iPhone/iPad Top of Descent App Proposal

Specific Range Solutions Ltd.

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iPhone/iPad Top of Descent App Proposal

Opportunity:

- Reduced fuel burn, reduced engine wear and improved safety margins through the use of Continuous Descent Approaches (CDA) based on calculated, aircraft type and configuration-specific Top of Descent (TOD) point.
- Too early descent from cruise means increased throttle setting at low altitude, therefore additional fuel will be burned and engine temperatures will be increased.
- Too late descent from cruise means additional fuel was burned at cruise altitude and aircraft arrives at Initial Approach Way Point (IAWP) with more energy than necessary.

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Methodology:

- Intuitive and cost-effective application that assists pilot decision making in the cockpit during the low workload cruise flight phase.
- Use of reliable and cost-effective consumer electronic devices with internal or external GPS receiver e.g. iPhone or iPad mini with external Dual XGPS150A GPS receiver.
- Employs acquired GPS data (5 parameters) and a minimum of pilot input data (9 parameters).
- Proprietary and accurate algorithm that continuously calculates distance and time remaining to optimized Top of Descent point.
- Accurate wind profile as a function of altitude key to precisely calculating Top of Descent point.
- Human factors design approach to ensure efficient user experience and minimum head down time.
- Application must fit within the existing operational environment, not the other way around.

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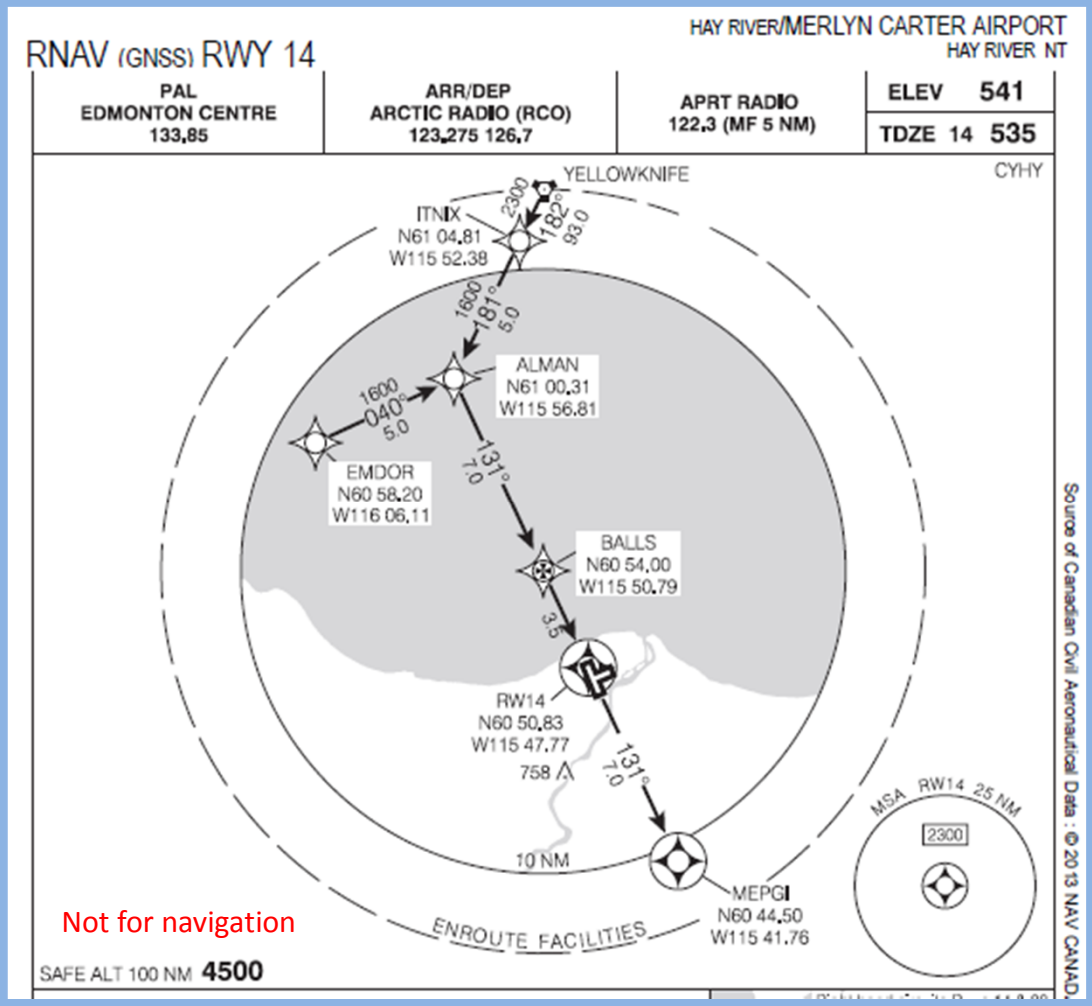
Example: Approach to Hay River (CYHY RNAV RWY 14) from northeast with a Beechcraft 1900D aircraft. Approach plate per Nav Canada CAP 1.



