Autotune Processing

## Release ? items

Project TFS path: $/Firmware-SVI II AP FF/Firmware/task/control

Bug: 28298 - Project changeset version: 59566

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | m\_pPosErr | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static const pointer variable of type PosErr\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | |  | 9/26/2019 | DLH |
|  | | | | |
| TFS wit |  | Lines 76-80, 182-186, 220, 226-227, 1801: Between changeset 59565 and 59566 - Remove the lines | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | |  | 9/26/2019 | DLH |
|  | | | | |
| TFS wit |  | Lines 2122-2189: Between changeset 59565 and 59566 - Remove the commented-out code under control of the OLD\_NVRAM macro. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | TUNE\_MAX\_TRIES | 9/26/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 109: Between changeset 59565 and 59566 - Renamed from TUNE\_TIME\_LIMIT | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | TUNE\_TRY\_INITVAL | 9/26/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 110: Between changeset 59565 and 59566 - Renamed from TUNE\_TIME\_START | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | MOVE\_DIR\_LINE | 9/26/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 131: Between changeset 59565 and 59566 - Remove the line | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | PADJ\_INC\_RATIO | 9/26/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 177: Between changeset 59565 and 59566 - Line spacing adjusted | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | TuneCase\_t structure | 9/26/2019 | DLH |
|  | | | | |
| TFS wit |  | Lines 199-233: Between changeset 59565 and 59566:  Enum definition  /\*\* This enum serves several purposes  1. Distinguish between vent and fill  2. Display current case on the LCD  3. (Few states) at a previous run affect current decisions  \*/  typedef enum TuneCase\_t  {  MOVE\_DIR\_LINE = 20,  vent\_slow\_largeY = 21,  vent\_fast\_largeY = 29,  vent\_notfast\_smallY = 24,  vent\_large\_negY = 26,  vent\_notslow\_smallY = 23,  vent\_large\_overshootAgain = 28,  vent\_large\_overshoot = 22,  vent\_increased\_negOvershoot = 27,  tunecase\_init = 0,  fill\_slow\_largeY = 1,  fill\_fast\_largeY = 16,  fill\_fast = 4,  fill\_fast\_again = 3,  fill\_large\_negY = 9,  fill\_largeD = 2,  fill\_large\_neg\_overshoot = 13,  fill\_large\_neg\_overshootAgain = 14,  fill\_large\_overshoot\_largeD = 5,  fill\_same\_overshoot = 6,  fill\_overshoot\_slow = 7,  fill\_overshoot\_notslow = 8,  fill\_neg\_overshoot = 10,  fill\_slow = 11,  fill\_slowAgain = 12,  fill\_success = 88  } TuneCase\_t; | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | case\_c | 9/26/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 234: Between changeset 59565 and 59566 - Add the case\_c variable | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | A static variable of type TuneCase\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | case\_p | 9/26/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 234: Between changeset 59565 and 59566 - Add the case\_c variable | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | A static variable of type TuneCase\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | SupplyPressure\_range | 9/26/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 231-232: Between changeset 59565 and 59566 - Replace constants with STD\_FROM\_PSI macro processing for low and high pressure | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | A constant variable array of type pres\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | m\_pDiagBuffer | 8/16/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static const variable pointer of type diag\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | bSingleActing | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type bool\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | m\_TuneData | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type TuneData\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | m\_PositionConf | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type PositionConf\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_Type | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type u8 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_nSpeed | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type u16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_SampleRate | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type u16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_bParametersAreValid | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type bool\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_nStartPosition | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type pos\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | m\_nEndPosition | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type pos\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  Project\_FFAP/okctlmodes.c | Review Date | Reviewer |
| Function or data | | m\_CtlLimits | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static array variable of type CtlLimits\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | modeguard | 7/30/2019 | DLH |
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| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type modeguard\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | m\_PosState | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type PosState\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  timer.c | Review Date | Reviewer |
