CT-PPS Motherboard registers library

Generated by Doxygen 1.8.10

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Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 3

Class Documentation

3.1 PPSTimingMB::TDCStatus::ErrorType Struct Reference

Type of error encountered by the HPTDC.

`#include <TDCStatus.h>`

Public Member Functions

- **ErrorType** (uint16_t word)
- bool ParityError () const

  Error related on the parity of any register/buffer.
- bool MeasurementError () const

  Error related to the Vernier or Coarse measurement.
- bool GlobalError () const

  Has any error occured?

Public Attributes

- bool **Vernier**
- bool **Coarse**
- bool **ChannelSelect**
- bool **L1BufferParity**
- bool **TriggerFIFOParity**
- bool **TriggerMatchingState**
- bool **ReadoutFIFOParity**
- bool **ReadoutState**
- bool **SetupParity**
- bool **ControlParity**
- bool **JTAGInstruction**

3.1.1 Detailed Description

Type of error encountered by the HPTDC.

The documentation for this struct was generated from the following file:

- include/TDCStatus.h

3.2 PPSTimingMB::XMLHandler::PropertiesMap Class Reference

A map of properties retrieved from a parsed XML file.

`#include <XMLHandler.h>`

Public Member Functions

- void AddProperty (const char *name, const char *value)
  Feed a new key/value property to the map.
- bool HasProperty (const char *name)
  Check if a key is present in the map.
- std::string GetProperty (const char *name)
  Retrieve the (string) value associated with a key.
- unsigned int GetUIntProperty (const char *name)
  Retrieve the (unsigned integer) value associated with a key.

3.2.1 Detailed Description

A map of properties retrieved from a parsed XML file.

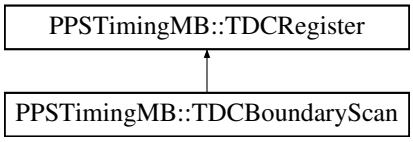
The documentation for this class was generated from the following file:

- include/XMLHandler.h

3.3 PPSTimingMB::TDCBoundaryScan Class Reference

`#include <TDCBoundaryScan.h>`

Inheritance diagram for PPSTimingMB::TDCBoundaryScan:



Public Member Functions

- **TDCBoundaryScan** (const TDCBoundaryScan &bs)
- bool **IsTokenOut** () const
- bool **IsStrobeOut** () const
- bool **IsSerialOut** () const
- bool **IsTest** () const
- bool **IsError** () const
- bool **IsDataReady** () const
- bool **IsParallelEnabled** () const
- bool **HasParallelDataOut** (unsigned short channel_id) const
- bool **IsEncodedControl** () const
- bool **IsTrigger** () const
- bool **HasTrigger** () const
- bool **HasEventReset** () const

- bool **HasBunchReset** () const
- bool **IsGettingData** () const
- bool **IsSerialBypassIn** () const
- bool **IsSerialIn** () const
- bool **IsTokenBypassIn** () const
- bool **IsTokenIn** () const
- bool **IsReset** () const
- bool **HasAuxiliaryClock** () const
- bool **HasClock** () const
- bool **HasHit** (unsigned short channel_id) const
- void SetConstantValues ()

  Set all hardcoded values to this register.
- void Dump () const

  Printout all useful values of this status register into an output stream.

Additional Inherited Members

3.3.1 Detailed Description

Author

Laurent Forthomme laurent.forthomme@cern.ch

Date

24 Apr 2015
May 2016

The documentation for this class was generated from the following file:

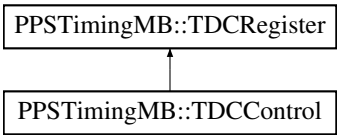
- include/TDCBoundaryScan.h

3.4 PPSTimingMB::TDCControl Class Reference

Control word to be sent to the HPTDC chip.

`#include <TDCControl.h>`

Inheritance diagram for PPSTimingMB::TDCControl:



Public Types

- enum **EnablePattern** { **OutputEnabled** =0x5, **OutputDisabled** =0x4 }
- enum **RegisterName** {
  rEnablePattern =0, **rGlobalReset**, **rEnableChannel**, **rDLLReset**,
  rPLLReset, **rControlParity**, **rNumRegisters** }

Public Member Functions

- unsigned short **GetNumRegisters** () const
- **TDCControl** (const TDCControl &c)
- **TDCControl** (const std::vector< uint8_t > &words)
- void **SetEnablePattern** (const EnablePattern &ep=OutputEnabled)
- EnablePattern **GetEnablePattern** () const
- void **SetGlobalReset** (const bool gr=true)
- bool **GetGlobalReset** () const
- void **SetDLLReset** (const bool dr=true)
- bool **GetDLLReset** () const
- void **SetPLLReset** (const bool pr=true)
- bool **GetPLLReset** () const
- void **EnableChannel** (unsigned int id)
- void **EnableAllChannels** ()
- void **DisableChannel** (unsigned int id)
- void **DisableAllChannels** ()
- bool **IsChannelEnabled** (unsigned int id) const
- void **SetEnabledChannels** (uint32_t ch)
- uint32_t **GetEnabledChannels** () const
- void **SetControlParity** (const bool cp=true)
- bool **GetControlParity** () const
- void Dump (int verb=1, std::ostream &os=std::cout) const

