



SteelVine Sil57XX Series I²C Programmer's Guide



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1 Introduction

Overview

This document describes the commands and responses that are available for managing the 57XX-Series of the SteelVine Storage Processors using version 2.1 of the I²C bus specification protocol for out-of-band communication from an external controller that behaves as a master device on the I²C bus, such as a PIC processor. Each SteelVine Storage Processor on the I²C bus behaves as a slave device, so all commands must be initiated by the master device. Each SteelVine Storage Processor on the I²C bus must also have its own unique I²C slave address. The SteelVine Storage Processor will reply with a response, so the external controller must issue a READ operation after sending any command. A variety of GET and SET commands are available for reading and writing various attributes of the SteelVine Storage Processor. Chapter 2 describes all of the GET commands and responses, and Chapter 3 describes all of the SET commands and responses. In all cases, all commands and responses use the syntax described below.

Request Command Syntax

The syntax for all request commands is shown below:

Byte 0			Byte 1				Byte 2		Byte 3		Byte 4	
7	1	0	7	6	5	0	7	0	7	0	7	0
Slave Address			R/W	M	0	Opcode	Data-0		Data-1		Data-2	

Byte 0: Bits 7:1 Slave Address
Bit 0 R/W bit: Read = 1 and Write = 0

Byte 1: Bit 7 Command Mode: 0 for Set (Write); 1 for Get (Read) – same as R/W bit in Byte 0
Bit 6 Must be set to 0
Bits 5:0 Command Opcode

Bytes 2-4: Command parameter bytes as needed for each command (refer to Chapters 2 & 3 for details)

Response Message Syntax

The syntax for all response messages is shown below:

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
M	E	Opcode		Data-1		Data-2		Data-3	

Byte 0: Bit 7 Command Mode: 0 for Set (Write)
1 for Get (Read)
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (same value that was included in the request command)

Bytes 1-3: Response data bytes as needed (if the Error status in Byte 0, Bit 6 is 0)

Byte 1 or 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Multiple Response Messages

For some GET commands, the length of the response message may contain more bytes than what can be included in a single response message. In those cases, the request command must be issued multiple times with a sequential index number that is incremented for each partial response, and the response must be read before sending the next request command. It is not necessary to send the GET commands in sequence-number order, although it is a good practice to do so. Refer to the specific parameters for each command for more information.

Summary of GET Commands

The following GET commands are available for reading various attributes of the SteelVine Storage Processor. Sending a GET command does not modify the current state of the device. Refer to Chapter 2 for the detailed description of each GET command.

Command Description	Byte 1				Byte 2	Byte 3	Byte 4
	7	6	5	0			
	R/W		Opcode		Data-0	Data-1	Data-2
Reserved (do not use)	0	0	0		0	0	0
Get I ² C Interface Protocol Version	1	0	1		N/A	N/A	N/A
Get Enclosure Status	1	0	2		N/A	N/A	N/A
Get Enclosure Serial Number	1	0	3		Sequence: 0-3	N/A	N/A
Get Enclosure Firmware Version	1	0	4		N/A	N/A	N/A
Get Chip Type	1	0	5		N/A	N/A	N/A
Get Enclosure Temperature	1	0	6		N/A	N/A	N/A
Get System Fan Status	1	0	7		N/A	N/A	N/A
Get Power Supply Fan Status	1	0	8		N/A	N/A	N/A
Get Drive 0 Status	1	0	9		N/A	N/A	N/A
Get Drive 0 Rebuild/Verify Progress	1	0	10		Sequence: 0-7	N/A	N/A
Get Drive 0 Manufacturer	1	0	11		N/A	N/A	N/A
Get Drive 0 Serial Number	1	0	12		Sequence: 0-9	N/A	N/A
Get Drive 0 Model Number	1	0	13		Sequence: 0-19	N/A	N/A
Get Drive 0 Capacity	1	0	14		Sequence: 0-3	N/A	N/A
Get Drive 1 Status	1	0	15		N/A	N/A	N/A
Get Drive 1 Rebuild/Verify Progress	1	0	16		Sequence: 0-7	N/A	N/A
Get Drive 1 Manufacturer	1	0	17		N/A	N/A	N/A
Get Drive 1 Serial Number	1	0	18		Sequence: 0-9	N/A	N/A
Get Drive 1 Model Number	1	0	19		Sequence: 0-19	N/A	N/A
Get Drive 1 Capacity	1	0	20		Sequence: 0-3	N/A	N/A
Get Partition 0 Capacity	1	0	21		Sequence: 0-3	N/A	N/A
Get Partition 1 Capacity	1	0	22		Sequence: 0-3	N/A	N/A
Get Partition 2 Capacity	1	0	23		Sequence: 0-3	N/A	N/A
Get Partition 3 Capacity	1	0	24		Sequence: 0-3	N/A	N/A
Get RAID Mode	1	0	25		N/A	N/A	N/A
Get Partition 0 RAID Mode	1	0	26		N/A	N/A	N/A
Get Partition 1 RAID Mode	1	0	27		N/A	N/A	N/A
Get Partition 2 RAID Mode	1	0	28		N/A	N/A	N/A
Get Partition 3 RAID Mode	1	0	29		N/A	N/A	N/A
Get Policies	1	0	30		N/A	N/A	N/A
Get GPI-7 Status	1	0	31		N/A	N/A	N/A
Get GPI-9 Status	1	0	32		N/A	N/A	N/A
Get Drive Locking Index Value	1	0	33		Sequence: 0-1	N/A	N/A

Note: For clarity, Byte 0 is not shown in the table above.

