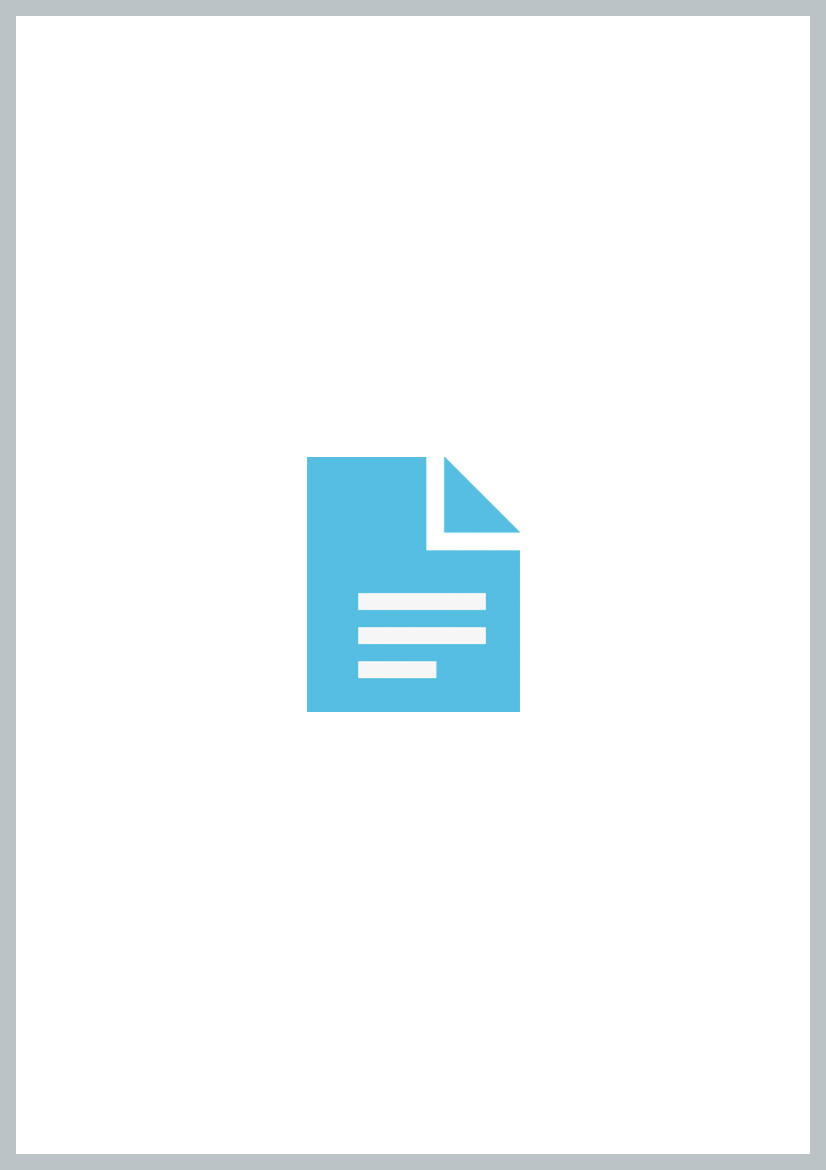
DrivePilot Next Generation 2A

​​

Contents

*Please update the table of contents.*

[](https://primary.polarion.com/polarion/module-attachment/drivepilot/Requirements/DrivePilot%20Next%20Generation%202A/DrivePilot_System_Requirements_Specification.docx?revision=188523)

1**Document Properties**

|  |  |
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| Created: | 2020-09-10 17:56 |

**Approved Versions**

Current document version**22.0** has not been **approved.**Reviewed Versions:*The document has not been approved yet.*

**Document Signatures**

No signed statuses.

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# Introduction

## Purpose

System Requirements Specification (SysRS) describe what the system’s sponsor expects the system to do, the system’s expected environment, the system’s usage profile, its performance parameters, and its expected quality and effectiveness. The SysRS is a structured collection of information that embodies the requirements of the system. The SysRS completely describes all inputs, outputs, and required relationships between inputs and outputs*.*

*I really wanted this instead. Sure you did.*

​​

## Scope

DrivePilot is an Auto Pilot application for automotive vehicles of all types.  There will be an OEM application as well as an aftermarket installation kit for existing popular automobiles manufactured after 2006.  This is new text.  Dennis is my mentor.