| Function or data | | tickCounter | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static volatile variable of type u64 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | Reason | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type s16 | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | m\_OptionConfig | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type OptionConfig\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | m\_Mode\_ | 8/21/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type ModeData\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  Project\_FFAP/okctlmodes.c | Review Date | Reviewer |
| Function or data | | ctlmodelist | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static array variable of type ctlmodelist\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | wrk\_ctlset | 8/21/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type PIDData\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | cstate | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type ControlState\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | def\_PIDData | 8/21/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static const variable of type PIDData\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  lcd.c | Review Date | Reviewer |
| Function or data | | LcdInfo | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type lcd\_information\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | ictest | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type InControlTest\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **mode\_GetMode** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static ModeData\_t m\_Mode\_; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | tune\_LimitPID | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Lines 2111-2122: Between changeset 59565 and 59566 - Replace code in function with different macro function.  Line 2415: Add function header  Line 2417: Remove initialized parts of comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **CLAMP (Macro)**  **MIN (Macro)** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_GetPosition** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input and return values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static s32 Atomic\_ m\_n4PositionScaled; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | **pos\_MapPositionToStd** | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 232: Update parameter variables in function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE s32 **intscale32**(s32 a, s32 x, s32 b, u8 shift)  **CLAMP (Macro)** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | **pos\_GetComputedPositionConf** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | | static ComputedPositionConf\_t m\_ComputedPositionConf; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  pneumatics.c | Review Date | Reviewer |
| Function or data | | **TypeUnsafe\_pneu\_GetParams** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters and return values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | | static PneumaticParams\_t PneumaticParams; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | **pos\_ConvertHardposToStd\_Internal** | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static pos\_t **pos\_MapPositionToStd**  (HardPos\_t hardpos,  const ComputedPositionConf\_t \*pComputedPositionConf,  ErrorCode\_t \*err)  const ComputedPositionConf\_t \***pos\_GetComputedPositionConf**  (ComputedPositionConf\_t \*dst) | | |
| Data Required | | static PositionConf\_t m\_PositionConf; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | **pos\_ConvertHardposDiffToStd** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Test (Macro)**  MN\_INLINE pos\_t **pos\_ConvertHardposToStd\_Internal**  (HardPos\_t hardpos, ErrorCode\_t \*err) | | |
| Data Required | | static PositionConf\_t m\_PositionConf; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **SizeLeft** | 8/6/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **DIAG\_BUFFER\_INDEX\_MASK (Macro)** | | |
| Data Required | | static MN\_NO\_INIT struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } db | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **DecrementCounter** | 8/6/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **DIAG\_BUFFER\_INDEX\_MASK (Macro)** | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **buff\_stuff** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 257: Remove commented out code | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STORE\_ENTER\_CRITICAL (Macro)**  static bufindex\_fast\_t **SizeLeft**  (u8\_least bufnum, bufindex\_fast\_t end)  static bufindex\_fast\_t **DecrementCounter**  (u8\_least bufnum, bufindex\_fast\_t n)  **STORE\_EXIT\_CRITICAL (Macro)** | | |