Summary of GET Responses

The following table shows the responses are generated for each GET Command. Refer to Chapter 2 for the detailed description of each response and any error codes.

Command Description	Byte 0				Byte 1	Byte 2	Byte 3
	7	6	5	0	Data-0	Data-1	Data-2
<u>Get I²C Interface Protocol Version</u>	1	E	1		Version	Version	Version
<u>Get Enclosure Status</u>	1	E	2		0 or 1	N/A	N/A
<u>Get Enclosure Serial Number</u>	1	E	3		Sequence 0-3	Serial Number	Serial Number
<u>Get Enclosure Firmware Version</u>	1	E	4		Version	Version	N/A
<u>Get Chip Type</u>	1	E	5		Version	Version	N/A
<u>Get Enclosure Temperature</u>	1	E	6		Temperature	Temperature	N/A
<u>Get System Fan Status</u>	1	E	7		Fan Speed	Fan Speed	N/A
<u>Get Power Supply Fan Status</u>	1	E	8		Fan Speed	Fan Speed	N/A
<u>Get Drive 0 Status</u>	1	E	9		Drive Status	N/A	N/A
<u>Get Drive 0 Rebuild/Verify Progress</u>	1	E	10		Sequence 0-7	Number of Sectors	Number of Sectors
<u>Get Drive 0 Manufacturer</u>	1	E	11		Manufacturer	Manufacturer	N/A
<u>Get Drive 0 Serial Number</u>	1	E	12		Sequence 0-9	Serial Number	Serial Number
<u>Get Drive 0 Model Number</u>	1	E	13		Sequence 0-19	Model Number	Model Number
<u>Get Drive 0 Capacity</u>	1	E	14		Sequence 0-3	Capacity	Capacity
<u>Get Drive 1 Status</u>	1	E	15		Drive Status	N/A	N/A
<u>Get Drive 1 Rebuild/Verify Progress</u>	1	E	16		Sequence 0-7	Number of Sectors	Number of Sectors
<u>Get Drive 1 Manufacturer</u>	1	E	17		Manufacturer	Manufacturer	N/A
<u>Get Drive 1 Serial Number</u>	1	E	18		Sequence 0-9	Serial Number	Serial Number
<u>Get Drive 1 Model Number</u>	1	E	19		Sequence 0-19	Model Number	Model Number
<u>Get Drive 1 Capacity</u>	1	E	20		Sequence 0-3	Capacity	Capacity
<u>Get Partition 0 Capacity</u>	1	E	21		Sequence 0-3	Capacity	Capacity
<u>Get Partition 1 Capacity</u>	1	E	22		Sequence 0-3	Capacity	Capacity
<u>Get Partition 2 Capacity</u>	1	E	23		Sequence 0-3	Capacity	Capacity
<u>Get Partition 3 Capacity</u>	1	E	24		Sequence 0-3	Capacity	Capacity
<u>Get RAID Mode</u>	1	E	25		RAID Mode	Config Pin Settings	N/A
<u>Get Partition 0 RAID Mode</u>	1	E	26		RAID Mode	N/A	N/A
<u>Get Partition 1 RAID Mode</u>	1	E	27		RAID Mode	N/A	N/A
<u>Get Partition 2 RAID Mode</u>	1	E	28		RAID Mode	N/A	N/A
<u>Get Partition 3 RAID Mode</u>	1	E	29		RAID Mode	N/A	N/A
<u>Get Policies</u>	1	E	30		N/A	N/A	N/A
<u>Get GPI-7 Status</u>	1	E	31		N/A	N/A	N/A
<u>Get GPI-9 Status</u>	1	E	32		N/A	N/A	N/A
<u>Get Drive Locking Index Value</u>	1	E	33		Sequence 0-1	Index	Index

Note: The READ command for the response should allow a timeout duration of up to one second.

Summary of SET Commands

The following SET commands are available. Sending a SET command will affect the current state of the device. Refer to Chapter 3 for the detailed description of each SET command.

Command Description	Byte 1				Byte 2
	7	6	5	0	
	R/W		Opcode		Data-0
<u>Set Alarm Off/On</u>	0	0	34		0 or 1
<u>Clear/Set GPO-0 Status</u>	0	0	35		0 or 1
<u>Clear/Set GPO-1 Status</u>	0	0	36		0 or 1
<u>Clear/Set GPO-2 Status</u>	0	0	37		0 or 1
<u>Clear/Set GPO-3 Status</u>	0	0	38		0 or 1
<u>Clear/Set GPO-4 Status</u>	0	0	39		0 or 1
<u>Set Raid Mode</u>	0	0	40		Mode

Note: For clarity, Byte 0 is not shown in the table above.

Summary of SET Responses

All SET responses return an error code to indicate the completion status of the command. No other values are returned in a SET response. Refer to Chapter 3 for a description of the error codes.

