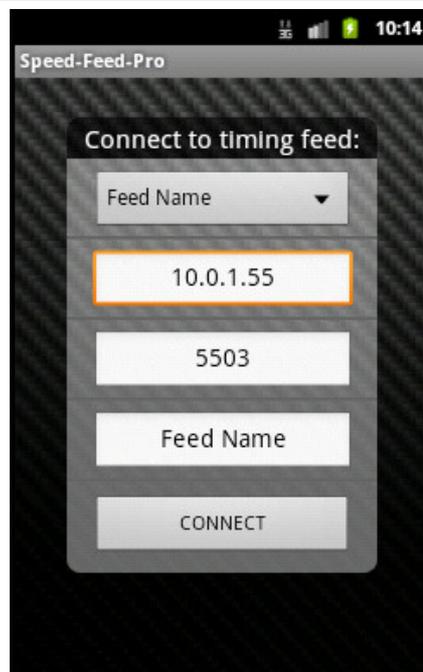
- Tap the *Timing* button on the *Main* menu to open the *Connection* screen

Here you can enter the IP Address and Port number of the local Wi-Fi network you are trying to connect to.

The PRO version provides the ability to connect to unlimited Timing Feeds. This is suited to racers whom travel to multiple tracks with different Wi-Fi settings at each track.



Ensure you have your mobile phone Wi-Fi and 'Background Data' turned on.



Connection screen



- Tap the *IP Address* text field to enter into it.
- Enter the required IP address (e.g. 10.0.1.55).
- Tap the *Port* text field to enter into it.
- Enter the required Port number (e.g. 5503).
- Tap the *Name* text field to enter into it.
- Enter a descriptive name for your reference.
- Tap the *Connect* menu button to open the *Transponder select* screen.



The default IP address is your device's IP address, not the track's Wi-Fi IP address. Enter the Wi-Fi settings for your local track. These settings are then saved for future use.

3.1 Multiple Timing Feeds PRO version only

When you have multiple Timing Feeds saved, you can choose which feed you want to connect to by clicking the feed list drop down box at the top of the Connection screen.

The last timing feed chosen is saved and becomes the default timing feed.

3.1.1 Deleting Timing Feeds PRO version only

- Choose the timing feed you would like to delete from the feed list drop down box.
- Press the phone menu button and choose the Delete menu item.
- Confirm, 'Yes' or 'No' that you want to delete the timing feed.



Deleting a timing feed will also remove it's associated session history data.



4. Selecting Transponders (transponder select screen)

Speed-Feed will connect to your local Wi-Fi network once it receives the first transponder that passes the timing loop. It will remain unconnected until this occurs.

Once you are connected to your local Wi-Fi network and your decoder is sending transponder information, the transponder numbers will begin appearing on the phone's screen in the order they cross the timing loop.

4.1 Adding / removing a Transponder in a Session

- Tap the 'Select' checkbox in the transponder row to select / deselect the corresponding transponder. A tick will appear in the check box when a transponder is selected.

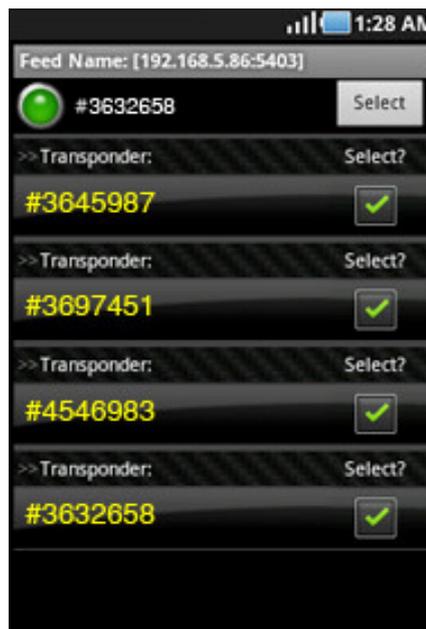
4.2 Clearing Transponders

After transponders have been detected by Speed-Feed, they will be recorded for future reference.

Each time you navigate back to the Transponder screen, all transponders will be pre-populated in the transponder list screen (ordered by numeric value).

