Quick Start When Using a GPS

Introduction: The purpose of this document is to provide a quick start guide to using CQ/X with a GPS. It covers all phases of a GPS-enabled mobile operation in a QSO party including route planning, trip execution, and finally trip reporting. It assumes that the following are available:

- CQ/X 1.8.0 with Patch 180-01 or later
- SimGPS from Patch 180-01 or later.
- Google Maps (GM)
- Streets and Trips 2010 or later

Use of Streets and Trips (S&T) is optional but it is an excellent tool for planning your route as it shows county lines, and, beginning with the 2010 version, has the capability to export a route in GPX format for use by other applications including CQ/X. However, it does not provide the capability to export the sequence of lat/lon values describing the route and for that purpose we use Google Maps.

Route Planning: In the following be sure you have the QSO party selected in CQ/X for which the trip is being planned. If the QSO party covers two days it is best to develop a separate route for each day using the following steps, many of which are covered in more detail in the Help documents accessed via menu items **Use Google Map to Define Mobile Route** and **Use Google Map to Create Crossing File**. Here are the steps.

1. Use S&T to develop a preliminary route to cover the desired counties.
2. Use CQ/X to develop an overlay KML file of all the counties in the state
3. Startup GM and Create a Map to hold your route
4. Import the overlay from Step 2 into GM as a layer
5. Using the S&T route and the overlay as a guide, set starting and ending destinations in GM and use GM to draw the route developed in S&T. Note that when drawing the route in GM you will need to turn off the county overlay but when a change is made in GM you may want to turn the overlay back on to see the impact of your change on the counties covered.
6. Once you are satisfied with your GM route download the Directions part of the route as a KML file containing the lat/lon points describing the route.
7. Use the file from step 6 and the CQ/X menu item **QP Tools | Route Planning Using Google Maps | Build Plan Using Google Map Data** to import the lat/lon values and determine the county line crossings. In the next step you will use the export feature of the resulting Found Crossings dialog, so keep that dialog open while you perform the exports.
8. It is a good check of the Google Map data to write the crossings back to S&T. To do this use the export option “Export as CSV for S&T” to save the crossings in a format that can be imported into S&T. You can then use S&T data import to bring the crossings into S&T. Examine the crossings in S&T to make sure they are all on your designed route. If the crossings do not agree modify either the S&T route or the GM route.

9. You may also want to include the county crossings as waypoints in CQ/X. To do this perform the export from the Found Crossings dialog labeled “Export as CSV for Waypoints”.
10. Once you are happy with the route you have chosen use CQ/X menu item **QP Tools | Route Planning Using Google Maps** | **Perform Timing Analysis** to check the feasibility of driving your route in the allotted time, while allowing time for refueling and stopping in short counties to work the pileup and allowing for possible lunch and/or refueling and lunch/dinner breaks.
11. Once the S&T route is finalized traverse around your route placing a pushpin at each of the waypoints you want to track in CQ/X. It is recommended that a pushpin be placed at each change of highway and that naming of the waypoint be done in such a way that the name describes the action to be taken at that junction. For example if the action to be taken is to make a left turn from highway US190 to I45 north you might label the waypoint as LT US190-I45N. Once you've labeled all the junctions and have saved the map, do an export of the route as a GPX file.
12. Now import the waypoints in the GPX file from step 10 into CQ/X using menu item **GPS | Define Waypoints**.
13. If desired use CQ/X menu item **Options | Configure User-Supplied Help** to link the (S&T) trip file from step 11 with CQ/X for use during the contest. This will cause a menu item for starting S&T with the trip file to be setup on the CQ/X Help Menu under User-Supplied Help and avoids having to remember where the S&T file resides.
14. If desired use menu item **QPTools | Post Notice of Planned Trip to County Hunter Site** to connect to the County Hunter website to post your route and any comments using cut and paste.
15. That completes the route preparation. If you want to simulate the route, create a shortcut to the SimGPS exe in the GPS_Simulator directory and use the SimGPS menu item **Trips | Create a Trip from a KML file** and use the GM lat/lon file from step 6 as input to create a file of GPS sentences describing the route. Use the sentences to drive SimGPS and the crossings created as a text file in step 10 as way points to enable starting the simulation near a county line crossing.

