

## User Database

### Synthetic Approach to Your Backyard Strip

The User Database is designed to allow customers to add or correct runway coordinates in the navigation database for use with the Synthetic Approach (SAP) function.

The file has an XML structure. All files must begin with <GRTUserDB> and end with </GRTUserDB>. Multiple airports and runways can be specified in the same file. Coordinates are specified in decimal degrees with positive north and east. Lengths, widths, and elevations are specified in feet. Files must not exceed 1 megabyte (100 kilobytes on WS/HS models).

The EFIS will search for each runway end specified in the file using the identifier (*ident*) and replace the coordinates in the navigation database with the ones specified. Missing airports and runways can be added by including the missing information. If the identifier of a runway changes, the file must be updated.

The coordinates in these examples do not represent real airports or runways.

#### Example 1: Add or correct runway coordinates in an existing runway

In this example, coordinates will be added to runway 09/27 at airport UDBE1. This is the minimum information necessary to update runway coordinates.

```
<GRTUserDB>
<Airport ident="UDBE1">
  <Runway>
    <RunwayEnd ident="09" lat="42.800000" lon="-85.800000" />
    <RunwayEnd ident="27" lat="42.800000" lon="-85.790000" />
  </Runway>
</Airport>
</GRTUserDB>
```

#### Example 2: Add a runway to an existing airport

The length, width, and surface type are specified in the Runway tag. Use ASP for a hard surface (asphalt) or GRS for a soft surface (grass).

```
<GRTUserDB>
<Airport ident="UDBE2">
  <Runway surface="ASP" length="3000" width="50" >
    <RunwayEnd ident="18" lat="42.800000" lon="-85.800000" />
    <RunwayEnd ident="36" lat="42.790000" lon="-85.800000" />
  </Runway>
</Airport>
</GRTUserDB>
```

### Example 3: Create an airport and a runway

This example includes optional fields. The runway elevations are specified for both ends. The touchdown zone elevation (tdze), displaced threshold (dispthr), displaced threshold elevation (dispthrelev), and lights are specified for one end.

```
<GRTUserDB>
<Airport ident="UDBE3" lat="42.900000" lon="-85.900000" elevation="604"
name="USER DATABASE EXAMPLE 3">
  <Runway surface="ASP" length="3000" width="50" >
    <RunwayEnd ident="09" lat="42.900000" lon="-85.904000"
elevation="606.0" />
    <RunwayEnd ident="27" lat="42.900000" lon="-85.896000"
elevation="602.0" tdze="602.67" dispthr="200" dispthrelev="602.27"
lights="Yes" />
  </Runway>
</Airport>
</GRTUserDB>
```

### Updating the Database

User databases are loaded through the SET MENU, Display Unit Maintenance, Database Maintenance, Update User Database function. Upon activating the function, the EFIS will display a list of files and folders on the USB flash drive. Select the file containing the new user database and push the LOAD button. The EFIS will verify the format of the database and then copy the data, replacing any existing user database. If the operation is successful, the EFIS will instruct you to reboot the display unit to activate the new data.