



GRT REMOTE App for Android

Essential Notes for Installation & Use



Revision B
13-Apr-2017

GRT Remote Manual Revision Notes

Revision	Date	Change Description
A	25-Feb-2014	For software version 1.3.0
B	13-Apr-2017	Added requirement of powered USB hub for Sport SX and Mini

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Comments?

We welcome all feedback about the GRT Remote App. Please direct all comments and questions to the GRT Remote App thread on our user forum or email app developer Greg Toman at gregt@grtavionics.com.

Section 1: Introduction

1.1 About GRT Remote for Android

GRT REMOTE Version 1.3.0 offers several tools to ease pilot workload for flight planning and radio tuning. It is also a unique, simple solution for back-seat flight instruments and controls for radios and flight planning.

Features of the GRT Remote App for Android:

- Works on most Android phones and tablets of all sizes
- Synchronizes with Horizon HX and HXR EFIS systems via Bluetooth
- Designed by a pilot- The same innovative engineer who created the EIS in 1991
- Big, high-visibility graphical elements for ease of use in bright, turbulent cockpits
- Real-time flight planning with pilot-friendly waypoint selection
- Effortless radio tuning with frequency lists that correspond to the flight plan
- Frequencies are labeled with ATC or airport identification and distance/bearing to station
- PFD screen repeats the EFIS flight instruments for backseat co-pilots

1.2 System Requirements

GRT Display Unit

GRT EFIS systems that support Bluetooth communication are:

- Horizon HX with software version 6 and later.
- Horizon HXR with software version 2 and later.

NOTE: EFIS Bluetooth capability is limited to support for the GRT Remote App.

USB Bluetooth Adapter

At the time of this writing, we have tested the following USB adapter dongles:

- IOGEAR GBU421 and IOGEAR GBU521, both available locally or from [Amazon.com](https://www.amazon.com)

If you have a powered USB hub attached to your display unit, the Bluetooth dongle can be installed there instead of directly into the back of the unit.

USB hubs tested with the GRT system include the following:

- StarTech 4-port USB Hub, p/n ST4200USBM, available from [Amazon.com](https://www.amazon.com). 7-24V DC
- Netix P5USB, p/n CNX-P5USB, 7-32V DC

Sport SX and Mini models require installation of a powered USB hub.

Android Phone or Tablet

Any brand. The app is optimized for version Jelly Bean and later.



Section 2: App Installation and Pairing

2.1 Install the App

1. Enable "Unknown Sources" in the Security settings to allow installation of apps directly from websites.
2. Choose one of the following methods to load the app onto your device:
 - Scan this QR code directly off the computer screen with your Android device to download the App. Tap the Kaywa-generated link, then press OK to begin the download.
 - Method 2: Using your Android device, go to <http://grtavionics.com/grtremote.html> and click the "Download" button, which will start the download.
3. If any warnings appear about this type of file harming your device, click OK (it won't).
4. The first time you open the app, it will prompt you to download the navigation database file. Click OK or Postpone. If you choose to postpone the download, you can force it to download later.



2.2 Pair the Android to the EFIS Display Unit

1. Connect a verified USB Bluetooth adapter to the display unit and then turn on power to the EFIS. (See Section 1.2 for a list of tested adapters.)
2. Go to the SET MENU > General Setup > Wireless > Bluetooth page.
3. Verify that the **Status** line indicates Enabled.
4. NOTE: If the Status line says "Not Available," it means the USB Bluetooth adapter was not detected. Leave the dongle in place and try rebooting the display unit by pressing and holding the outermost left and right softkeys until the screen goes blank. If the Bluetooth adapter is one of the models listed in this supplement and it is not detected after a full reboot, then there may be a problem with it.
5. Enable discovery: select **Discoverable**, push the knob to CHANGE, and press YES to confirm. This will allow other Bluetooth devices to scan for the display unit for 3 minutes.
6. Scan for Bluetooth devices with your Android phone or tablet within 3 minutes. Look for devices named GRT EFIS in the results.
7. Select the GRT EFIS from the list on your Android device to begin the pairing process.

8. The Android device may ask for a PIN or a passkey. If the device does not display a number, enter the digits from the EFIS PIN/Passkey line. If the device displays a passkey and asks you to confirm, compare the passkey on the device with the Confirmation Passkey line.
9. After your Android device confirms pairing is complete, the device should appear in the list on the EFIS within 5 seconds. At this point, your device can receive information from the EFIS, but it can't make any changes. Note: New devices will not appear while the cursor is in the device list. Move the cursor out of the device list when pairing new devices.
10. To allow your Android device to make changes to the EFIS, including all flight plan operations, you will need to change the trust setting in the EFIS device list. Scroll down to your device in the list and push CHANGE, then push TRUST, and then CHANGE again. Confirm the Trust column shows Yes for the device

Section 3: Using the App

The majority of the app features are self-explanatory, but the following features are worthy of explanation. Feel free to play around with the controls, and you will figure it out quickly.