Cascaded Configurations

Each node in a cascaded configuration should have its own unique slave address, so the GET and SET commands described in this document will apply to each node independently of any other node.

Sample Command and Response Packets

The following sample commands and responses illustrate the communication session between the external I²C bus master device (such as a PIC processor) and the response(s) from the SteelVine Storage Processor. In all cases, assume that a “Get I²C Protocol Version” command has already been issued to open a communication session.

Example 1 – Get Drive 0 Status (Opcode=9)

Assume that hard disk drive 0 is currently rebuilding a RAID-1 mirror set, and that there are no errors.

Request Command (Slave Address in Byte 0 is omitted):

Byte 1			
7	6	5	0
1	0		9
0x89			

Response Message:

Byte 0				Byte 1	
7	6	5	0	7	0
1	0		9	Drive 0 Status (bit 1 set for rebuild)	
0x89				0x02	

Example 2 – Get Drive 1 Capacity (Opcode=20)

Assume that hard disk drive 1 has a capacity of 100,000,000 sectors (0x5F5E100 in hex), and that there are no errors.

First Request Command (Slave Address in Byte 0 is omitted):

Byte 1				Byte 2			
7	6	5	0	7			0
1	0		20	Sequence: 0 - 3			
0x94				0x00			

First Response Message:

Byte 0				Byte 1				Byte 2				Byte 3			
7	6	5	0	7			0	7			0	7			0
1	0		20	Sequence Number				Capacity (1 st byte)				Capacity (2 nd byte)			
0x94				0x00				0x00				0x00			

Second Request Command (Slave address in Byte 0 is omitted):

Byte 1				Byte 2			
7	6	5	0	7			0
1	0		20	Sequence: 0 - 3			
0x94				0x01			

Second Response Message:

Byte 0				Byte 1				Byte 2				Byte 3			
7	6	5	0	7			0	7			0	7			0
1	0		20	Sequence Number				Capacity (3 rd byte)				Capacity (4 th byte)			
0x94				0x01				0x00				0x00			

Third Request Command (Slave address in Byte 0 is omitted):

Byte 1				Byte 2			
7	6	5	0	7			0
1	0		20	Sequence: 0 - 3			
0x94				0x02			

Third Response Message (Slave address in Byte 0 is omitted):

Byte 0				Byte 1				Byte 2				Byte 3			
7	6	5	0	7			0	7			0	7			0
1	0		20	Sequence Number				Capacity (5 th byte)				Capacity (6 th byte)			
0x94				0x02				0x05				0xF5			

Fourth Request Command (Slave address in Byte 0 is omitted):

Byte 1				Byte 2			
7	6	5	0	7			0
1	0		20	Sequence: 0 - 3			
0x94				0x03			

Fourth Response Message:

Byte 0				Byte 1				Byte 2				Byte 3			
7	6	5	0	7			0	7			0	7			0
1	0		20	Sequence Number				Capacity (7 th byte)				Capacity (8 th byte)			
0x94				0x03				0xE1				0x00			

2 GET Commands

Get I²C Interface Protocol Version

The **Get I²C Interface Protocol Version** command returns the version number of the I²C protocol that is supported by the SteelVine Storage Processor. This command also serves as an “**Open**” command for any I²C communication session, and it must be the first command issued after the SteelVine Storage Processor starts. This command can also be issued any time after startup.

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address			R/W	1	0	1

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (1)

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	1		Version or Error Code		Version		Version	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (1)

Bytes 1-3: Version number, one character per byte (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Notes

This command should be re-tried up to 10 times with one-second timeout duration for each retry attempt, to allow sufficient time for the SteelVine Storage Processor to startup and become ready.

Error code 1 can never be returned for this command.

Get Enclosure Status

The **Get Enclosure Status** command returns the SATA or USB host link status as absent or present.

Command Syntax

Byte 0				Byte 1			
7	1	0		7	6	5	0
Slave Address		R/W		1	0	2	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (2)

Response Syntax

Byte 0				Byte 1			
7	6	5	0	7			0
1	E	2		Host Link Status or Error Code			

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (2)

Byte 1: Host Link Status: 0 = present; 1 = absent (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Get Enclosure Serial Number

The **Get Enclosure Status** command returns the eight-character Serial Number from the SteelVine Storage Processor Enclosure. This command must be sent four times (with an increasing sequence number ranging from 0 to 3) and the serial number will be returned two bytes at a time in the corresponding ten responses. For example, the first two bytes will be return by the first command, the second two bytes will be returned by the second command, and so on.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	3	Sequence: 0 - 3	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (3)

Byte 2: Sequence Number of 0 through 3

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	3		Sequence Number		Serial Number (byte n) or Error Code		Serial Number (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (3)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the Serial Number as ASCII characters (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
10 = Error retrieving the serial number from the Serial EEPROM

Get Enclosure Firmware Version

The **Get Enclosure Firmware Version** command returns the firmware revision number from the SteelVine Storage Processor.

