Autotune Processing

## Release ? items

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

Bug: 28298 - Project changeset version: 59590

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | |  | 8/9/2019 | DLH |
|  | | | | |
| TFS wit |  | Add entries to the TuneCase\_t enum | | |
| 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 | | Reason | 8/9/2019 | 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/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_LimitPID** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | 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/  atune.c | Review Date | Reviewer |
| Function or data | | def\_PIDData | 7/30/2019 | 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/  atune.c | Review Date | Reviewer |
| Function or data | | wrk\_ctlset | 7/30/2019 | 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/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_SetRamPIDData** | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for parameters and return values | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Copy (Macro)** | | |
| Data Required | | static PIDData\_t def\_PIDData; | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.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; | | |

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| 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; | | |

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| 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 |  | Use processing of the PST\_Processing.docx | | |
| 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 | | **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/sysio/  position.c | Review Date | Reviewer |
| Function or data | | m\_PositionConf | 7/31/2019 | 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/control/  atune.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/  ctllimit.c | Review Date | Reviewer |
| Function or data | | m\_CtlLimits | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type CtlLimits\_t | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  ctllimit.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/  ctllimit.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 | | m\_ComputedPositionConf | 7/31/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type ComputedPositionConf\_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/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/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/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 |  | No comments | | |
| 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 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 | | 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\_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\_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\_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 | | 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/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | db | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static variable of type struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | m\_DiagnosticBuffer | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static const variable of type struct  {  diag\_t \*buf;  size\_t lognelem;  } m\_DiagnosticBuffer[NUM\_DIAG\_BUFFERS] | | |

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| 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 | | |

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| 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 | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **SizeLeft** | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | Add function header | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | static MN\_NO\_INIT struct db\_t  {  diagbuf\_t buf[NUM\_DIAG\_BUFFERS];  } db | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  bufferhandler.c | Review Date | Reviewer |
| Function or data | | **DecrementCounter** | 8/12/2019 | 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/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] | | |

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| 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/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 | |  | | |

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| Containing file | | Firmware-SVI II AP FF/Firmware/services/  devicemode.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 | | const array variable of type ctlmodelist\_t | | |

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| 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[]; | | |

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| 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 | |  | | |

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| 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 | |  | | |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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/services/  Project\_FFAP/ftable.c | Review Date | Reviewer |
| Function or data | | faultCatDefaults | 7/30/2019 | DLH |
|  | | | | |
| TFS wit |  | No Comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable of type FaultCategoryMap\_t | | |

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| --- | --- | --- | --- | --- |
| 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 | | |

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| --- | --- | --- | --- | --- |
| 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/  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 | |  | | |

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| --- | --- | --- | --- | --- |
| 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/services/  devicemode.c | Review Date | Reviewer |
| Function or data | | modeguard | 7/30/2019 | DLH |
|  | | | | |
| 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/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/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 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | | |

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

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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; | | |

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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 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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; | | |

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| --- | --- | --- | --- | --- |
| 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; | | |

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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\_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; | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/sysio/  position.c | Review Date | Reviewer |
| Function or data | | **pos\_ConvertHardposDiffToStd** | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | **Struct\_Test (Macro)**  **bool2int (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/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 | |  | | |

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| --- | --- | --- | --- | --- |
| 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/tasks/  diagnostics.c | Review Date | Reviewer |
| Function or data | | **diag\_Perform\_StepTest** | 8/1/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for return values  Line 253-255, 279-293, 352, 356-358, 377-386: Remove commented out code.  Line 322: Remove initialized comments  Lines 247-249: Split variables into individual lines. | | |
| 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\_GetTicks**(void)  tick\_t **timer\_GetTicksSince**(tick\_t basetime)  pos\_t **vpos\_GetScaledPosition**(void) | | |
| Data Required | |  | | |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | nTuneArray | 8/8/2019 | DLH |
|  | | | | |
| TFS wit |  | No comment. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | | Static variable array of type s16 | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **Data\_Processing** | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input parameters and return values  Line 1851-1853: Split variables onto multiple lines.  Line 1854, 1917, 1926, 1953, 1956: Remove commented out code.  Lines 1861-1862,1935-1936, 1970-1972, 1981: Remove initialized sections of commented lines. | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | | ABS (Macro)  MAX (Macro)  **WRITE\_NUMBER (num, decpoint) (Macro)**  **ui\_DebugWriteNumber**((num), (decpoint)) | | |
| Data Required | | static const diag\_t\* m\_pDiagBuffer  static s16 nTuneArray[70] | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Containing file | | Firmware-SVI II AP FF/Firmware/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | **tune\_CloseLoop** | 8/12/2019 | DLH |
|  | | | | |
| TFS wit |  | Update function header for input parameters and return values  Line 1661-1661: Split variables onto multiple lines.  Line 1676-1690, 1767-1775, 1778-1786: Remove commented out code.  Lines 2122-2123, 2196-2197, 2231-2233: Remove initialized sections of commented lines. | | |
| 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 | |  | | |

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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  Move 2383-2386 to the new function header.  Line 2381: Remove initialized comment | | |
| Impact | |  | | |
| Additional | | Carried over from R3 | | |
| Resolution | |  | | |
| Function Calls | |  | | |
| Data Required | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | m\_TuneData | 8/9/2019 | 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/tasks/control/  atune.c | Review Date | Reviewer |
| Function or data | | bSingleActing | 8/9/2019 | 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 | | **Para\_Adjust** | 8/9/2019 | DLH |
|  | | | | |
| TFS wit |  | Line 1543: Switch function output from s32 to TuneCase\_t  Line 1546: Separate variables onto; individual lines | | |
| 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 s16 Reason  static TuneData\_t m\_TuneData;  static bool\_t bSingleActing; | | |