3.1 Database Download

The app will download a navigation database from the GRT website the first time it runs with a network connection. The database is currently around 8 MB.

3.2 Flight Planning

Active and Pending Flight Plans

The app shows two flight plans, the active flight plan (when a connection to the EFIS exists) and a pending flight plan that is used for flight plan editing.

Editing the Active Flight Plan

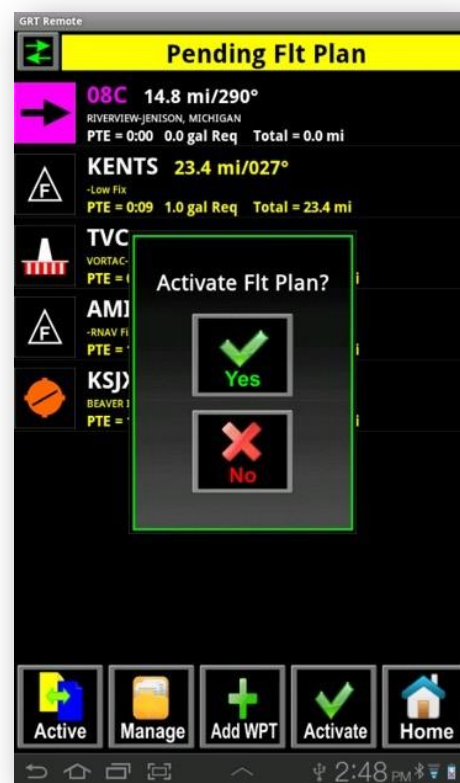
The active flight plan may be edited at any time by touching on a waypoint to insert or delete a waypoint, or touching "Add Wpt" at the bottom of the screen. The app automatically saves any pending flight plan, and then shows any edits to the active flight plan as a pending flight plan. The edited flight plan can be canceled, and the pending flight plan (if any) will be restored, by selecting "Manage" and "Prev Flt Plan".

The pending flight plan can be sent to the EFIS, becoming immediately active, with the "Activate" button. Before selecting "Activate" you can set the active direct-to or leg on the pending flight plan by touching the waypoint and selecting the waypoint options.

The pending flight plan screen allows you to create a new flight plan without affecting the active flight plan. When you are ready you simply activate your pending flight plan.

Intelligent Waypoint Selection

When entering a waypoint selection, the app will attempt to guess the waypoint that you are entering. The app shows the best guess (upper left part of screen) and the number of near matches (upper right). You can touch the best guess to immediately select it. Touching the number of nearby matches will show you a list you can select from.



Before you have made any entries, the app shows waypoint nearest your present position (if selecting a direct-to), or waypoint nearest the flight plan (when editing the flight plan).

Fast Multiple-Waypoint Entry

If you are entering multiple waypoints, a handy shortcut is available. When the desired waypoint appears it can be entered into the flight plan with the "Enter & Next" button. The screen will remain on the waypoint entry page. The just-entered waypoint will remain in the display, but will have no characters highlighted. The app is ready for the next entry. When done, select "Cancel", or touch the waypoint display.

Saving and Deleting Flight Plans

The "Manage" flight plan button provides the option for saving your flight plan, or recalling a flight plan. When a flight plan is saved, you have the option to enter a comment with the flight plan. The flight plan will always have a name that starts with the origin, and ends with the destination.

Flight plans are sorted according to the distance from your present location (when connected to the EFIS), your default home location set up in preferences, or a waypoint you specify.

Flight plans are deleted by a "long-click" on the flight plan you wish to delete. You will be asked to confirm the flight plan deletion.

Direct-To

Selecting "Direct-To" has two main functions:

1. It provides a simple means to select a waypoint that will be your active go-to from your present position. When this is done, the active flight plan list will show your direct-to selection at the top of the list, followed by an "End-of-Route" entry.
2. Upon its selection, and before you have made any keyboard entries, the "Direct-to" shows the nearest waypoints. The blue filter button allows you to choose airports/navaids/fixes to be displayed.

Fuel Planning

Predictions of time and fuel burn is provided on all flight plans displayed in the "pending" flight plan list. These predictions are based on entries you make in the "Settings". These predictions are available whether you are connected to the EFIS or not. This provides a handy way to plan you flight at anytime, and a simple way to bring flight plans to your airplane.

3.3 PFD Screen

The Android can display a simple, repeated PFD flight instrument image from the EFIS. This is very handy for copilots who cannot see the flight instruments very well, especially those in the back seat of a tandem airplane. Note that this image is dependent upon the operation of the EFIS processor unit, and does not serve as a suitable backup flight instrument.

