

**PM5313**

**SPECTRA-622**

**DEVICE DRIVER ERRATA**

**Released**

**Production**

**Issue 2: November, 2001**

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U.S. Patent No. x,xxx,xxx y,yyy,yyy

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## Revision History

| Issue No. | Issue Date    | Details of Change   |
|-----------|---------------|---|
| 1         | July 2000     | Document created.   |
| 2         | November 2001 | Removed all previous errata addressed in Issue 1of Driver:<br>ISR; Interrupt Enable Bit Not Clearing<br>ISR; Auxiliary Interrupt Status Bits Not Clearing<br>Memory leak due to callback defined as a NULL<br>DLL OVERRIDE bit in 19.44 telecombus mode<br>Concatenated payloads with normal mode initialization profile<br><br>All errata from Issue 1 have been addressed in release 1.0 of the driver.<br>Add driver errata 2.1. |

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# 1 Introduction

The information in this document applies to Release 1.0 of the PM5313 SPECTRA-622 Device Driver and contains a complete list of all errata items associated with the PM5313 SPECTRA-622 Device Driver. Release 1.0 of the SPECTRA-622 device driver and Issue 2 of this errata document supersede all prior versions of the device driver and the errata document respectively.

## 1.1 Driver identification

The revision numbers of the driver files are indicated in the comment section of each file under Modification History. The driver release includes the following files:

**Table 1 PM5313 SPECTRA-622 Device Driver Files.**

| Directory | Filename                | File Version |
|-----------|-------------------------|--------------|
| example\  | spe_app.c               | 1.8          |
| example\  | spe_app.h               | 1.4          |
| example\  | spe_debug.c             | 1.4          |
| example\  | spe_debug.h             | 1.3          |
| incl\     | spe_api.h               | 1.7          |
| incl\     | spe_defs.h              | 1.9          |
| incl\     | spe_err.h               | 1.6          |
| incl\     | spe_fns.h               | 1.6          |
| incl\     | spe_hw.h                | 1.9          |
| incl\     | spe_rtos.h              | 1.7          |
| incl\     | spe_strs.h              | 1.6          |
| incl\     | spe_typs.h              | 1.7          |
| src\      | spe_api1.c              | 1.11         |
| src\      | spe_api2.c              | 1.7          |
| src\      | spe_hw.c                | 1.7          |
| src\      | spe_isr.c               | 1.7          |
| src\      | spe_prof.c              | 1.6          |
| src\      | spe_rtos.c              | 1.9          |
| src\      | spe_stat.c              | 1.7          |
| src\      | spe_util.c              | 1.8          |
| -         | Makefile                | 1.9          |
| -         | software.lic            | n/a          |
| -         | spectra_relnotes_r2.pdf | n/a          |

## 2 Functional Deficiencies

This section outlines the known functional deficiencies of the PM5313 SPECTRA-622 Device Driver as of the publication date of this document. For each deficiency, the known workaround and the operating constraints, with and without the workaround, are also described. Table 2 provides a summary of the functional deficiencies.

Please report any functional deficiencies not covered in this errata document to PMC-Sierra, Inc.

**Table 2 Summary of Functional Deficiencies**

| Section | Discrepancy  | Workaround      |
|---------|--|-----------------|
| 2.1     | Driver Fails to report add bus parity error interrupts | Yes – edit code |

### 2.1 Driver fails to report add bus parity error interrupts

#### 2.1.1 Description

When configured in ISR mode, the driver can not service the add bus parity error interrupt (API1, API2, API3 and API4 in Section/Line Block Interrupt Status register 000BH). When configured in polling mode the driver services the interrupts correctly.

#### 2.1.2 Workaround

The current implementation of the driver assumes that the add bus parity error interrupt (API1, API2, API3 and API4 in Section/Line Block Interrupt Status register 000BH) are covered by one of the master interrupt status bits within register 000BH (SPECTRA-622 Section/Line Block Interrupt Status register): CSPII or CRSII. This is incorrect and therefore code modifications must be made to the `isrSpectraGetStatusIO()`, `isrSpectraGetStatus()`, and `isrSpectraPollStatus()` functions located in `spe_isr.c`.

`isrSpectraGetStatusIO()` should be updated by removing the following code:

```
/* SPECTRA-622 ADD Bus Parity Interrupt Status */
addr = base + SPE_REG_ADD_BUS_PARITY_INT_STAT;
val = sysSpectraRead(addr);
pmask->ioApe[0] = val & SPE_BTMSK_IO_API1;
pmask->ioApe[1] = val & SPE_BTMSK_IO_API2;
pmask->ioApe[2] = val & SPE_BTMSK_IO_API3;
pmask->ioApe[3] = val & SPE_BTMSK_IO_API4;
```

`isrSpectraPollStatus()` should be updated by replacing the following code:

```
/* clear the isv mask */
sysSpectraMemSet(pmask, 0, sizeof(sSPE_MASK));
```

```
isrSpectraGetStatusIO (pddb, pmask);

with:

UINT1 * base,
      * addr;
UINT1 val;

/* clear the isv mask */
sysSpectraMemSet(pmask, 0, sizeof(sSPE_MASK));

/* SPECTRA-622 ADD Bus Parity Interrupt Status */
addr = base + SPE_REG_ADD_BUS_PARITY_INT_STAT;
val = sysSpectraRead(addr);
pmask->ioApe[0] = val & SPE_BTMSK_IO_API1;
pmask->ioApe[1] = val & SPE_BTMSK_IO_API2;
pmask->ioApe[2] = val & SPE_BTMSK_IO_API3;
pmask->ioApe[3] = val & SPE_BTMSK_IO_API4;

isrSpectraGetStatusIO (pddb, pmask);
```

isrSpectraGetStatus(), should be updated by replacing the following code:

```
baddr = pddb->baseAddr;

/* read the SPECTRA-622 Section/Line Block Interrupt Status register */

with:

baddr = pddb->baseAddr;

/* SPECTRA-622 ADD Bus Parity Interrupt Status */
addr = baddr + SPE_REG_ADD_BUS_PARITY_INT_STAT;
val = sysSpectraRead(addr);
pmask->ioApe[0] = val & SPE_BTMSK_IO_API1;
pmask->ioApe[1] = val & SPE_BTMSK_IO_API2;
pmask->ioApe[2] = val & SPE_BTMSK_IO_API3;
pmask->ioApe[3] = val & SPE_BTMSK_IO_API4;

/* read the SPECTRA-622 Section/Line Block Interrupt Status register */
```

### 2.1.3 Performance With Workaround

When configured in ISR mode or polling mode, the driver services an add bus parity error interrupt (API1, API2, API3 and API4 in Section/Line Block Interrupt Status register 000BH) correctly.

#### **2.1.4 Performance Without Workaround**

When configured in ISR mode, an add bus parity error interrupt (API1, API2, API3 and API4 in Section/Line Block Interrupt Status register 000BH) the driver will not service the interrupts and will lock the system in the ISR.

### **3 Documentation Deficiencies**

We are not aware of any documentation deficiencies at this time. Please report any documentation deficiencies not covered in this errata to PMC-Sierra.