If you want to see only new transponders, you can temporarily clear this list. Then only new received transponders will appear in the list.

- Press your phone's menu button
- Tap the *Refresh* menu option



Transponder screen



- Confirm, 'Yes' or 'No' that you would like to refresh the transponder list.



Clearing the transponder list does not remove transponders from the system. They are only temporarily removed from the screen.

4.3 Deleting Transponders and Session data

To permanently remove all session and transponder data:

- On the transponder select screen, press your phone's menu button and tap the *Delete* menu option.
- Confirm you want to delete all transponder and session data.

5. Timing monitoring screen

Once you have selected the transponder/s you wish to view;

- Tap the *Select* button in the top right hand corner of the *Transponder* list screen to open the timing *Monitoring* screen.

On this screen you can monitor the lap time, best time and split time for each transponder you have selected. Additionally you can see each transponder's lap count, race position and live timing laps, and you can configure the audio options you require.

Each transponder will be updated as they pass the timing loop. The current lap time will appear in the main display, the best lap time will appear in the bottom left, and the current split time will appear in the bottom right.

Current race position appears in the left hand yellow box, and current lap count appears in the right hand white box.



5.1 Viewing live timing laps

To open the live timing lap list;

- Long touch (touch and hold finger on the screen) a transponder row and a list will appear below the row

This list shows the laps recorded during the current session.

It displays the lap number, lap time, average lap time and race position.

- Tap the list to close it.

5.2 Transponder audio options

Here you can configure the audio options for each selected transponder. You can configure Speed-Feed to notify you of each lap time, best time, and split time. Each of these can be turned on or off as required.

5.2.1 Setting Transponder audio options

- Tap the large arrow at the right hand end of the transponder row
- Tap the check box next to each of the options to turn it on or off as required.
- Tap the *Save* menu button to save your changes, or tap the *Cancel* menu button to cancel the changes.



Each transponder's audio settings are saved for future reference.



Timing monitoring screen



The current settings for each transponder are indicated by the small audio icons in the top right of the transponder row. These icons are explained in the table below.

Icons	Settings
	All audio turned off (audio muted for this row)
	Lap time on
	Best time on
	Split time on
	All audio options turned on

You can configure any combinations of audio settings.

The table below demonstrates an example audio combination, and the icons that will be displayed.

Icons	Settings
	Lap time AND Best time only

5.3 Starting a timing Session

Once you have connected to a timing feed, selected the transponders, and configured their audio options, you are ready to start your timing session.

- Tap the *Start* button in the top right corner of the timing *Monitoring* view



5.4 Remote starting

Alternatively, you can start the timing session by 'remote'. This feature requires the use of compatible mobile phone headphones that have a MIC button.

- Press the MIC button on your headphones.
- An audible alert will state the timing has "Started"



Each selected transponder's lap times will update as they pass the timing loop.

5.5 Stopping a timing Session

Stopping a timing session can be performed manually or automatically.

5.5.1 Manually stopping a Session

- Tap the *Stop* button in the top right hand corner of the timing *Monitoring* view

5.5.2 Automatically stopping a Session

Ensure you have configured the *Maximum Run Time* (as described earlier in this manual). Your session timing will automatically stop after the set time has elapsed.

6. Feed records explained

A *Feed* record consists of the IP address, port number and feed name that you enter in order to connect to a Wi-Fi timing network. Each time you change details (IP, port or name) you effectively create another feed record.



Session and transponder records are recorded against a feed record and each time you change your feed details, the associated session and transponder records are lost (applies to Standard version only).



PRO version session data is recorded against a feed record. Feed records can be selected whilst viewing session history as explained in this manual below.

If you need to enter multiple feeds, for example if you travel to different Radio Control circuits (with different Wi-Fi networks), and if you are concerned about losing your previous records, then we recommend you consider using the Speed-Feed PRO version

The PRO version has the ability to store and retrieve unlimited feed records as well as their associated session and transponder records.



For a complete feature comparison between the different versions of Speed-Feed, please visit:
<http://www.speed-feed.com>

7. Manually adding / naming Transponders PRO version only

The PRO version provides the ability to manually enter and name transponders. These transponders are saved globally and are available to all timing feeds.

