Attachment L - Apogee Timing Card Programmer Reference

This attachment provides programming information on the Apogee Timing Card. The first section provides information on the application programming interface received from Apogee. The second section provides information on the associated SIMSS library.

Note: For SIMSS Release 5.0 the functions are limited to the functions listed here. A timing interrupt from the card will be available in a future release.

L-1.0 Apogee Timing Board: API Reference

L-1.1 Open Board

long __cdecl auxio_Open(UCHAR Chan_Num)

Parameters: Chan_Num Number of requested channel to open

Return: AUX_ERR_NONE if successful
Other error codes if failed

NOTE: Channel numbers are indexed starting from 0 to (#channels in system - 1)

L-1.2 Close Board

long __cdecl auxio_Close(UCHAR Chan_Num)

Parameters: Chan_Num Number of requested channel to close

Return: AUX_ERR_NONE if successful
Other error codes if failed

L-1.3 Board Type

long __cdecl auxio_GetBoardType(UCHAR Chan_Num, PULONG pBoardType)

Parameters: Chan_Num Number of channel to access
BoardType board type defined in registry under Channelx entry

Return: AUX_ERR_NONE if successful
Other error codes if failed

L-1.4 Write a Byte to a Port

long __cdecl auxio_WriteByte(UCHAR Chan_Num, ULONG Offset, PUCHAR pValue)

Parameters: Chan_Num Number of channel to access
Offset Offset of port from I/O base address
pValue Value to write

Return: AUX_ERR_NONE if successful

Other error codes if failed

L-1.5 Write a Word to a Port

long __cdecl auxio_WriteWord(UCHAR Chan_Num, ULONG Offset, PUSHORT pValue)

Parameters:	Chan_Num	Number of channel to access
	Offset	Offset of port from I/O base address
	pValue	Value to write

Return: AUX_ERR_NONE if successful
Other error codes if failed

L-1.6 Read a Byte from a Port

long __cdecl auxio_ReadByte(UCHAR Chan_Num, ULONG Offset, PUCHAR pValue)

Parameters:	Chan_Num	Number of channel to access
	Offset	Offset of port from I/O base address
	pValue	Memory location to store read value

Return: AUX_ERR_NONE if successful
Other error codes if failed

L-1.7 Read a Word from a Port

long __cdecl auxio_ReadWord (UCHAR Chan_Num, ULONG Offset, PUSHORT pValue)

Parameters:	Chan_Num	Number of channel to access
	Offset	Offset of port from I/O base address
	pValue	Memory location to store read value

Return: AUX_ERR_NONE if successful
Other error codes if failed

L-2.0 SIMSS RmmTimeEx Library Programming Reference

The SIMSS RmmTimeEx library provides header and RmmTimeEx.lib files for incorporating Apogee timing card functions into SIMSS modules.

L-2.1 Structure Data

```
Typedef Struct
{
        USHORT Register2Data;
        USHORT Register4Data;
        USHORT Register6Data;
} TIMEREGISTER;
```

L-2.2 Timing Board Class

Constructor:

RmmTimeEx()

L-2.3 Initialize Timing Board

BOOL Init_EEPROM()

Parameters: None

Return:true if initialized successfully, false otherwise

L-2.4 Reset Time

Void Set_Zero_Time()

Parameters: None

Return:None

L-2.5 Set Time

Void Set_Time(USHORT Day, USHORT Hour, USHORT Minute, USHORT Second)

Parameters: Day – Day of year value
Hour – Hour of day value
Minute – Minute of hour value
Second – Second of minute value

Return: None

L-2.6 Get PB4 Time Format

TIMEREGISTER Get_PB4_Time()

Parameters: None

Return: TIMEREGISTER structure containing values of PB4 Time format

L-2.7 Get GMT Time Format

Void Get_GMT_Time (SimString* sTimePtr)

Parameters: sTimePtr – location of SimString type variable where read GMT time can be stored

Return:None