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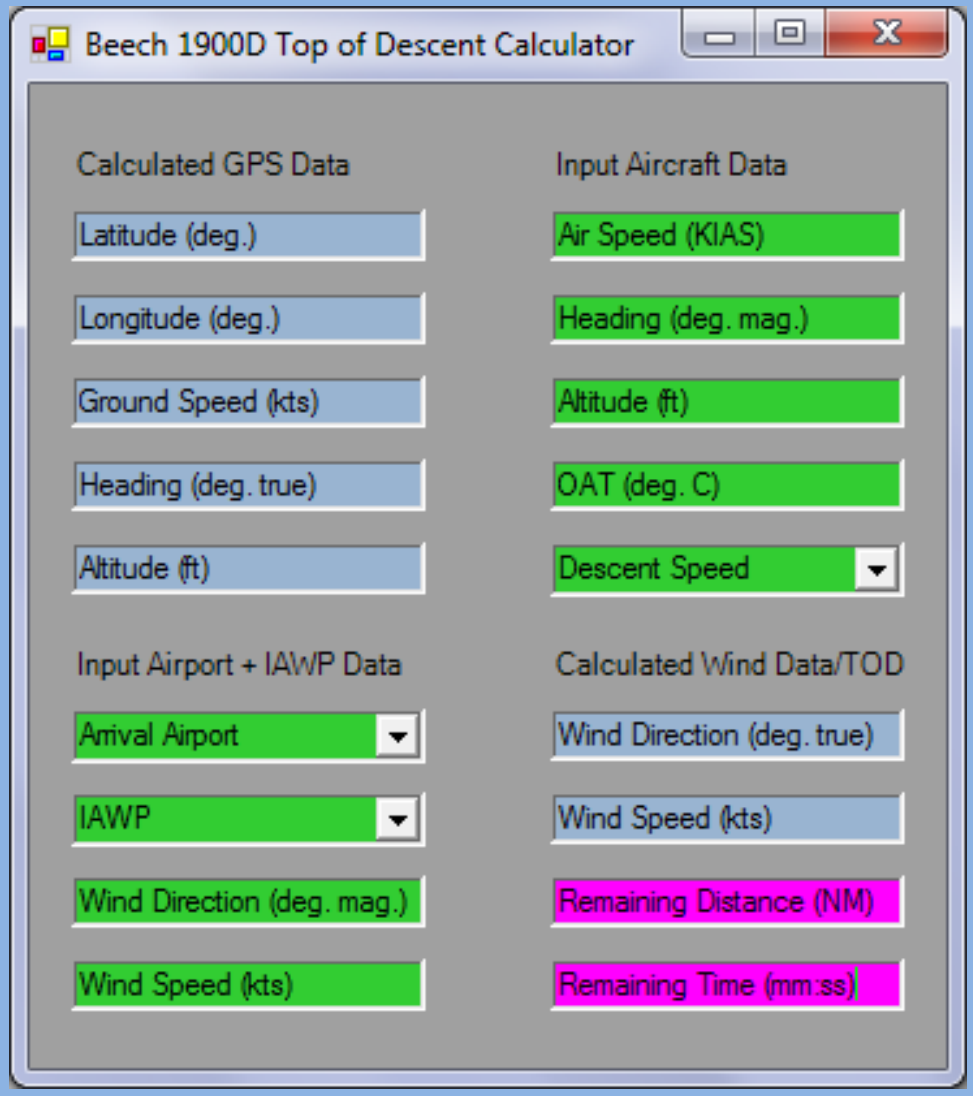

