Chai Air Times "advanced" online tool

Version 1.8.3

The online calculations were designed for their user friendliness for the general user. However, they are inadequate to deal with real time changes in flight routes. It was decided to provide a better tool to the advanced user. Although the new tool doesn't approach the capabilities of the Chai Air Times "Pro" program, it does allows for editing routes in real time, uploading routes, and obtaining zemanim for anywhere on the map. It also allows the user to follow the estimated airplane position thereby getting an indication how far off the estimate is from the real position shown on the screen. The tool can be used offline, as well as online whenever wifi service is provided by the airline.

This instruction manual is purposely short and to the point since the application is meant for an advanced user.

Initial steps for defining a route

Step 1: Choose the departure and arrival airports from the drop down lists.

In case your airport doesn't appear in the list, scroll to the last item in the list, "User defined", and you will be prompted to click on the map to choose your airport's position. You will then be asked to verify the time zone without DST additions, e.g., New York's TZ = -5 even during the summer. (If it is DST, then it is checked in Step 3 below). It is critical that the time zone is correct. If in doubt, consult with a reliable website. You will then be asked to verify the coordinates and time zone. If everything is in order, press "OK".

Step 2: Use the calendar tools to choose the departure and arrival dates and times. It is best to use actual wheels off and wheels on times if they are known rather than the departure and arrival times from the terminal since the app uses a flight plan with separate velocities and accelerations for take-off, cruise, and landing intervals of the flight.

Step 3: If Daylight Saving Time is in effect in the departure or arrival airport, check the checkboxes. For popular routes, this program will check and correct the values of DST after pushing the "Zemanim" button.

Optional: "Offline" maps can be substituted for the online Bing maps used a default. To use the "offline" maps, press the button.

Step 4: **Edit the route**

Method 1: Accept using the Great Circle Route by pressing the "Accept" button.

Method 2: Upload a flightaware.com "kml" file for a previous flight. At present, the flightaware.com files can be accessed by using their "graph" link, and then clicking on the "Google Earth kml" file button. This procedure is liable to change. In order to successfully upload a file, the departure and arrival airports in Step 1 must match the departure and arrival airports in the kml file. This app will automatically read the actual departure and arrival times from wheels off to wheels on the runway. Although, these times are different than the times of departure and arrival from the terminal, they are more appropriate for this app as explained in Step 2 above.

Method 3: Click on the map to define way points. Undo points to edit the waypoints. This can be used to follow the path of the airplane in real time and thereby increasing the accuracy of the zemanim. Complete the flight path anything by pressing the "Complete the map" button. You can go back anytime to undo a way point and add more by pressing the "Undo" button and click again on the map to create a way point at the click point.

Note: If you want to change the entire route, or change the airports, etc., you must first use the "Erase" button to erase the last route you entered.

Zemanim

There are three types of zemanim you can obtain from this application. When a route has been completed, the zemanim window appears. There are three radio buttons that activate the three types of zemanim.

Time to: Click on the map to find how much time there remains at the click point to the desired zman entry.

Time at: Click on the map to calculate the zemanim for the click point. Since the time zone is only estimated based on the longitude, you can modify it by entering the desired time offset from Greenwich in the “time zone” text box and press the enter key on your keyboard. For example, New York is -5 when there is no Daylight Saving Time. If Daylight Saving Time is in effect, then the time one offset for New York is -4.

Zemanim for route: Clicking on this radio button will calculate the “Chai Air Time” zemanim for the route on the map. Markers will will appear on the map showing where the zemanim occur along the flight path you entered. The default zemanim mode is elapsed time from departure in hours and minutes. If you want an actual time according to a certain time one offset, enter the time zone offset in the “time zone” text box and press the enter key on your keyboard. When the airplane is being located, then pressing the “Zemanim” button calculates time **left** to the zemanim, and that is what is displayed in the table.

Showing the predicted position of the airplane

Press the “Show posit” button (it is below the zemanim table) to show the position of the airplane. The marker showing the airplane’s position will move with time according to the predicted flight plan determined for your entered data and route. Therefore, the predicted position will be only approximate. You can improve the accuracy of the airplane’s position and thereby tweak the flight plan by pressing the “Fixit” button (that appears below the zemanim table on the right most side) when the app is showing the predicted position. If you click on the “Fixit” button, you will be prompted to click on the map to indicate the actual position of the airplane and the app will recalculate the flight plan to adjust to this actual position. This tool is especially useful when GPS geolocation is not available, e.g., on El Al flights, or when sitting on a non-window seat. (If you are sitting near the window, and there GPS signal is not blocked, use the “Geolocate” button for more accurate positioning; see below.)

Check the “Center Map” check box to keep the map centered on the predicted position. Press the button a second time to stop showing the predicted position.

Showing the GPS position of the airplane on the map

Press the “Geolocate” button (it can be found next to the “Predict Posit” button, below the zemanim table) to locate your position on the map according to the GPS on your mobile device or computer. Use this option to determine absolutely where you are on the map and your relationship to the day-night terminator (useful for davening *k’visikin*). Press the button again to stop the geolocation. Center the map on the geolocated position by clicking the “Center Map” button.

Note, currently wifi provided on an airplane does not provide actual geolocation. Rather the location will be fixed to the geographical location that is providing the wifi (usually the departure airport). So in practice, GPS geolocation is not available for this program and the “Predict posit.” button should be used instead.

Many hours were invested to create this application for the web. Please donate to The Chai Tables to help us keep this tool a free web application. Please use the “Donate” button to send a contribution via PayPal.