## References

[Spice Manual](http://shop.oreilly.com/product/9781933952291.do?sortby=publicationDate)

[SPICE Overview](http://en.wikipedia.org/wiki/Automotive_SPICE)

# General Overview

DrivePilot is the next generation of auto pilot systems for vehicles.  Using complex infrared and visual imaging technology, DrivePilot allows the driver to input a destination into the DrivePilot computer, set speed and driving comforts, and sit back and enjoy the ride.  DrivePilot will negotiate the driving course, look out for other automobiles, pedestrians, avoid and monitor accidents, and make course corrections to avoid traffic.

Texing while driving is no longer a problem with DrivePilot, because you’re not really driving any more.

Our review has provided the following information:

DrivePilot disengages at the touch of the conventional automotive controls, with voice command, or by interaction with the DrivePilot user interface.

DrivePilot offers automated control of gearing, speed, steering and turn signals, and braking.  DrivePilot also includes interfaces into the OBDII vehicle codes and monitors certain engine vibrations to identify existing and pending maintenance problems.

Pro forma information about THIS Vehicle, THIS Spec, THIS Project...

drivepilot/DP-15778This is simple information that exists in the document and in NOT a requirement

​​

# Requirements

## General Operations

drivepilot/DP-14494**DP-14494 - This is an old requirement. Please remove. Changed the severity 1234 Test Test T...**

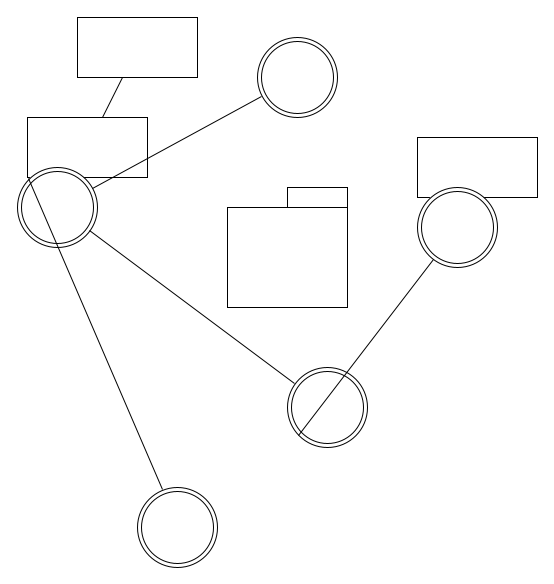
My System Requirement for my new stuff

drivepilot/DP-18039**DP-18039 - This is my new requirement for the demo**

drivepilot/DP-18453**DP-18453 - Additional requirements needed**

​​

drivepilot/DP-20312**DP-20312 - This is the stuff for my cool design - from SC on 3-19-2020**

[](https://primary.polarion.com/polarion/wi-attachment/drivepilot/DP-20312/2-diagram_20181024-1358.02175.mxg.png?revision=188525)  
This is the stuff for my autocode from Stephen - 5/19/2020

|  |  |
| --- | --- |
| Vendor ID |  |

drivepilot/DP-18523**DP-18523 - The design shall comply with regulatory stuff**

|  |  |
| --- | --- |
| Vendor ID |  |

​​

drivepilot/DP-14104**DP-14104 - This is my new requirement for v 1.5**

This is my new requirement for v 1.5 and our flux capacitor

drivepilot/DP-16828**DP-16828 - This is my updated requirement for my flux capacitor**

This is my updated requirement for my flux capacitor

drivepilot/DP-18033**DP-18033 - Created a new requirement for my flux capacitor**

​​

drivepilot/DP-17761**DP-17761 - This is my sub requirement for DP-14104**

drivepilot/DP-14209**DP-14209 - This is a software requirement**

this is its description and some details about the requirement  
This is the text I did in the document view. I hope this works today.

|  |  |
| --- | --- |
| Vendor ID |  |

drivepilot/DP-15748**DP-15748 -**

|  |  |
| --- | --- |
| Vendor ID |  |

drivepilot/DP-14343**DP-14343 - This is my 2nd software req**

|  |  |
| --- | --- |
| Vendor ID |  |

drivepilot/DP-15360**DP-15360 - This is my 3rd requirement for Software and 1.5 -**

The requirement should be able to handle software  
​​

|  |  |
| --- | --- |
| Vendor ID |  |

drivepilot/DP-14342**DP-14342 - This is my third**

My description for my third requirement for software

|  |  |
| --- | --- |
| Vendor ID |  |

drivepilot/DP-15305**DP-15305 - We will need more requirements to support the 3rd**

this will support it

|  |  |
| --- | --- |
| Vendor ID |  |

drivepilot/DP-15304**DP-15304 -**

​​

|  |  |
| --- | --- |
| Vendor ID |  |

drivepilot/DP-14106**DP-14106 - This is an old requirement. Please remove. Changed the severity 123456 Test Test...**