Command Syntax

Byte 0		Byte 1			
7	1	0	7	6	5 0
Slave Address		R/W	1	0	4

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (4)

Response Syntax

Byte 0				Byte 1		Byte 2	
7	6	5	0	7	0	7	0
1	E	4		Firmware Version or Error Code		Version	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (4)

Bytes 1-2: The firmware version number as an integer value (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Get Chip Type

The **Get Chip Type** command returns the chip-type identifier from the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address		R/W	1	0	5	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (5)

Response Syntax

Byte 0				Byte 1		Byte 2	
7	6	5	0	7	0	7	0
1	E	5		Chip Identifier or Error Code		Chip Identifier	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (5)

Bytes 1-2: The chip identifier (if the Error status in Byte 0, Bit 6 is 0)
0xff = SiI5744
0xfe = SiI5734
0x7f = SiI5723
0x7e = SiI5733

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Get Enclosure Temperature

The **Get Enclosure Temperature** command returns the temperature of the SteelVine Storage Processor enclosure as a 16-bit integer measured in degrees Celsius.

Command Syntax

Byte 0			Byte 1		
7	1	0	7	6	5 0
Slave Address		R/W	1	0	6

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (6)

Response Syntax

Byte 0			Byte 1	Byte 2
7	6	5 0	7 0	7 0
1	E	6	Temperature (MSB) or Error Code	Temperature (LSB)

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (6)

Bytes 1-2: The enclosure temperature in degrees Celsius as an integer value (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
9 = No LM87 sensor is present in the enclosure

Get System Fan Status

The **Get System Fan Status** command returns the speed of the system cooling fan in the SteelVine Storage Processor enclosure as a 16-bit integer that indicates the number of clock ticks per revolution.

Command Syntax

Byte 0			Byte 1		
7	1	0	7	6	5 0
Slave Address		R/W	1	0	7

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (7)

Response Syntax

Byte 0				Byte 1				Byte 2							
7	6	5	0	7				0	7				0		
1	E	7		System Fan Speed (MSB) or Error Code						System Fan Speed (LSB)					

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (7)

Bytes 1-2: The system fan speed measured in ticks per revolution (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
9 = No LM87 sensor is present in the enclosure

Get Power Supply Fan Status

The **Get Power Supply Fan Status** command returns the speed of the power supply cooling fan in the SteelVine Storage Processor enclosure as a 16-bit integer that indicates the number of clock ticks per revolution.

Command Syntax

Byte 0			Byte 1		
7	1	0	7	6	5 0
Slave Address		R/W	1	0	8

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (8)

Response Syntax

Byte 0				Byte 1				Byte 2							
7	6	5	0	7				0	7				0		
1	E	8		Power Supply Fan Speed (MSB) or Error Code						Power Supply Fan Speed (LSB)					

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (8)

Bytes 1-2: The power supply fan speed measured in ticks per revolution (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
9 = No LM87 sensor is present in the enclosure

Get Drive 0 Status

The **Get Drive 0 Status** command returns the status of the hard disk drive that is connected to device port 0 of the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address		R/W	1	0	9	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (9)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
1	E	9		Drive 0 Status or Error Code	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (9)

Byte 1: The drive status indicated by the following bits being set (if the Error status in Byte 0, Bit 6 is 0):
Bit 0 = Online
Bit 1 = Rebuilding a RAID1 mirror
Bit 2 = Verifying a RAID1 mirror
Bit 3 = Unplugged

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Get Drive 0 Rebuild/Verify Progress

The **Get Drive 0 Rebuild/Verify Progress** command returns the progress of a rebuild or verify operation on the hard disk drive that is connected to device port 0 of the SteelVine Storage Processor, and includes the following information:

- Number of hard disk drive sectors that have been rebuilt or verified so far (Sequences 0 through 3)
- Number of hard disk drive sectors that are remaining to be rebuild or verified (Sequences 4 through 7)

For each numeric value, eight bytes are used to return the value, conveyed as four sequences of two bytes. Byte 2 of Sequences 0 and 4 is considered the most significant byte.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	10	Sequence: 0 - 7	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (10)

Byte 2: Sequence Number of 0 through 7

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	10		Sequence Number		Number of Sectors (byte n) or Error Code		Number of Sectors (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (10)

Byte 1: Sequence number

Bytes 2-3: The next two bytes of the number of sectors (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
11 = Drive status is other than Rebuild or Verify

Example

Assuming that a hard disk drive contains 1000 sectors and is 25% complete, the number of sectors that have been rebuilt or verified will be 250, and the number of sectors remaining to be rebuilt or verified will be 750. These values are only shown to illustrate the concept; the actual number of sectors will depend on the physical capacity of the hard disk drive.