- Tap the *Transponder* menu item on the Main menu screen
- Press the phone menu button and choose the Add menu item
- Enter the transponder number and name (optional) in the fields provided and tap the Save button.



The Standard version records transponders as they are detected by the timing loop.



7.1 Tagging a Transponder

Tagging a transponder allows you to specify a transponder for use with the *Current Race Position* feature (described in this manual below), and the *Race Position Alerts* feature (PRO version only).

- Tap the *Transponder* menu item on the *Main* menu screen
- Tap a transponder row to open the edit functionality
- Tap the *Tag* button (PRO version only), OR
- Tap the *Tag Transponder* radio button (Standard version only)



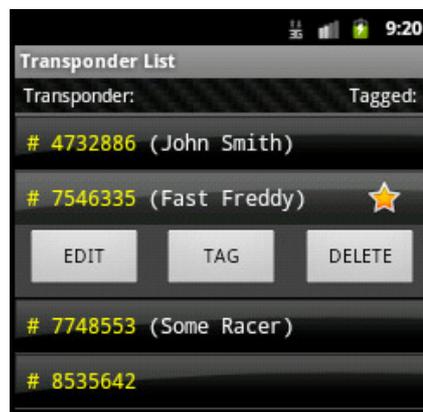
Transponders are only listed if they have been manually entered (PRO version) or automatically detected whilst connected to a timing system.

The Edit, Tag and Delete buttons (shown in the image above) are only available in the PRO version.

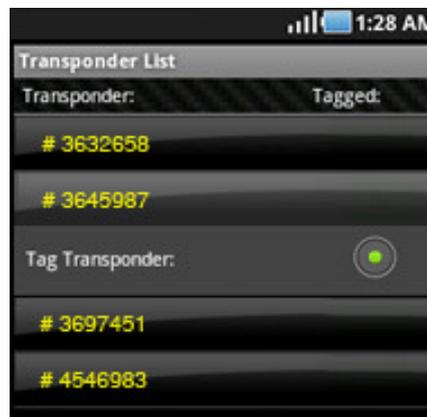
7.2 Deleting a Transponder

PRO version only

- Tap a transponder row to open the edit functionality
- Tap the *Delete* button
- Confirm, 'Yes' or 'No' to delete the chosen transponder



Transponder list screen (PRO)



Transponder list screen (Standard)



7.3 Editing a Transponder PRO version only

- Tap a transponder row to open the edit functionality
- Tap the *Edit* button to enter the edit transponder screen
- Edit the transponder details and click the Save button to record your changes.

8. Viewing session history

- Tap the *History* menu item on the *Main* menu screen.

Here you can view transponders and sessions records saved on your phone. These records are saved in persistent storage on your phone and are associated with a 'feed record' as defined above.



History records are only available if you have monitored at least one session where at least one transponder has completed at least one lap where a lap time was displayed.

- Choose the Race Category (Practice, Qualifying, Final) to view (PRO version only)

A list of available sessions will appear, ordered by ascending session number. Each session record displays the time and date the session was recorded.

- Tap the session to view

A list of session transponders will appear. These are the transponders that were monitored during the chosen session. Each row displays the transponder number and the number of laps completed in the session.



Race Category screen (PRO)



- Tap the session transponder to view it's lap list view

This list displays each lap the selected transponder completed. This list displays the lap count, lap time, average lap time, and race position.

- Tap the list to close it.

8.1 Deleting sessions

You can delete individual session data, or all session data.

8.1.1 Deleting all sessions

- Whilst viewing all sessions in the session list, press the phone's menu button and tap the *Delete* menu option
- Confirm, 'Yes' or 'No' that you want to delete all the sessions.

8.1.2 Deleting selected session

- Whilst viewing a selected session, press the phone's menu button and tap the *Delete* menu option
- Confirm, 'Yes' or 'No' that you want to delete the selected session.

9. Current race position

This feature allows you to receive an audible notification telling you what race position you currently hold. For example, if you are currently in 3rd position in a race, you will hear "You are in position, 3". This feature requires the use of compatible mobile phone head-phones that have a MIC button.