This is a really old requirement. Please remove.  Changed the severity and the content should wiped clean  
  
|  |  |  
ABC123 | XYZ |  |  
| DrivePilot should easily turn on operations while the **vehicle** is at rest. At rest definition is .5m/s +/- 1.7 m/s.   | |  
123456 | | |  
| | |  
  
Test Test Test  
  
​​

drivepilot/DP-14107**DP-14107 -**

drivepilot/DP-4566**DP-4566 - DrivePilot should be very easy to engage autopilot operations while the vehicle is at res...**

I am adding a line to my description because we need more... always more.  
  
DrivePilot should easily engage autopilot operations while the **vehicle** is at rest. At rest definition is 1.3m/s +/- 2.3 m/s.    
(image: 5-diagram\_20190214-1238.31380.mxg.png)  
  
(image: Circuit\_Schematic.gif)  
  
Add Criteria Data       Add critical data ...  
  
(image: 4-diagram\_20160711-1043.57553.mxg.png)  
  
​​

drivepilot/DP-16063**DP-16063 - this is my child requirement**

this is my child requirement

drivepilot/DP-14221**DP-14221 - This is my new requirement from Steve**

This is my new requirement from Steve  
​​

drivepilot/DP-10703**DP-10703 - My Title**

My description  
​​

|  |  |
| --- | --- |
| Vendor ID |  |

drivepilot/DP-14220**DP-14220 - This is my 2nd req**

This is my 2nd req

drivepilot/DP-13951**DP-13951 - This is a new requirement that I am authoring (image: diagram\_20170713-1148.5202...**

This is a new requirement that I am authoring (image: diagram\_20170713-1148.52024.mxg.png)

drivepilot/DP-13944**DP-13944 - Software requirement dependent upon DP-4566**

|  |  |
| --- | --- |
| Vendor ID |  |

drivepilot/DP-13943**DP-13943 - This is a new requirement.**

This is a new requirement.  
​​

drivepilot/DP-11631**DP-11631 - This is my new Rich Requirement**

Column 1 | Column 2 | Column 3 | Column 4 | | | My Data | | | Data Col 1 | | | | | My Data 3 | | | | | | |

drivepilot/DP-12521**DP-12521 - Steve must show the requirement creation in livedocs every time**

This is the description of the document

drivepilot/DP-13949**DP-13949 - Hi there**

this is information

drivepilot/DP-16062**DP-16062 - Hi yourself and back**

this is more information that we should see

Type more Text - insert bullet lists, tables.

DrivePilot is an Auto Pilot application for automotive vehicles of all types. Th...  
DrivePilot is an Auto Pilot application for automotive vehicles of all types.  There will be an OEM application as well as an aftermarket installation kit for existing popular automobiles manufactured after 2006. or 2007

drivepilot/DP-14199**DP-14199 - We need to have mpg > 100**

We need to have mpg > 40

drivepilot/DP-14198**DP-14198 - Here is another new requirement**

Here is another new requirement

​​

drivepilot/DP-6254**DP-6254 - New Intel and AMD and ARM-specific making a change to the Requirement here. Need...**

New Intel and AMD and ARM-specific making a change to the Requirement here. Needs ALM or RM or QA or PRO or any other type. Don't forget about reviewer. Add to content. I am going to add some content here. New Content

drivepilot/DP-6898**DP-6898 - Magnemotion Lite Track shall be reusable within the scope of all Polarion Requir...**

Magnemotion Lite Track shall be reusable within the scope of all Polarion Requirements Projects.

drivepilot/DP-6899**DP-6899 - Requirements for Track this is a change here.**

SC Requirements for Track this is a change here. I made this modification to create a suspect link on associated System Test cases. just adding some info to this document

drivepilot/DP-18034**DP-18034 - Requirement for Testing**

New Requirement

drivepilot/DP-6439**DP-6439 - Author Requirements quickly and VERY EASILY This is my change**

Author Requirements quickly and easily (image: 2-diagram\_20160728-1421.25559.mxg.png)

drivepilot/DP-6357**DP-6357 - Specific New Requirements for EV**

Specific New Requirements for EV and Nuclear Car

drivepilot/DP-6409**DP-6409 - New Replacement Requirement for DOORS subsystem**

New Replacement Requirement for DOORS NextGen subsystem

drivepilot/DP-4567**DP-4567 - DrivePilot must not be engaged while the vehicle is under manual control. \* prov...**