| Data Required | | static MN\_NO\_INIT struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } db  static const struct  {  diag\_t \*buf;  size\_t lognelem;  } m\_DiagnosticBuffer[NUM\_DIAG\_BUFFERS] | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_GetWorkinPIDData** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | | static PIDData\_t wrk\_ctlset; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | **vpos\_GetScaledPosition** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static PosState\_t m\_PosState; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **Change20Pct** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header.  Move 2400-2404 to the new function header.  Line 2399: Remove initialized comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **buffer\_AddXDiagnosticData1** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static bool\_t **buff\_stuff**  (u8\_least bufnum, u8\_least items, diag\_t item1,  diag\_t item2) | | |
| Data Required | |  | | |

|  |  |  |  |  |
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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_GetBias** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **CLAMP (Macro)** | | |
| Data Required | | static ControlState\_t cstate; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_GetBiasChangeFlag** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static ControlState\_t cstate; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/  timer.c | Review Date | Reviewer |
| Function or data | | **timer\_GetTicksSince** | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static volatile u64 tickCounter | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  faultman.c | Review Date | Reviewer |
| Function or data | | **error\_IsFault** | 7/9/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3  Information from PST\_Processing.docx | | |
| Resolution | |  | | |
| Function Calls | | static attribmask\_t **fsAttrib** (faultcode\_fast\_t fbitnum)  static bool\_t **GetFaultCodeBit** (faultcode\_fast\_t fbitnum) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  faultcat.c | Review Date | Reviewer |
| Function or data | | **TypeUnsafe\_error\_GetFaultCategoryMap** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **oswrap\_IsOSRunning (Macro)**  **STRUCT\_GET (Macro)** | | |
| Data Required | | const FaultCategoryMap\_t faultCatDefaults | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  faultman.c | Review Date | Reviewer |
| Function or data | | **error\_IsAnyFaultWithAttributes** | 7/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3  Information from PST\_Processing.docx | | |
| Resolution | |  | | |
| Function Calls | | **error\_GetFaultCategoryMap (Macro)**  const void \***TypeUnsafe\_error\_GetFaultCategoryMap**  (void \*dst) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **mode\_GetSubmode** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | bool\_t **error\_IsAnyFaultWithAttributes**  (attribmask\_t attrib\_mask)  bool\_t **error\_IsFault**(faultcode\_fast\_t ErrorCode) | | |
| Data Required | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  process.c | Review Date | Reviewer |
| Function or data | | **process\_WaitForTimeExt** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Use information from PST\_Process.docx from this point | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | tick\_t **timer\_GetTicksSince**(tick\_t basetime)  static void **process\_MopupSrv**(void)  static tick\_t **ComputeDelay**  (tick\_t nDelay, tick\_t lastContribution)  void **syswd\_TickleWatchdog**(taskid\_t taskid)  void **timer\_WaitTicks**(tick\_t ticks)  tick\_t **timer\_GetTicks**(void)  static u8\_least **process\_CheckCancelProcess**(void) | | |
| Data Required | | static tick\_t Atomic\_ actver\_timestamp;  static tick\_t actver\_runlength  static ProcData\_t procdata | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  process.c | Review Date | Reviewer |
| Function or data | | **process\_WaitForTime** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | u8\_least **process\_WaitForTimeExt**  (tick\_t nDelay, u8\_least brk\_mask) | | |
| Data Required | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **mode\_GetIntendedControlMode** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ENTER\_CRITICAL (Macro)**  **MN\_EXIT\_CRITICAL (Macro)** | | |
| Data Required | | static modeguard\_t modeguard; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  bufferhandler.h | Review Date | Reviewer |
| Function or data | | **buffer\_AddDiagnosticData1** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value  Line 253-255, 279-293, 352, 355, 377-396: Remove commented out code.  Line 322: Remove initialized comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | bool\_t **buffer\_AddXDiagnosticData1**  (u8\_least bufnum, diag\_t data) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **buffer\_InitializeXDiagnosticBuffer** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ENTER\_CRITICAL (Macro)**  **MN\_EXIT\_CRITICAL (Macro)**  **Struct\_Copy (Macro)** | | |
| Data Required | | static MN\_NO\_INIT struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } db | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  bufferhandler.h | Review Date | Reviewer |
| Function or data | | **buffer\_InitializeDiagnosticBuffer** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value  Line 253-255, 279-293, 352, 355, 377-396: Remove commented out code.  Line 322: Remove initialized comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | void **buffer\_InitializeXDiagnosticBuffer**(u8\_least bufnum) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **buffer\_GetXDiagnosticBuffer** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | NUM\_DIAG\_BUFFERS (Macro)  static const struct  {  diag\_t \*buf; (diag\_t == s16)  size\_t lognelem;  } m\_DiagnosticBuffer[NUM\_DIAG\_BUFFERS] | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  bufferhandler.h | Review Date | Reviewer |
