# DIGITAL BRIEFING

Desktop computers, laptops, tablet computers . . . we certainly live in an age of change. In 1973, the first electronic handheld calculator was available for about $349, and the adapter was an option for another $49. That electronic calculator could add, subtract, multiply, and divide and was about 2" thick.

And those were the "good ol' days"?

The personal computer (based on DOS) was introduced in 1982 with no hard drive, one 720-kilobyte floppy drive, and only 640 kilobytes of memory and that was an option. In 1986, a 10-megabyte hard drive was over $600 and was almost the size of a shoebox.

Today we are the fortunate beneficiaries of huge advances in computer technology. Speeds are up, storage is massive, screen resolutions are color photo quality . . . all of which make electronic charts possible.
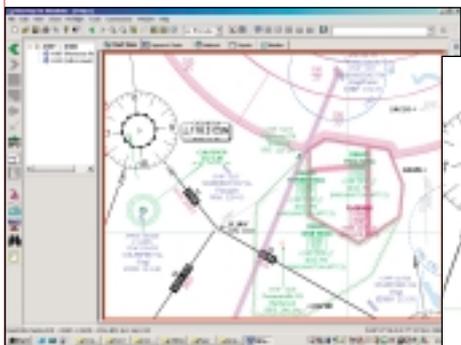
Taking a Trip with Electronic Charts

To illustrate the use of electronic charts, let's take a trip from Manassas, Virginia, to the resort airport at Hilton Head, South Carolina. For the flight, we'll fly a normally aspirated Cessna 210 with a GPS that is IFR certified for enroute, terminal, and approaches.

Using the flight planning features of Jeppesen FliteMap®, a direct flight from Manassas (KHEF) to Hilton Head (KHXD) is shown to be 419.6 nautical miles. Upon a closer look at the straight line between the two airports, the route passes through the edge of Restricted Area R-6608B which is from the ground up to 10,000 feet MSL. Oops! For a route clear of the restricted area, "grab" the route of flight on the screen with the cursor and drag it to the closest intersection (FLUKY). When filing an electronic flight plan through DUAT, or by calling a Flight Service Station, it is easier to use intersections as descriptions for the route of flight.

About midway through the flight, there is another restricted area, and FliteMap shows the altitude restrictions for R-5311A, B, and C. Looking at the altitudes for all three areas, we need to fly around R-5311, so the route of flight should be "rubber banded" again to the west to avoid the restricted area. The route of flight can be dragged over to the MYOWN intersection, which avoids R-5311.

Straight-In Approach at Hilton Head

At Hilton Head, there are five instrument approach procedures. One of them is the GPS Rwy 21 approach, in which you arrive from the north. A straight line from the MYOWN intersection to Hilton Head can be slightly modified with the "rubber band" in FliteMap to make the route straight to the TERLY intersection, the GPS Rwy 21 initial approach fix. With these slight modifications to route around the restricted areas and to fly direct to the IAF, the total distance including the GPS approach is only about one mile further than a straight line between the two airports.

Weather

For current weather, click on the Weather tab toward the top of FliteMap, and a screen appears for dialing DUAT. Once connected, using either a dial-up or Internet connection, a wide selection of weather and preflight services is available. Included are "Standard WX: Route", "Radar Maps [NEXRAD]" and many others, all of which are available for download and display.

Direct route altered to avoid R-6608B

After obtaining the current weather, it can be overlaid on top of the route of flight to see what impact it may have on our route. For this flight, the NEXRAD weather shows some thunderstorms, but they are far enough away that they shouldn't impact the flight. In addition, winds aloft can be displayed graphically, using wind arrows to show their impact at our chosen cruising altitude of 8,000 feet.

Chart NOTAMs

Before departure, there are a number of sources we can turn to for NOTAM information. The DUAT services and the Flight Service Stations can inform you of recently issued NOTAMS which might affect this flight. Additionally, JeppView has two locations to obtain NOTAMS affecting charts. At the top of the page when charts are in view, a tab for "Chart NOTAMs" will show whether or not there are any NOTAMs that affect the chart with information that has changed between

chart cycles. For Hilton Head, the only Chart NOTAM is a generic NOTAM about Phase 3 Overlay GPS approach procedures.

To the left of the chart, another tab labeled "NOTAMs" shows the chart NOTAMs for the enroute charts. If any NOTAMs affect the enroute chart information, the temporary information can be found by clicking on this tab. Remember, the most current NOTAMs are only available from DUATs and Flight Service Stations.

Other JeppView® Tabs

Other useful information about Hilton Head such as fuel, oxygen, magnetic variation, latitude and longitude, time zone, and other details can be found by pressing the tab that includes the airport's identifier plus the word "Info."

Did you forget what LAA means? How about ASOS or AWOS or TWEB or VDP? A tab labeled "Glossary" is on the left side. Also, the meanings of the symbols found on approach charts, SIDs, and STARs, as well as enroute chart information can be found under the tab labeled "Legend."

While flying into Hilton Head, you most likely will have the GPS Rwy 21 chart in view. If Savannah Approach changes the approach in use, the tab at the top labeled with the airport identifier followed by the word "Charts" will let you find the additional charts for Hilton Head without having to start all over looking for Hilton Head in a long list of other airports.

Looking closely at some of the JeppView buttons, you will notice that some are marked with underlines. These indicate the availability of shortcuts using the CTRL key in combination with other keys, and help to find things without having to chase around with the small cursor. Using CTRL-C, the list of other charts for the active airport appears. If you are looking at a chart and want to find another airport, CTRL will display the master list of airports. CTRL-I will display the airport information and CTRL-N will display the Chart NOTAMs.

Printing

Once you have selected the airports, you can print all the charts to carry with you as a backup if you view the charts electronically while enroute. If you want to reduce the total number of charts you print, you can select the chart types you desire, so that if you don't want to fly DPs (SIDs) or STARs, they won't be printed. When printing, you can select the option to print each chart on a separate sheet of paper. The charts are a little oversized, but they are very easy to read.

The printer icon at the very top of the display launches your print efforts. If you want, the charts can be printed two on a full size sheet of paper, which makes the charts the same size you are used to seeing.

In the next article, we will finish with a view of the future for electronic charting.

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