Get Drive 0 Manufacturer

The **Get Drive 0 Manufacturer** command returns a two-character identifier of the manufacturer of the hard disk drive that is connected to device port 0 of the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1		
7	1	0	7	6	5 0
Slave Address			R/W	1	0 11

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (11)

Response Syntax

Byte 0			Byte 1	Byte 2
7	6	5 0	7 0	7 0
1	E	11	Manufacturer Code (first byte) or Error Code	Manufacturer Code (second byte)

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (11)

Bytes 1-2: The two ASCII characters that represent the manufacturer (if the Error status in Byte 0, Bit 6 is 0):

WD = Western Digital

ST = Seagate

Ma = Maxtor (second byte is lower case "a")

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
13 = Drive is not present

Get Drive 0 Serial Number

The **Get Drive 0 Serial Number** command returns the 20-character serial number from the hard disk drive that is connected to device port 0 of the SteelVine Storage Processor Enclosure. This command must be sent ten times (with an increasing sequence number ranging from 0 to 9) and the serial number will be returned two bytes at a time in the corresponding ten responses. For example, the first two bytes will be return by the first command, the second two bytes will be returned by the second command, and so on.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	12	Sequence: 0 - 9	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (12)

Byte 2: Sequence Number of 0 through 9

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	12		Sequence Number		Serial Number (byte n) or Error Code		Serial Number (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (12)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the Serial Number as ASCII characters (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
13 = Drive is not present

Get Drive 0 Model Number

The **Get Drive 0 Model Number** command returns the 40-character model number from the hard disk drive that is connected to device port 0 of the SteelVine Storage Processor Enclosure. This command must be sent twenty times (with an increasing sequence number ranging from 0 to 19) and the model number will be returned two bytes at a time in the corresponding 20 responses. For example, the first two bytes will be return by the first command, the second two bytes will be returned by the second command, and so on.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	13	Sequence: 0 - 19	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (13)

Byte 2: Sequence Number of 0 through 19

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	13		Sequence Number		Model Number (byte n) or Error Code		Model Number (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (13)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the Model Number as ASCII characters (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
13 = Drive is not present

Get Drive 0 Capacity

The **Get Drive 0 Capacity** command returns the storage capacity (measured in sectors) of the hard disk drive that is connected to device port 0 of the SteelVine Storage Processor Enclosure. This command must be sent four times (with an increasing sequence number ranging from 0 to 3) and the capacity will be returned two bytes at a time in the corresponding four responses. For example, the first two bytes will be returned by the first command, the second two bytes will be returned by the second command, and so on. The most significant byte is Byte 2 of the Sequence 0 response message.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address		R/W	1	0	14		Sequence: 0 - 3	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (14)

Byte 2: Sequence Number of 0 through 3

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	14		Sequence Number		Capacity (byte n) or Error Code		Capacity (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (14)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the capacity in sectors (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
13 = Drive is not present

Get Drive 1 Status

The **Get Drive 1 Status** command returns the status of the hard disk drive that is connected to device port 1 of the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address		R/W	1	0	15	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (15)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
1	E	15		Drive 0 Status or Error Code	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (15)

Byte 1: The drive status indicated by the following bits being set (if the Error status in Byte 0, Bit 6 is 0):
Bit 0 = Online
Bit 1 = Rebuilding a RAID1 mirror
Bit 2 = Verifying a RAID1 mirror
Bit 3 = Unplugged

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Get Drive 1 Rebuild/Verify Progress

The **Get Drive 1 Rebuild/Verify Progress** command returns the progress of a rebuild or verify operation on the hard disk drive that is connected to device port 1 of the SteelVine Storage Processor, and includes the following information:

- Number of hard disk drive sectors that have been rebuilt or verified so far (Sequences 0 through 3)
- Number of hard disk drive sectors that are remaining to be rebuild or verified (Sequences 4 through 7)

For each numeric value, eight bytes are used to return the value, conveyed as four sequences of two bytes. Byte 2 of Sequences 0 and 4 is considered the most significant byte.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	M	0	16	Sequence: 0 - 7	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (16)

Byte 2: Sequence Number of 0 through 7

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	16		Sequence Number		Number of Sectors (byte n) or Error Code		Number of Sectors (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (16)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the number of sectors (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
11 = Drive status is other than Rebuild or Verify

Example

Assuming that a hard disk drive contains 1000 sectors and is 25% complete, the number of sectors that have been rebuilt or verified will be 250, and the number of sectors remaining to be rebuilt or verified will be 750. These values are only shown to illustrate the concept; the actual number of sectors will depend on the physical capacity of the hard disk drive.

Get Drive 1 Manufacturer

The **Get Drive 1 Manufacturer** command returns a two-character identifier of the manufacturer of the hard disk drive that is connected to device port 1 of the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1		
7	1	0	7	6	5 0
Slave Address			R/W	1	0 17

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (17)

Response Syntax

Byte 0			Byte 1			Byte 2		
7	6	5 0	7	0	7	0		
1	E	17	Manufacturer (first byte) or Error Code			Manufacturer (second byte)		

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (17)

Bytes 1-2: The two ASCII characters that represent the manufacturer (if the Error status in Byte 0, Bit 6 is 0):

WD = Western Digital

ST = Seagate

MA = Maxtor

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
13 = Drive is not present

Get Drive 1 Serial Number

The **Get Drive 1 Serial Number** command returns the 20-character serial number from the hard disk drive that is connected to device port 1 of the SteelVine Storage Processor Enclosure. This command must be sent ten times (with an increasing sequence number ranging from 0 to 9) and the serial number will be returned two bytes at a time in the corresponding ten responses. For example, the first two bytes will be return by the first command, the second two bytes will be returned by the second command, and so on.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	18	Sequence: 0 - 9	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (18)