DrivePilot must not be engaged while the vehicle is under manual control. \* provide voice authentication \* provide time travel \* provide handicap access \* provide manual backup \* can only be activated by driver

​​

​​

drivepilot/DP-6202**DP-6202 - Polarion shall enable the creation of sub-requirements easily in the document via the browser**

Polarion shall enable the creation of sub-requirements easily in the document view or the table view or tree view. (image: 07-sketched-ui-wireframe.jpg) \* Bullet 1 \* Bullet 2

drivepilot/DP-4568**DP-4568 - DrivePilot must be easy to operate without extensive training. Tutorial activity**

DrivePilot must be easy to operate without extensive training or a user manual.

|  |  |
| --- | --- |
| **Tutorial Activity** | **Expected Behavior** |
| Mandatory pre drive tutorial | Completed by the operator |
| Onboard Tutorial Information | Teach new users while driving |

drivepilot/DP-4569**DP-4569 - Before any user may engage DrivePilot on public roads, that user must successful...**

Before any user may engage DrivePilot on public roads, that user must successfully complete a tutorial and test DrivePilot exercise asap.

drivepilot/DP-19234**DP-19234 - what's the role**

drivepilot/DP-4570**DP-4570 - DrivePilot must disengage with audible, visual notifications if the following oc...**

DrivePilot must disengage with audible, visual notifications if the following occurs: Gear change apparatus is manually actuated \* Brake is manually engaged \* User shouts "Stop" \* Accelerator pedal is manually engaged

drivepilot/DP-5246**DP-5246 - MagnaClosures shall not have sharp edges.**

MagnaClosures shall not have sharp edges.

drivepilot/DP-5247**DP-5247 - MagnaClosures shall fit older vehicles from 2000 and newer.**

MagnaClosures shall fit older vehicles from 2000 and newer.

drivepilot/DP-4571**DP-4571 - DrivePilot SHALL NOT be compatible with any vehicle that has "auto parking" cap...**

DrivePilot should NOT be compatible with any vehicle that has "auto parking" capability. Some models of vehicles come equipped with capability. Not all models are so equipped, only when correctly optioned out. Manufacturer | Model Toyota/Lexus | Prius, LX200 Volkswagen | Tiguan, Passat/CC,Golf

drivepilot/DP-13508**DP-13508 - The system shall do something**

The system shall do something

drivepilot/DP-4572**DP-4572 - DrivePilot should operate with input power of 12 Volts, not to exceed 15 Amps wi...**

DrivePilot should operate with input power of 12 Volts, not to exceed 15 Amps with a +/- variance tolerance of 10%

. [](https://primary.polarion.com/polarion/module-attachment/drivepilot/Requirements/DrivePilot%20Next%20Generation%202A/MP900390129.JPG?revision=188523)

​​

drivepilot/DP-5493**DP-5493 - DrivePilot should interface with the onboard computer control board of the follo...**

DrivePilot should interface with the onboard computer control board of the following car manufacturers: \* Ford \* Chrysler \* General Motors \* Toyota \* Honda

​​

## User Console

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drivepilot/DP-10631**DP-10631 - The DrivePilot user console will operate in the following platforms:**

The DrivePilot user console will operate in the following platforms:

drivepilot/DP-10632**DP-10632 - Embedded, wired Native Console**

Embedded, wired Native Console

drivepilot/DP-18202**DP-18202 - System on a chip update module**

drivepilot/DP-10633**DP-10633 - Apple iPad Application (Bluetooth)**

Apple iPad Application (Bluetooth)

drivepilot/DP-10634**DP-10634 - Android Application (Bluetooth)**

Android Application (Bluetooth) as specified.

drivepilot/DP-10635**DP-10635 - Windows 10 Application (Bluetooth)**

Windows 10 Application (Bluetooth)

drivepilot/DP-6196**DP-6196 - Drive Pilot Console shall interface with Vehicle's Onboard infotainment system**

Drive Pilot Console shall interface with Vehicle's Onboard infotainment system

drivepilot/DP-6203**DP-6203 - The system shall allow the iPad air to be clipped in as the onboard infotainment...**

The system shall allow the iPad air to be clipped in as the onboard infotainment display

drivepilot/DP-6204**DP-6204 - teenager drivers must dock iPhones to be deactivate during vehicle movement**

teenager drivers must dock iPhones to be deactivate during vehicle movement

​​

drivepilot/DP-4575**DP-4575 - DrivePilot Remote Diagnostics application should allow a computer (Linux, MAC, W...**