| Function or data | | **buffer\_GetDiagnosticBuffer** | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **buffer\_GetXDiagnosticBuffer** | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  valveutils.c | Review Date | Reviewer |
| Function or data | | **util\_WaitForPosExt** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ASSERT (Macro)**  ctlmode\_t **mode\_GetIntendedControlMode**(s32 \*sp)  pos\_t **vpos\_GetScaledPosition**(void)  **tune\_GetCurrentPIDData (Macro)**  const PIDData\_t \***tune\_GetWorkinPIDData**(PIDData\_t \*dst)  pos\_t **pos\_ConvertHardposDiffToStd**(HardPos\_t hardpos)  **ABS (Macro)**  u8\_least **process\_WaitForTimeExt**  (tick\_t nDelay, u8\_least brk\_mask)  **mn\_abs (Macro)**  **MAX (Macro)** | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  valveutils.c | Review Date | Reviewer |
| Function or data | | **util\_WaitForPos** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | u8\_least **util\_WaitForPosExt**  (u16 nTime, HardPos\_t nNoiseDB, bool\_t cFlag,  u8\_least brk\_mask) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **mode\_IsCompatible** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | const ctlmodelist\_t ctlmodelist[]; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_SetRamPIDData** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header parameters and return values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Copy (Macro)** | | |
| Data Required | | static const PIDData\_t def\_PIDData | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  project\_FFAP/okctlmode.c | Review Date | Reviewer |
| Function or data | | **digsp\_GetData** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for \brief description and parameters and return values | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  project\_FFAP/okctlmode.c | Review Date | Reviewer |
| Function or data | | **mode\_GetEffectiveMode** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters  Lines 565-567: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | const digitalsp\_t \***digsp\_GetData**(digitalsp\_t \*dst) | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/framework/bios/  lcd.c | Review Date | Reviewer |
| Function or data | | **bios\_LcdWriteNumber** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Use processing of the PST\_Processing.docx | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MIN (Macro)**  void **ut\_bin2asc**(s32 num, p8 \*asc, s32 dec)  **MN\_ENTER\_CRITICAL (Macro)**  **mn\_memcpy (Macro)**  **MN\_EXIT\_CRITICAL (Macro)** | | |
| Data Required | | static lcd\_information\_t LcdInfo; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/interface/ui/  uishow.c | Review Date | Reviewer |
| Function or data | | **ui\_DebugWriteNumber** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for using \brief statement | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | void **bios\_LcdWriteNumber**(s32 lcd\_number, u8 frac\_digits) | | |
| Data Required | | static ControlState\_t cstate; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_SetCurrentPIDData** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static ErrorCode\_t **tune\_SetRamPIDData**  (const PIDData\_t \*pPIDData,  PIDData\_t \*dst) | | |
| Data Required | | static PIDData\_t wrk\_ctlset; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | **mode\_SetControlMode** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ENTER\_CRITICAL (Macro)**  static bool\_t **mode\_IsCompatible**  (devmode\_t mode, devsubmode\_t submode,  ctlmode\_t ctlmode)  devmode\_t **mode\_GetEffectiveMode**(devmode\_t mode)  devmode\_t **mode\_GetMode**(void)  devsubmode\_t **mode\_GetSubmode**(void)  **STRUCT\_CLOSE (Macro)**  **MN\_EXIT\_CRITICAL (Macro)** | | |
| Data Required | | static modeguard\_t modeguard; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  pneumatics.h | Review Date | Reviewer |
| Function or data | | **pneu\_IsSingleActing** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **pneu\_GetParams (Macro)**  const void \***TypeUnsafe\_pneu\_GetParams**(void \*dst) | | |
| Data Required | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetPointerOptionConfigDashVersion** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MN\_ASSERT (Macro)** | | |
| Data Required | |  | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/utilities/  configure.c | Review Date | Reviewer |
| Function or data | | **cnfg\_GetOptionConfigDashVersion** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Test (Macro)**  u8\_least **cnfg\_GetPointerOptionConfigDashVersion**  (const OptionConfig\_t\* pOptionConfig) | | |
| Data Required | | static OptionConfig\_t m\_OptionConfig; | | |

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| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **CheckStable** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values.  Lines 2337, 2341, 2345, 2348, 2353, 2358, 2363, 2370: Adjust/remove initialized comments. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static s16 **Change20Pct** (s16 nValue, bool\_t bIncrease)  static void **tune\_LimitPID**(PIDData\_t \*pid)  ErrorCode\_t **tune\_SetCurrentPIDData** (const PIDData\_t \*src)  **MN\_DBG\_ASSERT (Macro)**  **u8 control\_GetBiasChangeFlag(void)**  bool\_t **process\_WaitForTime** (tick\_t nDelay)  bool\_t **util\_WaitForPos**  (u16 nTime, HardPos\_t nNoiseDB, bool\_t cFlag) | | |