3.4 Remote Radio Tuning

Remote radios controlled through HXR have the greatest amount of controllability through the App. Many other radios, such as Garmin SL30/SL40, have frequency tuning input via RS-232. Refer to the installation manual for your EFIS system for more information on wiring radios to the EFIS.

This app function had one design goal: to make radio tuning effortless. We believe once you tune your radios with our app, you will never go back to the old way. To fully utilize this feature, you will need to have at least one com or nav radio connected to your GRT EFIS, but it is useful even without the direct connection. The app knows the frequencies you will need along your route and gives you tools for finding the ones you need, even if your EFIS cannot automatically tune them.

1. Start by selecting radio tuning from the "Tune" button on the main screen.
2. The app provides various tuning lists, including Route, Recent, Weather, ARTCC & Approach, and Saved, that are accessed from the "Lists" button.
 - **Route List** - Populated automatically from the active flight plan. Remember that the app acts just like another display unit in the airplane, automatically updating its active flight plan if it is edited on the EFIS, and sending the flight plan to the EFIS when it is edited on the app. If using the app without a connection to the EFIS, turn on "Simulate EFIS Connection" from the Menu button. This will allow you to activate a pending flight plan only on the Android device.
 - **Recent** - The radio stations you used recently, starting with the most recent.
 - **Weather** - Nearest weather AWOS/ASOS frequencies. Be sure to note the little arrow that points which direction the station is relative to your ground track!
 - **Approach and ARTCC** - Need ATC help fast? This is your list, ordered by distance.
 - **Saved** - We all have our favorites. Save them to this list by long-clicking on any frequency listing.

Active Window- Displays frequency currently being used for tx/rx. Note distance/bearing FROM station- Pilot shortcut for initial position report. Tap to swap the active frequency to standby.

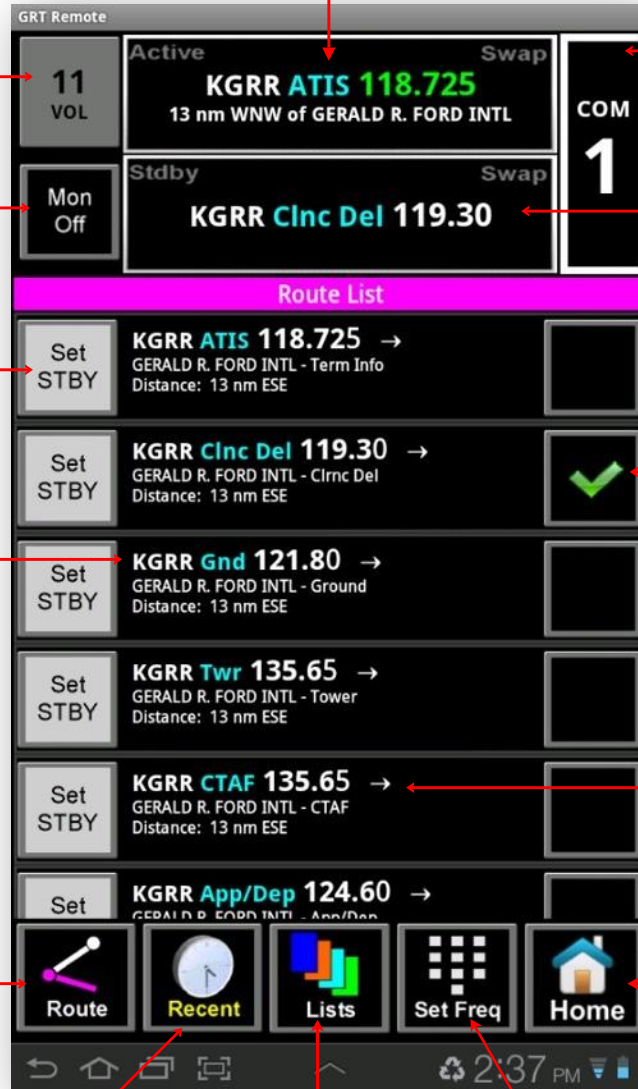
Volume control for remote radio

Monitor Standby Frequency

Set Frequency into Standby

Each frequency tag lists airport, type/controller, and distance from aircraft to transmitter. Arrow shows the direction to the station.

Frequency list- Derived from flight plan route and presented in expected sequence of use.



Select radio to tune

Standby Window- Press to swap to Active

Check boxes-Touch to select frequencies to be used along the route. Great for selecting assigned app/dep frequency. Box is automatically checked when frequency is sent to Standby window.

Arrow points to station

Displays Main Menu of App

Lists recent frequencies- most recent first

Displays other lists: Nearest weather, center/approach, & saved "favorites"

Press to access keypad for manual entry of frequencies