Other Preparations

1. Use **Keyer | Edit Message Template** to define the format of your messages. Use the supplied default set as a start. You will note that there are embedded symbols (#, !, $) in some of the messages. These are placeholders for current county, next county and current grid square. Once a trip is underway the values determined by CQ/X from GPS input will be used to replace the place holders with actual values. You can either type the desired embedded symbol into the Message Editor or insert them by first positioning the cursor at the desired point of insertion followed by a right-click and then selecting the desired symbol from the pop-up menu. Once you are satisfied with your messages, click on Update the Template. The messages are now ready to be changed as you advance

through the counties and work stations. **Note: It is important to perform this step even if you plan to operate only SSB since the program obtains logging information from these messages.**

2. Use **Keyer | Assign Function Keys** to assign tasks to the function keys. See the document "User Notes for Mobile Ops" which can be accessed from the CQ/X menu item **Help | User Notes for Mobile Ops** for a typical assignment of function keys. Use the default set of key assignments as a start.
3. Use **Radio | Connect/Disconnect** or **Keyer | Connect/Disconnect** to assign the radio, keyer and GPS to their respective ports. Be sure to connect and test each device. The next time you close the application be sure to answer Yes to the question "Save New Port Assignments" so that you can easily reconnect all devices to their proper ports. It is also a good idea to have a diagram or notes handy describing the device that is attached to each port. Use Device Manager if necessary to determine the port(s) to which devices are connected.

On Startup/Restart of the program

1. If you have previously setup the following there is no need to do it again as the restart will reset them. If you have not set them up the configuration wizard will prompt you through most of the following steps or you can skip the wizard and perform them without the prompts.
2. Use **Radio | Connect/Disconnect** to connect devices to their respective ports. If you have saved your port assignments you can use the button labeled "Restore Connect Close" which will restore all device connections, connect the devices, and close the dialog.
3. Use **GPS | GPS Advises County Change** to set the desired GPS Advisory mode. If you choose AUTO the program will automatically change your messages to correspond to the current county and will locate the next county crossing. If there is more than one crossing defined for the current county the program may ask you to resolve the uncertainty. (Use **GPS | Resolve Multiple County Crossings or click on the Multiple Counties panel**)
4. Use **GPS | Set Parameters** to define and/or import any waypoints and to set up pass through of GPS information to a mapping program such as Streets and Trips. You can also set up any GPS logging features at the same time. Note that a default GPS log is automatically setup so there is nothing to do if that type of logging is all that is desired. This default GPS log has all the information needed for the Grid Chase.
5. One approach to using real-time mapping is to define the mapping program in the User-Defined Help and then to start it from the Help menu. This latter approach avoids the problem of having to remember where the file defining the trip is located. See on-line help for how to set up User-Defined help.
6. In the mapping program connect it to GPS information for real-time position tracking by specifying a virtual com port that is connected via a null modem to the GPS Pass Through virtual com port defined in step 3 above.

7. If you have defined your route highway changes and other important waypoints to CQ/X be sure to activate the Multi-Waypoint Tracker using menu item Track Multiple Waypoints under the GPS menu. The tracker will keep you advised of the distance to the next and subsequent waypoint or highway changea.

During the contest

1. Send CQ (in CW mode using the key you assigned to the CQ message) or using Shift+Spacebar, or using the Enter key if you have specified Send CQ with Enter Key under the Keyer menu.
2. Enter call of responder and press Enter to send your exchange info
3. Enter received exchange information separated by spaces in any order, referring to the Check grid, if desired, to insure proper interpretation
4. Press Enter to log the contact and send the CQT (TU) message. If the contact won't log refer to the Check grid to see what might be missing. If you have assigned a key to SEND_CQT_NOLOG and you wish to send CQT while fixing the exchange information use that key.
5. See the document "User Notes for Mobile Ops" which can be accessed from the CQ/X menu item **Help | User Notes for Mobile Ops** for a typical assignment of function keys.

After the contest

1. Use **File | Finalize Logs** to convert the internal log (…\CQxClientLogView.log) to Cabrillo format. Enter any soapbox comments including statistical results and then use the Browse button to specify the file where the final log is to be kept.
2. If a separate summary sheet is required use **QPTools | Prepare Summary Sheet** and the Browse button to specify the file where it is to be saved. It is good idea to create a separate directory in which to save all results from each contest.
3. If desired, or required by the contest, use **QPTools | Prepare County Logs** to prepare individual logs for each county.
4. If desired use the menu item **QP Tools | After-Party Processing | Prepare Grid Chase Logs** to prepare the ADIF files for submitting to LoTW.
5. Use **File | Post to 3830 Reflector** to connect to the site to file your 3830 report.
6. Of course, don't forget to also submit your log to the sponsor!

After after the contest

It would be greatly appreciated if you would provide feedback regarding your experience (good or bad) using the program including any suggestions for improvements. Provide comments to no5w.chuck@gmail.com or to cqxsupport@no5w.com

Have a safe trip and enjoy the party,

73/Chuck/NO5W