  Printout all useful values of this control register into an output stream.
- void SetConstantValues ()

  Ensure that the critical constant values are properly set in the register word.
- uint32_t **GetValue** (const RegisterName &v)

Additional Inherited Members

3.4.1 Detailed Description

Control word to be sent to the HPTDC chip.

Object handling the control word provided by/to the HPTDC chip

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Date

24 Apr 2015

The documentation for this class was generated from the following file:

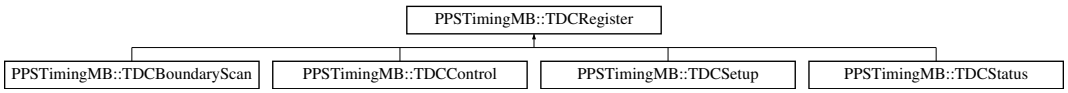
- include/TDCControl.h

3.5 PPSTimingMB::TDCRegister Class Reference

General register object to interact with a HPTDC chip.

`#include <TDCRegister.h>`

Inheritance diagram for PPSTimingMB::TDCRegister:



Public Types

- typedef uint16_t bit

  LSB index.
- typedef uint32_t word_t

  Unit of the TDC register word to be successfully contained on any machine.

Public Member Functions

- TDCRegister (const unsigned int size)

  Initialise an empty register.
- TDCRegister (const unsigned int size, const TDCRegister &r)

  Initialise and fill a register.
- TDCRegister (const unsigned int size, const std::vector< uint8_t > &words, bool reversed=false)

  Initialise and fill a register.
- virtual ~TDCRegister ()

  Destroy the register and its content.
- TDCRegister & operator= (const TDCRegister &r)

  Assign values from another register to this one.
- void SetWord (const unsigned int i, const word_t word)

  Set one bit(s) subset in the register word.
- word_t GetWord (const unsigned int i) const

  Retrieve one subset from the register word.
- word_t * GetWords () const

  Retrieve the whole array of sub-words composing this register.
- std::vector< uint8_t > GetBytesVector () const

  Retrieve a vector of 8-bit words composing this register.
- uint8_t GetNumWords () const

  Number of words in the register.
- void DumpRegister (unsigned short verb=1, std::ostream &os=std::cout, const bit max_bits=-1) const

  Printout all useful information handled by the register.
- virtual void SetConstantValues ()=0

  Ensure that the critical constant values are properly set in the register word.
- template<class T >
  uint32_t **GetValue** (const T &)

Protected Member Functions

- void SetBits (uint16_t lsb, uint16_t word, uint8_t size)

  Set bits in the register word.
- uint16_t GetBits (uint16_t lsb, uint8_t size) const

  Extract bits from the register word.
- void Clear ()

  Set all bits in this register to '0'.

Protected Attributes

- word_t * fWord

  Pointer to this register's word.
- unsigned int fNumWords

  Number of words to fit the fWordSize bits of this register to this object.
- unsigned int fWordSize

  Number of bits in this register.

3.5.1 Detailed Description

General register object to interact with a HPTDC chip.

Author

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Date

24 Apr 2015

3.5.2 Member Function Documentation

3.5.2.1 uint16_t PPSTimingMB::TDCRegister::GetBits (uint16_t *lsb*, uint8_t *size*) const [protected]

Extract bits from the register word.

Extract a fixed amount of bits from the full register word

Parameters

in	*lsb*	Least significant bit of the word to retrieve
in	*size*	Size of the word to retrieve

3.5.2.2 uint8_t PPSTimingMB::TDCRegister::GetNumWords ( ) const [inline]

Number of words in the register.

Return the number of words making up the full register word.

3.5.2.3 void PPSTimingMB::TDCRegister::SetBits (uint16_t *lsb*, uint16_t *word*, uint8_t *size*) [protected]

Set bits in the register word.

Set a fixed amount of bits in the full register word

Parameters

in	*lsb*	Least significant bit of the word to set
in	*word*	Word to set
in	*size*	Size of the word to set

The documentation for this class was generated from the following file:

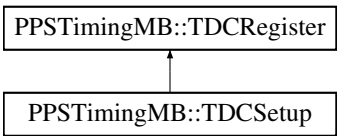
- include/TDCRegister.h

3.6 PPSTimingMB::TDCSetup Class Reference

Setup word to be sent to the HPTDC chip.