Session 3 Transponders			
Transponder:	Summary:		
3632658	6 Laps		
3645987	6 Laps		
Lap:	Time:	Avg:	Pos:
1	00:25:970	00:25:970	(1)
2	00:16:718	00:21:344	(1)
3	00:33:505	00:25:397	(3)
4	00:36:724	00:28:229	(1)
5	00:25:159	00:27:615	(1)
6	00:20:390	00:26:411	(2)
3697451	7 Laps		
4546983	5 Laps		

Session transponders screen



- After you have started the session timing (described in section 5.3), press the MIC button on your headphones.
- You will receive an audible notification stating “You are in position,” [current race position]

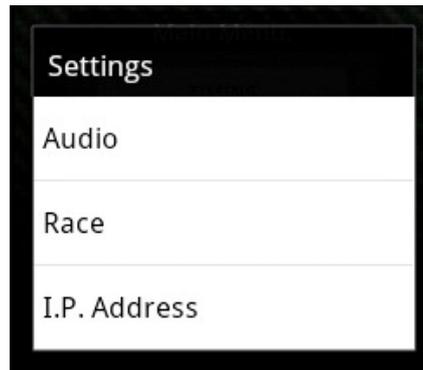


This feature will only work if you have tagged a transponder as described in section 7.1 of this manual.

10. Communications settings PRO version only

This feature allows you to receive password protected voice data transmissions (sent over the Wi-Fi network). Only transmissions that supply a pre-configurable password will be accepted.

- Press the phone menu button and tap the *Settings* menu item to open the pop up settings menu.
- Tap the *Audio* menu item.



Pop up setting menu

10.1 Turn Comms on / off

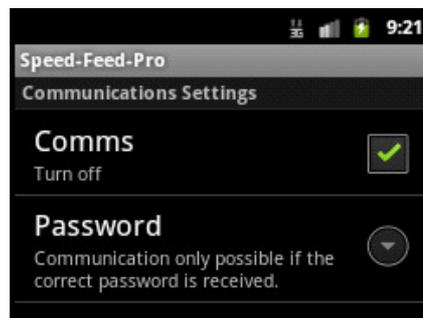
- Tap the *Comms* menu item to turn the Communication feature On or Off.

10.2 Set Comms password

- Tap the *Password* menu item to open the password pop up.
- Enter a custom password and tap *Save* to record your changes.



Requires the Speed-Feed Comms application to transmit voice data.



Audio setting screen



11. License policy explained

Speed-Feed is a licensed application that is available for purchase through the Google Play Store. Periodically the application will check its license status by connecting (via the Internet or mobile service) to Google.

We recognise that there will be times when you won't have an Internet or mobile connection whilst using the application. To accommodate this, Speed-Feed will operate for up to 3 days whilst trying to verify its license status.

If after 3 days the license status still cannot be verified, the application will stop working. At such time, you will need to re-activate your application by operating Speed-Feed (whilst you have Internet or Mobile service), and attempting to connect to a timing network.

11.1 Activate your license

- Tap the Connect button on the Main menu
- Enter in a feed IP Address, port and name in the corresponding text fields (as explained in section 3)
- Tap the Connect menu button

Speed-Feed will verify its license status with Google and report back accordingly.

11.2 Licensed

The application is licensed and can be operated in full. A further license check will occur periodically in the future.

11.3 Activate Soon

The application could not establish a connection with Google to verify its license. You will have 3 days (from the date this license message first appeared) to verify your application license.



11.4 Activation Required

The application license could not be verified and as a result, only limited application features are available. You will need to re-activate your license to use the full application features.

11.5 License Error, please try again

An error occurred whilst trying to communicate with Google, please try to verify your license again.



An active Internet or Mobile service is required in order to verify your license with Google. However, an actual timing network is not required for this process.

If the Wi-Fi network you connect to does not have Internet access, you may need to turn off your Wi-Fi connection and use your Mobile service.

12. Setting up a wireless feed on a network

For guidance on how to set up a wireless feed on your lap timing network, please refer to the following document:

http://scalraceengineering.com/speed-feed/Wireless_network_setup.pdf

13. Support

For further support please contact us at:

info@speed-feed.com

Alternatively, please join the discussion on Facebook:

<http://www.facebook.com/pages/Scale-Race-Engineering/169393106518549>

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