| Data Required | | static modeguard\_t modeguard; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_Stabilize** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint))  static bool\_t **CheckStable**(u8\_least index, PIDData\_t \*pid)  **ABS (Macro)** | | |
| Data Required | |  | | |

|  |  |  |  |  |
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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **StepTest** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 1488-1490, 1537, 1541, 1544-1545, 1570-1575, 1576, 1579, 1616-1618: Remove commented out code.  Line 1498, 1512, 1514, 1524, 1535, 1597, 1637: Remove initialized comment sections. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | s16 **control\_GetPosition**(void)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  static bool\_t **CheckStable** (u8\_least index, PIDData\_t \*pid)  **ABS (Macro)**  static s16 **Change20Pct** (s16 nValue, bool\_t bIncrease)  static void **tune\_LimitPID**(PIDData\_t \*pid) | | |
| Data Required | | static const PosErr\_t\* m\_pPosErr; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_EstimatePara** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 1488-1490, 1537, 1541, 1544-1545, 1570-1575, 1576, 1579, 1616-1618: Remove commented out code.  Line 1498, 1512, 1514, 1524, 1535, 1597, 1637: Remove initialized comment sections.  Lines 901-912: Between changeset 59565 and 59566 - Recode limiting processing for pressure | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | s16 **control\_GetPosition**(void)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  static bool\_t **CheckStable** (u8\_least index, PIDData\_t \*pid)  **ABS (Macro)**  static s16 **Change20Pct** (s16 nValue, bool\_t bIncrease)  static void **tune\_LimitPID**(PIDData\_t \*pid) | | |
| Data Required | | static const PosErr\_t\* m\_pPosErr; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  control.c | Review Date | Reviewer |
| Function or data | | **control\_ResetBiasChangeFlag** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return value  Lines 565-567: Remove commented out code. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **storeMemberInt (Macro)**  **storeModeBool (Macro)** | | |
| Data Required | | static ControlState\_t cstate;  static InControlTest\_t ictest; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **CheckPosStablize** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values.  Lines 1970-1973: Between changeset 59565 and 59566 - Remove commented out code and adjust code for CheckStable | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | s16 **control\_GetPosition**(void)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  static bool\_t **CheckStable** (u8\_least index, PIDData\_t \*pid)  **ABS (Macro)**  static s16 **Change20Pct** (s16 nValue, bool\_t bIncrease)  static void **tune\_LimitPID**(PIDData\_t \*pid) | | |
| Data Required | | static const PosErr\_t\* m\_pPosErr; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_Tune\_Function** | 7/29/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters  Line 653, 682, 684, 712, 715, 733, 763, 803-804, 831, 835-854, 862: Remove Initialized part of comment.  Line 665-673, 676-678, 723-725, 783-789, 866-888, 881-889: controlled by OPTIONAL\_TUNE\_DIAG, AK\_test - Remove commented out code.  Line 693, 901: Remove commented out code.  Lines 641-648: Between changeset 59565 and 59566 - Recode the processing of this If statement. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | const s16\* **buffer\_GetDiagnosticBuffer**(void)  static void **tune\_LimitPID**(PIDData\_t \*pid)  **u8 control\_GetBiasChangeFlag(void)**  void **control\_ResetBiasChangeFlag**(void)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  static s8 **tune\_Stabilize** (u8\_least index, PIDData\_t \*pid)  u16 **control\_GetBias**(void)  **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint))  ErrorCode\_t **tune\_SetCurrentPIDData** (const PIDData\_t \*src)  bool\_t **pneu\_IsSingleActing**(void)  u8\_least **cnfg\_GetOptionConfigDashVersion**(void)  s16 **control\_GetPosition**(void)  s8 **CheckPosStablize** (u8\_least index, PIDData\_t \*pid)  static s16 **StepTest** (s8 iDir, s16 nOutInc, u16 nBiasSave,  s16 nSpeed[Xends], s16 nGain[Xends],  s16 nTau[Xends], s16 poscomp[Xends])  static void **tune\_EstimatePara**(PIDData\_t \*pid,  const s16 nGain[Xends],  s16 nTau[Xends]) | | |
| Data Required | | static s16 Reason;  static const PosErr\_t\* m\_pPosErr; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **Change10Pct** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  numutils.h | Review Date | Reviewer |
| Function or data | | **equiv** | 8/9/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | **diag\_Perform\_StepTest** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter values  Line 253-255, 279-293, 352, 355, 377-396: Remove commented out code.  Line 322: Remove initialized comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE void **buffer\_InitializeDiagnosticBuffer**(void)  MN\_INLINE bool\_t **buffer\_AddDiagnosticData1**(diag\_t n2Data)  void **mode\_SetControlMode** (ctlmode\_t ctlmode, s32 setpoint)  bool\_t **process\_WaitForTime**(tick\_t nDelay)  bool\_t **util\_WaitForPos**  (u16 nTime, HardPos\_t nNoiseDB, bool\_t cFlag)  tick\_t **timer\_GetTicksSince**(tick\_t basetime)  pos\_t **vpos\_GetScaledPosition**(void) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **Para\_Adjust** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value  Line 2115, 2187, 2217: Remove commented out code.  Line 2122-2123, 2196, 2231: Remove/adjust initialized comments  Para\_Adjust function: Between changeset 59565 and 59566 - Replace processing for case\_c variable to use enum value. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MAX (Macro)**  static s16 **Change20Pct** (s16 nValue, bool\_t bIncrease)  static s16 **Change10Pct** (s16 nValue, bool\_t bIncrease) | | |