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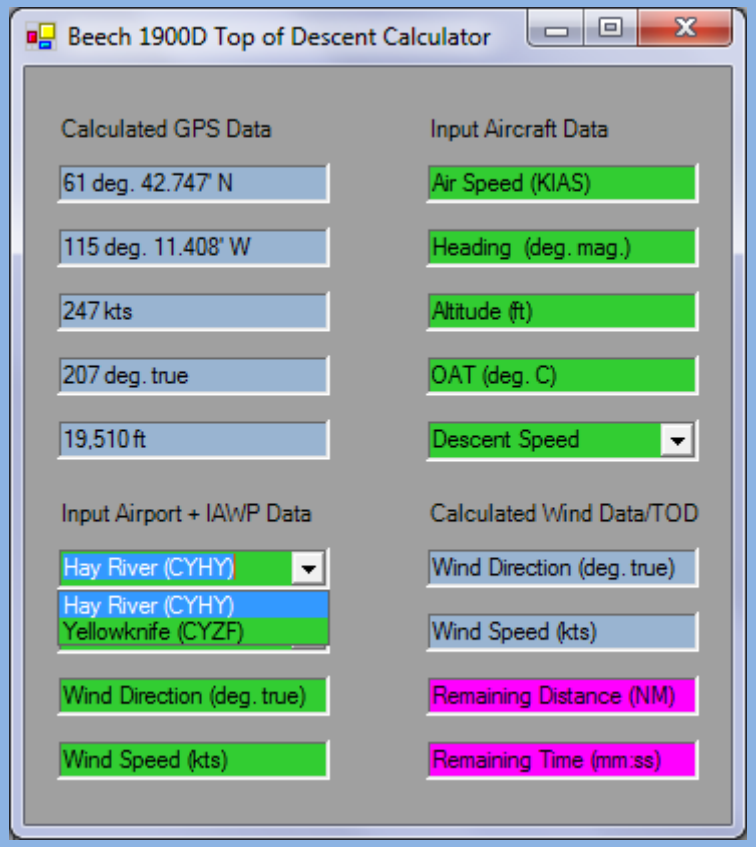