Byte 2: Sequence Number of 0 through 9

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	18		Sequence Number		Serial Number (byte n) or Error Code		Serial Number (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (18)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the Serial Number as ASCII characters (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
13 = Drive is not present

Get Drive 1 Model Number

The **Get Drive 1 Model Number** command returns the 40-character model number from the hard disk drive that is connected to device port 1 of the SteelVine Storage Processor Enclosure. This command must be sent twenty times (with an increasing sequence number ranging from 0 to 19) and the model number will be returned two bytes at a time in the corresponding 20 responses. For example, the first two bytes will be return by the first command, the second two bytes will be returned by the second command, and so on.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	19	Sequence: 0 - 19	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (19)

Byte 2: Sequence Number of 0 through 19

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	19		Sequence Number		Model Number (byte n) or Error Code		Model Number (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (19)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the Model Number as ASCII characters (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
13 = Drive is not present

Get Drive 1 Capacity

The **Get Drive 1 Capacity** command returns the storage capacity (measured in sectors) of the hard disk drive that is connected to device port 1 of the SteelVine Storage Processor Enclosure. This command must be sent four times (with an increasing sequence number ranging from 0 to 3) and the capacity will be returned two bytes at a time in the corresponding four responses. For example, the first two bytes will be returned by the first command, the second two bytes will be returned by the second command, and so on. The most significant byte is Byte 2 of the Sequence 0 response message.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	20	Sequence: 0 - 3	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (20)

Byte 2: Sequence Number of 0 through 3

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	20		Sequence Number		Capacity (byte n) or Error Code		Capacity (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (20)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the capacity in sectors (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
13 = Drive is not present

Get Partition 0 Capacity

The **Get Partition 0 Capacity** command returns the storage capacity (measured in sectors) of the first virtual volume that is presented by the SteelVine Storage Processor. This command must be sent four times (with an increasing sequence number ranging from 0 to 3) and the capacity will be returned two bytes at a time in the corresponding four responses. For example, the first two bytes will be returned by the first command, the second two bytes will be returned by the second command, and so on. The most significant byte is Byte 2 of the Sequence 0 response message.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	21	Sequence: 0 - 3	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (21)

Byte 2: Sequence Number of 0 through 3

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	21		Sequence Number		Capacity (byte n) or Error Code		Capacity (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (21)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the capacity in sectors (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
13 = Partition does not exist

Get Partition 1 Capacity

The **Get Partition 1 Capacity** command returns the storage capacity (measured in sectors) of the second virtual volume that is presented by the SteelVine Storage Processor. This command must be sent four times (with an increasing sequence number ranging from 0 to 3) and the capacity will be returned two bytes at a time in the corresponding four responses. For example, the first two bytes will be returned by the first command, the second two bytes will be returned by the second command, and so on. The most significant byte is Byte 2 of the Sequence 0 response message.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	22	Sequence: 0 - 3	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (22)

Byte 2: Sequence Number of 0 through 3

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	22		Sequence Number		Capacity (byte n) or Error Code		Capacity (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (22)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the capacity in sectors (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
13 = Partition does not exist

Get Partition 2 Capacity

The **Get Partition 2 Capacity** command returns the storage capacity (measured in sectors) of the third virtual volume that is presented by the SteelVine Storage Processor. This command must be sent four times (with an increasing sequence number ranging from 0 to 3) and the capacity will be returned two bytes at a time in the corresponding four responses. For example, the first two bytes will be returned by the first command, the second two bytes will be returned by the second command, and so on. The most significant byte is Byte 2 of the Sequence 0 response message.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	23	Sequence: 0 - 3	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (23)

Byte 2: Sequence Number of 0 through 3

Bytes 3-4: Not applicable (can be set to 0)

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	23		Sequence Number		Capacity (byte n) or Error Code		Capacity (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (23)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the capacity in sectors (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
13 = Partition does not exist

Get Partition 3 Capacity

The **Get Partition 3 Capacity** command returns the storage capacity (measured in sectors) of the fourth virtual volume that is presented by the SteelVine Storage Processor. This command must be sent four times (with an increasing sequence number ranging from 0 to 3) and the capacity will be returned two bytes at a time in the corresponding four responses. For example, the first two bytes will be returned by the first command, the second two bytes will be returned by the second command, and so on. The most significant byte is Byte 2 of the Sequence 0 response message.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	24	Sequence: 0 - 3	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (24)

Byte 2: Sequence Number of 0 through 3

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	24		Sequence Number		Capacity (byte n) or Error Code		Capacity (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (24)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the capacity in sectors (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
13 = Partition does not exist

Get RAID Mode

The **Get RAID Mode** command returns the current RAID mode and the settings of the Config [2:0] pins of the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address			R/W	1	0	25

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (25)

Response Syntax

Byte 0				Byte 1		Byte 2	
7	6	5	0	7	0	7	0
1	E	25		RAID Mode or Error Code		Config Pin Settings	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (25)

Byte 1: The current RAID mode (if the Error status in Byte 0, Bit 6 is 0):
0x0 = BIG
0x1 = JBOD
0x2 = FAST
0x3 = SAFE
0x4 = SAFE33
0x5 = SAFE50

