## REDBIRD TD DEFICIENCIES

The following is a partial list of shortcomings found in a trial test flight of Redbird G1000 Simulator device. Deficiencies are not listed in order of importance but all represent items that would potentially hinder learning or result in negative transference when training to fly the G1000. This critique will focus solely on the non-functionality/programmability of the redbird G1000 simulator device.

| DEFICIENCY | | DESCRIPTION |
|---|---|---|
| 1. | "Direct To" Functionality | Cannot be used to create Course Intercept To a waypoint or facility. Real G1000 allows user to adjust CRS, redbird does not. |
| 2. | WAAS Approaches | Does not provide a gps glidepath (GP, similar to ILS glideslope) for LPV or L/VNAV approaches. Cannot fly coupled precision gps approach. |
| 3. | Go Around Button (GA) | Device does not feature a Go Around (GA) button, thereby making it impossible to execute and practice a missed app, one of the most important IFR procedures to practice. |
| 4. | No ARRIVAL/DEPT Procedures | Device does not have the ability to load SIDs or STARs when creating/loading a flight plan. Only option available from the PROC key is SELECT APPROACH. |
| 5. | Limited VNAV Functionality | Device allows user to modify altitudes on the FPL page but pressing VNAV not only does not result in the appropriate (VNAV) AFCS annunciation, the AP will not capture and fly VPATH at Top of Decent (even though TOD is annunciated on Map Screen). |
| 6. | Terrain not depicted | Even when selected on the Map Screen, color-coded (proximity to) TERRAIN does not appear. A real show-stopper if you're trying to train CFIT avoidance. |
| 7. | Nav Data Fields unchangeable | Nav Data Fields (at top of MFD display) cannot be changed to reflect pilot preferred setting or to meet operational requirements. (i.e. ETE cannot be changed to XTK in order to provide (course offset) XTK information when CDI is in LOC or VOR mode) |
| 8. | CLR key Functionality | Pressing and holding the CLR key should return the MFD to default Map Screen. This device does not. |
| 9. | COM key Functionality | Pressing and holding the COM key should insert Emer Com Freq 121.5 into the active position of #1 Com radio. Device does not. |
| 10. | Autopilot Logic Incorrect | It's important to understand the GFC700 autopilot's logic and functionality. Pilots need to practice the correct use of automation but the autopilot on this device is far from a high fidelity emulation. Examples:<br>a. If engaging flight directors when in a turn greater than 7 degrees of bank, ROL mode should match current a/c bank angle- device does not.<br>b. On missed approach, pressing SUSP key cycles CDI to GPS mode- CDI should remain in last selected (LOC/VOR) mode. |
| 11. | Map Screen Limitations | a. Cannot insert cursor by pressing Range knob (making it impossible to create User Defined Waypoint from Map Screen)<br>b. Cannot pan left/right, up/down (buttons provided only |

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| | | zoom in/out)<br>c. No obstructions are depicted. |
| 12. | SUSP key Logic Error | Pressing SUSP key after passing MAP on ILS approach changes CDI to GPS mode (CDI should remain in LOC1 mode) |
| 13. | Holding Patterns, deficient | a. No entry (teardrop, parallel, direct) is depicted for holding patterns.<br>b. Autopilot should fly pattern using GPSS- device does not. |
| 14. | Reversionary Mode | Can switch to reversionary mode but cannot fail PFD or MFD |
| 15. | AHARS Failure | Does not disconnect autopilot |
| 16. | Control Wheel Steering (CWS) | Not featured on this device. It's important to learn how to use CWS in conjunction with use of GFC700 autopilot.. |
| 17. | PFD Altimeter/STBY Altimeter | a. Adjustment of PFD and STBY Altimeter barometric settings are not independent- the BARO knob on G1000 controls both altimeters. When practicing, it's important to adjust each altimeter (independently) whenever a change in baro setting is made.<br>b. PFD and STBY Altimeter readouts do not agree- STBY altimeter indicates 200 ft LOWER than PFD Altimeter. |
| 18. | Flight Modeling | Demonstrated C172 flight model was incapable of climbing above 8500 ft MSL. Climbing at full throttle with autopilot commanding VS 500 FPM, pitch increased (but could not match FLT DIR commanded pitch) while airspeed slowed, eventually leveling off nose high, airspeed near stall, autopilot remained engaged. |
| 19. | AP Disconnect Button | Yoke mounted AP DISCO button is not featured on this device. |
| 20. | Manual Electric Trim (MET) | Electric Trim is not featured on this device. |