| Data Required | | static TuneData\_t m\_TuneData;  static bool\_t bSingleActing; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  numutils.h.c | Review Date | Reviewer |
| Function or data | | **div64\_by\_pwr2** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/includes/  numutils.h | Review Date | Reviewer |
| Function or data | | **intscale32** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE s32 **div64\_by\_pwr2**(s64 arg, u8\_least shift) | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  ctllimits.c | Review Date | Reviewer |
| Function or data | | **control\_TestProtectLimits\_Internal** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  ctllimits.c | Review Date | Reviewer |
| Function or data | | **control\_TestProtectLimits** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comments | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static ProtectTest\_t **control\_TestProtectLimits\_Internal**  (const CtlLimits\_t \*lim) | | |
| Data Required | | static CtlLimits\_t m\_CtlLimits; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | **pos\_AdjustStdPositionExt** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | MN\_INLINE s32 **intscale32**(s32 a, s32 x, s32 b, u8 shift)  **CLAMP (Macro)** | | |
| Data Required | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | **diag\_SetPositionRange** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 205-207, 233: Remove commented out cards | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | ProtectTest\_t **control\_TestProtectLimits**(void)  const ComputedPositionConf\_t \***pos\_GetComputedPositionConf**  (ComputedPositionConf\_t \*dst)  pos\_t **pos\_AdjustStdPositionExt**  (adjpos\_least\_t pos,  const ComputedPositionConf\_t \*posconf) | | |
| Data Required | | static PositionConf\_t m\_PositionConf;  static pos\_t m\_nStartPosition;  static pos\_t m\_nEndPosition; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | **diag\_SetDiagnosticParameters** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 205-207, 233: Remove commented out code | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static ErrorCode\_t **diag\_SetPositionRange**  (pos\_t StartPosition, pos\_t EndPosition) | | |
| Data Required | | static u8 m\_Type;  static u16 m\_nSpeed;  static u16 m\_SampleRate;  static bool\_t m\_bParametersAreValid; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | **TypeUnsafe\_pos\_GetPositionConf** | 8/9/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **STRUCT\_TESTGET (Macro)** | | |
| Data Required | | static PositionConf\_t m\_PositionConf; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **Data\_Processing** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameter value  Line 2115, 2187, 2217: Remove commented out code.  Line 1790-1793, 1812: Remove/adjust initialized comments  Line 1951-1954: Between changeset 59565 and 59566 - Replace code for displaying strings. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **MAX (Macro)**  **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint)) | | |
| Data Required | | static const diag\_t\* m\_pDiagBuffer; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_CloseLoop** | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input parameters and return values  Line 1661-1661: Split variables onto multiple lines.  Line 1676-1690: Remove commented out code.  Lines 2122-2123, 2196-2197, 2231-2233: Remove initialized sections of commented lines.Line 1388: Between changeset 59565 and 59566 - Replaced assignment for case\_c variable to use enum value.  Line 1416: Between changeset 59565 and 59566 - Change processing for case\_c variable to use enum value.  Lines 1418, 1422: Between changeset 59565 and 59566 - Adjust processing for the dval variable to use the case\_c value as needed  Lines 1443: Between changeset 59565 and 59566 - Adjust code spacing  Lines 1454, 1457, 1459: Between changeset 59565 and 59566 - Replace TUNE\_TIME\_LIMIT with TUNE\_MAX\_TRIES and TUNE\_TIME\_START with TUNE\_TRY\_INITVAL | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | static void **tune\_LimitPID**(PIDData\_t \*pid)  ErrorCode\_t **tune\_SetCurrentPIDData**(const PIDData\_t \*src)  **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint))  MN\_INLINE bool\_t **equiv**(bool\_t a, bool\_t b)  **pos\_GetPositionConf (Macro)**  const void \***TypeUnsafe\_pos\_GetPositionConf**(void \*dst)  **INT\_PERCENT\_OF\_RANGE (Macro)**  ErrorCode\_t **diag\_SetDiagnosticParameters**  (u8\_least Type, u16\_least nSpeed,  pos\_t StartPosition, pos\_t EndPosition,  u16\_least SampleRate)  bool\_t **diag\_Perform\_StepTest**(void)  static void **Data\_Processing**  (const PIDData\_t \*pid, StepData\_t \*tune\_xchange)  bool\_t **process\_WaitForTime**(tick\_t nDelay)  static TuneCase\_t **Para\_Adjust**  (PIDData\_t \*pid, StepData\_t \*tune\_xchange,  TuneCase\_t case\_c) | | |
| Data Required | |  | | |