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Byte 2: The Configuration Pin settings (if the Error status in Byte 0, Bit 6 is 0):
0x0 = BIG
0x1 = JBOD
0x2 = FAST
0x3 = SAFE
0x4 = SAFE33
0x5 = SAFE50
0x7 = GUI

Get Partition 0 RAID Mode

The **Get Partition 0 RAID Mode** command returns the RAID mode for the first virtual volume that is created by the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address		R/W	1	0	26	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (26)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
1	E	26		RAID Mode or Error Code	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (26)

Byte 1: The RAID mode for Partition 0 (if the Error status in Byte 0, Bit 6 is 0):
0x0 = BIG
0x1 = JBOD
0x2 = FAST
0x3 = SAFE

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
13 = Partition does not exist

Get Partition 1 RAID Mode

The **Get Partition 1 RAID Mode** command returns the RAID mode for the second virtual volume that is created by the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address		R/W	1	0	27	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (27)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
1	E	27		RAID Mode or Error Code	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (27)

Byte 1: The RAID mode for Partition 0 (if the Error status in Byte 0, Bit 6 is 0):

0x0 = BIG
0x1 = JBOD
0x2 = FAST
0x3 = SAFE

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
13 = Partition does not exist

Get Partition 2 RAID Mode

The **Get Partition 2 Mode** command returns the RAID mode for the third virtual volume that is created by the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address		R/W	1	0	28	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (28)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
1	E	28		RAID Mode or Error Code	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (28)

Byte 1: The RAID mode for Partition 0 (if the Error status in Byte 0, Bit 6 is 0):
0x0 = BIG
0x1 = JBOD
0x2 = FAST
0x3 = SAFE

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
13 = Partition does not exist

Get Partition 3 RAID Mode

The **Get Partition 3 Mode** command returns the RAID mode for the fourth virtual volume that is created by the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address		R/W	1	0	29	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (29)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
1	E	29		RAID Mode or Error Code	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (29)

Byte 1: The RAID mode for Partition 0 (if the Error status in Byte 0, Bit 6 is 0):

0x0 = BIG
0x1 = JBOD
0x2 = FAST
0x3 = SAFE

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
13 = Partition does not exist

Get Policies

The **Get Policies** command returns the Rebuild and Volume Expansion Policy mode settings for the SteelVine Storage Processor, as defined by GPI pins 5/6/8 and the SteelVine Manager GUI.

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address		R/W	1	0	30	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (30)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
1	E	30		Policy Bits or Error Code	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (30)

Byte 1: The Policy bits for the following attributes (if the Error status in Byte 0, Bit 6 is 0):
Bit 0 = Auto Rebuild (0 = disabled; 1 = enabled)
Bit 1 = Verify after Rebuild (0 = disabled; 1 = enabled)
Bit 2 = Init Rebuild (0 = disabled; 1 = enabled)
Bit 3 = Auto Expansion (0 = disabled; 1 = enabled)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Get GPI-7 Status

The **Get GPI-7 Status** command returns the status of GPI pin 7 (low or high).

Command Syntax

Byte 0				Byte 1			
7	1	0		7	6	5	0
Slave Address		R/W		1	0	31	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (31)

Response Syntax

Byte 0				Byte 1			
7	6	5	0	7			0
1	E	31		GPI-7 Status or Error Code			

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (31)

Byte 1: GPI-7 Status: 0 = low; 1 = high (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Get GPI-9 Status

The **Get GPI-9 Status** command returns the status of GPI pin 9 (low or high).

Command Syntax

Byte 0			Byte 1			
7	1	0	7	6	5	0
Slave Address		R/W	1	0	32	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (32)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
1	E	32		GPI-9 Status or Error Code	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (32)

Byte 1: GPI-7 Status: 0 = low; 1 = high (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Get Drive Locking Index Value

The **Get Drive Locking Index Value** command returns the numeric index value of the Automatic Drive Locking password that is encoded into the SiI5733 Storage Processor chip. Since the Drive Locking Index is a 32-bit numeric value, this command must be sent twice (with an increasing sequence number ranging from 0 to 1) and the index value will be returned two bytes at a time in the corresponding responses. For example, the first two bytes will be returned by the first command, and the second two bytes will be returned by the second command. Both commands must be sent in the proper order. The most significant byte is Byte 2 of the Sequence 0 response message.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address			R/W	1	0	33	Sequence: 0 - 1	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 1 for GET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (33)

Byte 2: Sequence Number of 0 through 1

Response Syntax

Byte 0				Byte 1		Byte 2		Byte 3	
7	6	5	0	7	0	7	0	7	0
1	E	33		Sequence Number		Drive Locking Index Value (byte n) or Error Code		Drive Locking Index Value (byte n+1)	

Byte 0: Bit 7 Command Mode: 1 for GET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (33)

Byte 1: Sequence number (if the Error status in Byte 0, Bit 6 is 0)

Bytes 2-3: The next two bytes of the Drive Locking Index Value (if the Error status in Byte 0, Bit 6 is 0)

Byte 2: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
7 = Invalid Sequence Number
12 = Chip type is not SiI5733
16 = Cannot read OTP ROM
17 = Invalid OTP ROM checksum

3 SET Commands

Set Alarm Off/On

The **Set Alarm Off/On** command sets or clears the Alarm (GPO-5) pin on the SteelVine Storage Processor.