DrivePilot Remote Diagnostics application should allow a computer (Linux, MAC, Windows) to attach to the Console Controller for full system configuration, performance and history reports.

drivepilot/DP-6197**DP-6197 - Controller shall allow connectivity over USB**

Controller shall allow connectivity over USB

drivepilot/DP-6198**DP-6198 - Controller shall allow connectivity over Bluetooth 2.0**

Controller shall allow connectivity over Bluetooth 2.0

drivepilot/DP-6199**DP-6199 - Controller shall allow connectivity over WiFi and Application**

Controller shall allow connectivity over WiFi and Application

### Console Chasis

drivepilot/DP-6200**DP-6200 - Infotainment System/Console shall not have any Sharp Edges**

Infotainment System/Console shall not have any Sharp Edges

## Gearing Mechanism

### DrivePilot Gearing Control

drivepilot/DP-4578**DP-4578 - DrivePilot should interface with the onboard computer control board of the follo...**

DrivePilot should interface with the onboard computer control board of the following car manufacturers: \* Ford \* Chrysler \* General Motors

drivepilot/DP-4579**DP-4579 - Gearing mechanism must not apply to manual transmissions. Normal, Engineer Appro...**

Gearing mechanism must not apply to manual transmissions. Normal, Engineer Approved. (image: MP900178034.JPG)

### Gearing Options

drivepilot/DP-4581**DP-4581 - Gearing options should be Drive and Park only. Gearing will not support manual s...**

Gearing options should be Drive and Park only. Gearing will not support manual shifting controls, Reverse, or Neutral. Normal, Engineer Approved.

### Drive Mode Support

drivepilot/DP-4583**DP-4583 - Where supported by the manufacturer, DrivePilot must support the use of sport, w...**

Where supported by the manufacturer, DrivePilot must support the use of sport, winter or traction control, and economy transmission modes.

​​

## Throttle Mechanism

### Throttle Actuator

drivepilot/DP-4586**DP-4586 - DrivePilot controls accelerator/throttle with software-based control commands an...**

DrivePilot controls accelerator/throttle with software-based control commands and a mechanical servo override to the pedal and cable assembly where applicable. Where the vehicle employs accelerator operations from the its onboard command controller, DrivePilot should interface with its APIs to controller manufacturer servo. On manufacturers that do not expose apis, the OEM servo should be replaced with a DrivePilot servo that matches OEM specifications and provides DrivePilot capability.

drivepilot/DP-4588**DP-4588 - System Documentation**

System Documentation

## Database Interface

drivepilot/DP-4590**DP-4590 - DrivePilot shall have and feed a public database with events and catalogs**

DrivePilot shall have and feed a public database with events and catalogs

drivepilot/DP-5340**DP-5340 - The system shall alert the user when power is limited to window closure**

The system shall alert the user when power is limited to window closure

drivepilot/DP-9540**DP-9540 - The system shall have forward and rear facing thermal/infrared cameras**

## Airbags

drivepilot/DP-10079**DP-10079 - Airbags**

The system shall have some airbags

drivepilot/DP-10080**DP-10080 - New Airbag Requirement**

drivepilot/DP-10592**DP-10592 - More detailed, specific part of top requirement**

​​

## New Section

The system shall

drivepilot/DP-13506**DP-13506 - Next Requirement (image: diagram\_20170425-1211.00905.mxg.png)**

Next Requirement (image: diagram\_20170425-1211.00905.mxg.png)

​​

# Technical Specification

drivepilot/DP-10227**DP-10227 - Acceleration**

Vehicle shall accelerate 0-60 mph in 6 seconds.

# Perception

# Autonomy

drivepilot/DP-10225**DP-10225 - Autonomy Computer**

The system shall have an autonomy computing cloud.

drivepilot/DP-10226**DP-10226 - Safety Systems**

Redundant operations shall be available in safe states.

Another Rquirement  
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# Appendix A - Signatures

2**Document Properties**

|  |  |
| --- | --- |
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| Author: | Stephen Crescenti |
| Created: | 2020-09-10 17:56 |

**Approved Versions**

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**Document Signatures**

No signed statuses.

[1DP-10227- Acceleration](https://primary.polarion.com/polarion/#/project/drivepilot/workitem?id=DP-10227)

drivepilot/DP-13505**DP-13505 - Another Requirement**

The system shall

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