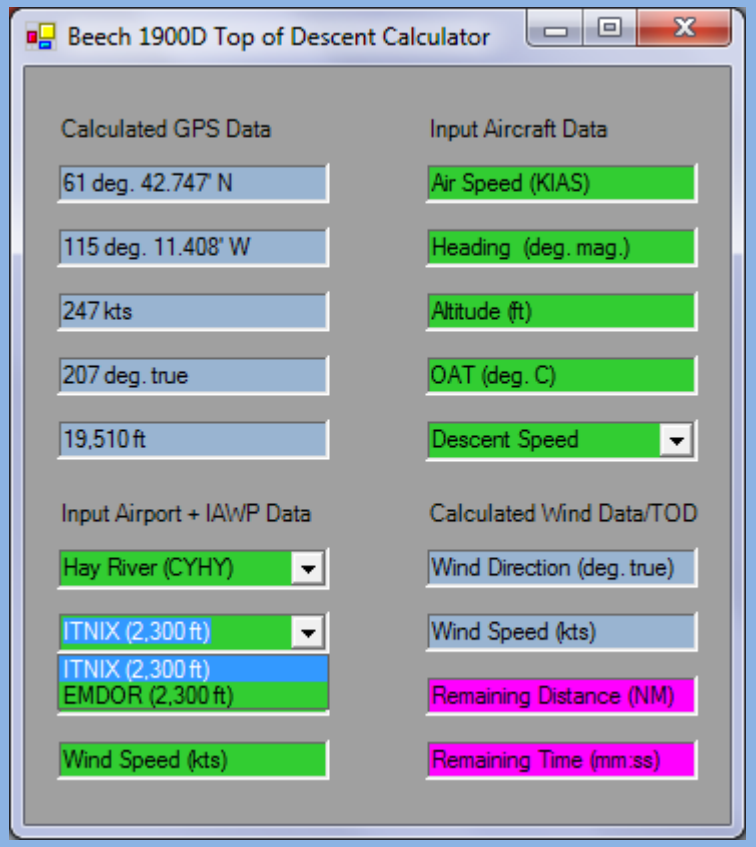

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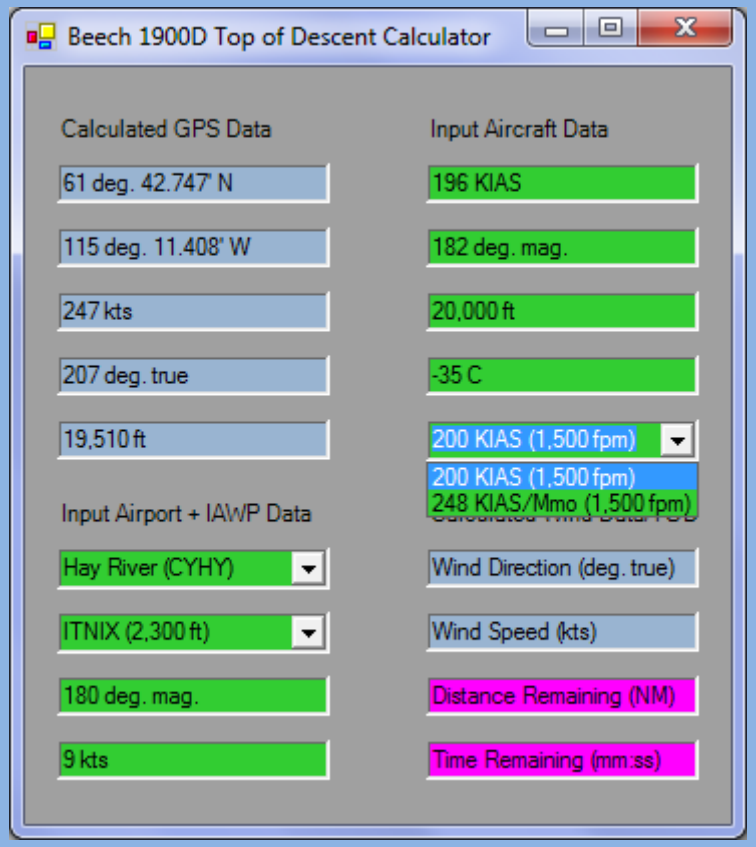

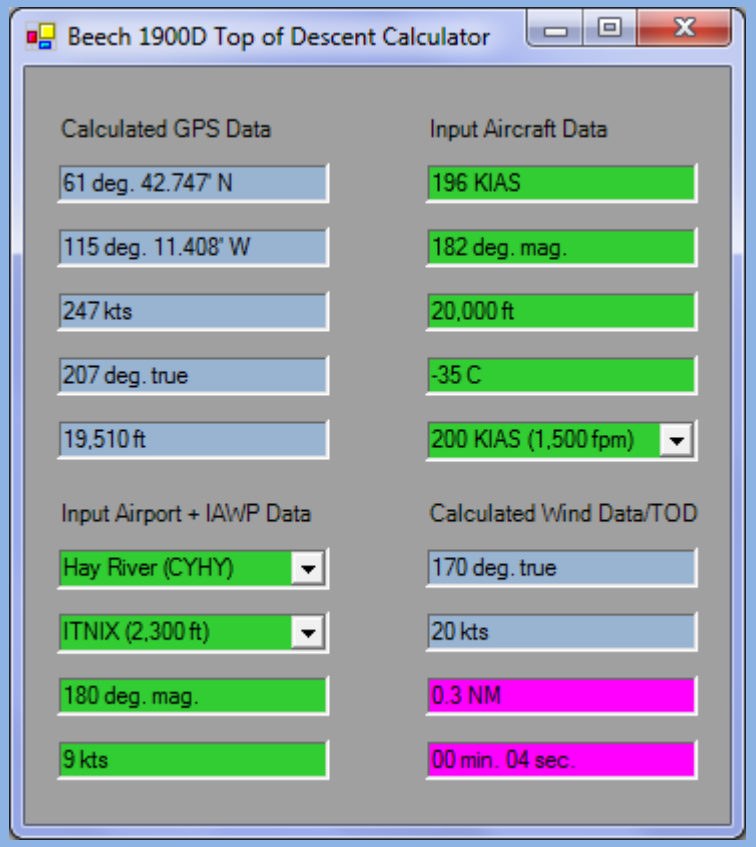

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Summary:

- Accurate, simple and cost-effective approach to reduce fuel burn and engine wear, as well as safely manage energy in descent.
- 1% of fuel savings per leg estimated.
- Maximum use of available GPS data and minimum use of pilot input data.
- Top of Descent point is calculated in cruise, crew can better anticipate descent and approach phases, and then fully monitor descent.
- What are the potential cost savings for your company by optimizing Top of Descent in daily flight operations?

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