Command Syntax

Byte 0			Byte 1				Byte 2	
7	1	0	7	6	5	0	7	0
Slave Address		R/W	0	0	34		0 or 1	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 0 for SET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (34)

Byte 2: 0 for OFF (low); 1 for ON (high)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
0	E	34		Error Code	

Byte 0: Bit 7 Command Mode: 0 for SET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (34)

Byte 1: Not applicable (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Clear/Set GPO-0 Status

The **Clear/Set GPO-0 Status** command sets or clears the GPO-0 pin on the SteelVine Storage Processor.

Command Syntax

Byte 0				Byte 1				Byte 2	
7	1	0		7	6	5	0	7	0
Slave Address		R/W		0	0	35		0 or 1	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 0 for SET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (35)

Byte 2: 0 for OFF (low); 1 for ON (high)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
0	E	35		Error Code	

Byte 0: Bit 7 Command Mode: 0 for SET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (35)

Byte 1: Not applicable (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Clear/Set GPO-1 Status

The **Clear/Set GPO-1 Status** command sets or clears the GPO-1 pin on the SteelVine Storage Processor.

Command Syntax

Byte 0				Byte 1				Byte 2	
7	1	0		7	6	5	0	7	0
Slave Address		R/W		0	0	36		0 or 1	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 0 for SET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (36)

Byte 2: 0 for OFF (low); 1 for ON (high)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
0	E	36		Error Code	

Byte 0: Bit 7 Command Mode: 0 for SET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (36)

Byte 1: Not applicable (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Clear/Set GPO-2 Status

The **Clear/Set GPO-2 Status** command sets or clears the GPO-2 pin on the SteelVine Storage Processor.

Command Syntax

Byte 0				Byte 1				Byte 2	
7	1	0		7	6	5	0	7	0
Slave Address		R/W		0	0	37		0 or 1	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 0 for SET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (37)

Byte 2: 0 for OFF (low); 1 for ON (high)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
0	E	37		Error Code	

Byte 0: Bit 7 Command Mode: 0 for SET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (37)

Byte 1: Not applicable (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Clear/Set GPO-3 Status

The **Clear/Set GPO-3 Status** command sets or clears the GPO-3 pin on the SteelVine Storage Processor.

Command Syntax

Byte 0				Byte 1				Byte 2	
7	1	0		7	6	5	0	7	0
Slave Address		R/W		0	0	38		0 or 1	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 0 for SET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (38)

Byte 2: 0 for OFF (low); 1 for ON (high)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
0	E	38		Error Code	

Byte 0: Bit 7 Command Mode: 0 for SET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (38)

Byte 1: Not applicable (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Clear/Set GPO-4 Status

The **Clear/Set GPO-4 Status** command sets or clears the GPO-4 pin on the SteelVine Storage Processor.

Command Syntax

Byte 0				Byte 1				Byte 2	
7	1	0		7	6	5	0	7	0
Slave Address		R/W		0	0	39		0 or 1	

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 0 for SET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (39)

Byte 2: 0 for OFF (low); 1 for ON (high)

Response Syntax

Byte 0				Byte 1	
7	6	5	0	7	0
0	E	39		Error Code	

Byte 0: Bit 7 Command Mode: 0 for SET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (39)

Byte 1: Not applicable (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode

Set RAID Mode

The **Set RAID Mode** command sets a Basic RAID mode for the SteelVine Storage Processor (equivalent to setting the CONFIG[2:0] pins to an explicit setting).

Command Syntax

Byte 0				Byte 1				Byte 2			
7	1	0		7	6	5	0	7		0	
Slave Address				R/W				RAID Mode			
				0 0				40			

Byte 0: The slave address plus the R/W bit according to the I²C standard.

Byte 1: Bit 7 Command Mode: 0 for SET
Bit 6 Must be set to 0
Bits 5:0 Command Opcode (40)

Byte 2: RAID Mode setting:
0x0 = BIG
0x1 = JBOD
0x2 = FAST
0x3 = SAFE
0x4 = SAFE33
0x5 = SAFE50

Response Syntax

Byte 0				Byte 1			
7	6	5	0	7			0
0 E				40			
				Error Code			

Byte 0: Bit 7 Command Mode: 0 for SET
Bit 6 Error status: 0 for no error
1 if an error was detected; the error code is included in Byte 1
Bits 5:0 Command Opcode (40)

Byte 1: Not applicable (if the Error status in Byte 0, Bit 6 is 0)

Byte 1: Error code (if the Error status in Byte 0, Bit 6 is 1)
1 = Open Command (Get I²C Interface Protocol Version) has not been received
2 = Invalid Command Opcode
3 = Invalid Command mode for command Opcode (e.g., mode = 1 for a SET command)
4 = Invalid number of bytes sent for Command Opcode
5 = Requested RAID mode is not supported by the specific chip-ID

Notes

This command is only effective when the CONFIG[2:0] pins are set to the GUI mode (111) and the SteelVine Storage Processor is reset. This command will be ignored for any other setting of the CONFIG[2:0] pins. After this command is sent, the SteelVine Storage Processor must be reset via power-cycle to place the new storage policy into effect.