`#include <TDCSetup.h>`

Inheritance diagram for PPSTimingMB::TDCSetup:



Public Types

- enum **EdgeResolution** {
  E_100ps =0, **E_200ps**, **E_400ps**, **E_800ps**,
  E_1p6ns, **E_3p12ns**, **E_6p25ns**, **E_12p5ns** }
- enum **DeadTime** { **DT_5ns** =0, **DT_10ns**, **DT_30ns**, **DT_100ns** }
- enum **WidthResolution** {
  W_100ps =0, **W_200ps**, **W_400ps**, **W_800ps**,
  W_1p6ns, **W_3p2ns**, **W_6p25ns**, **W_12p5ns**,
  W_25ns, **W_50ns**, **W_100ns**, **W_200ns**,
  W_400ns, **W_800ns** }
- enum **EnabledError** {
  VernierError =0x1, **CoarseError** =0x2, **ChannelSelectError** =0x4, **L1BufferParityError** =0x8,
  TriggerFIFOParityError =0x10, **TriggerMatchingError** =0x20, **ReadoutFIFOParityError** =0x40,
  ReadoutStateError =0x80,
  SetupParityError =0x100, **ControlParityError** =0x200, **JTAGInstructionParityError** =0x400 }
- enum **DLLSpeedMode** { **DLL_40MHz** =0x0, **DLL_160MHz** =0x1, **DLL_320MHz** =0x2, **DLL_Illegal** =0x3 }
- enum **SerialClockSource** { **Serial_pll_clock_80** =0x0, **Serial_pll_clock_160** =0x1, **Serial_pll_clock_40** =0x2, **Serial_aux_clock** =0x3 }
- enum **IOClockSource** { **IO_clock_40** =0x0, **IO_pll_clock_80** =0x1, **IO_pll_clock_160** =0x2, **IO_aux_clock** =0x3 }
- enum **CoreClockSource** { **Core_clock_40** =0x0, **Core_pll_clock_80** =0x1, **Core_pll_clock_160** =0x2, **Core_aux_clock** =0x3 }
- enum **DLLClockSource** {
  DLL_clock_40 =0x0, **DLL_pll_clock_40** =0x1, **DLL_pll_clock_160** =0x2, **DLL_pll_clock_320** =0x3,
  DLL_aux_clock =0x4 }
- enum **ReadoutSpeed** { **RO_Fixed** =0x0, **RO_pll_80Mbits_s** =0x1 }
- enum **SerialStrobeType** { **SS_NoStrobe** =0x0, **SS_DSStrobe** =0x1, **SS_LeadingTrailingStrobe** =0x2, **S↩ S_LeadingEdge** =0x3 }
- enum **ReadoutSingleCycleSpeed** {
  RSC_40Mbits_s =0x0, **RSC_20Mbits_s** =0x1, **RSC_10Mbits_s** =0x2, **RSC_5Mbits_s** =0x3,
  RSC_2p5Mbits_s =0x4, **RSC_1p25Mbits_s** =0x5, **RSC_625kbits_s** =0x6, **RSC_312p5kbits_s** =0x7 }

- enum **RegisterName** {
  rTestSelect =0, **rEnableErrorMark**, **rEnableErrorBypass**, **rEnableError**,
  rReadoutSingleCycleSpeed, **rSerialDelay**, **rStrobeSelect**, **rReadoutSpeedSelect**,
  rTokenDelay, **rEnableLocalTrailer**, **rEnableLocalHeader**, **rEnableGlobalTrailer**,
  rEnableGlobalHeader, **rKeepToken**, **rMaster**, **rEnableBytewise**,
  rEnableSerial, **rEnableJTAGReadout**, **rTDCId**, **rSelectBypassInputs**,
  rReadoutFIFOSize, **rRejectCountOffset**, **rSearchWindow**, **rMatchWindow**,
  rLeadingResolution, **rMaxEventSize**, **rRejectFIFOFull**, **rEnableReadoutOccupancy**,
  rEnableReadoutSeparator, **rEnableOverflowDetect**, **rEnableRelative**, **rEnableAutomaticReject**,
  rEventCountOffset, **rTriggerCountOffset**, **rEnableSetCountersOnBunchReset**, **rEnableMasterReset↩Code**,
  rEnableMasterResetOnEventReset, **rEnableResetChannelBufferWhenSeparator**, **rEnableSeparator↩OnEventReset**, **rEnableSeparatorOnBunchReset**,
  rEnableDirectEventReset, **rEnableDirectBunchReset**, **rEnableDirectTrigger**, **rOffset**,
  rCoarseCountOffset, **rDLLTapAdjust**, **rRCAdjust**, **rLowPowerMode**,
  rWidthSelect, **rVernierOffset**, **rDLLControl**, **rDeadTime**,
  rTestInvert, **rTestMode**, **rTrailing**, **rLeading**,
  rModeRCCompression, **rModeRC**, **rDLLMode**, **rPLLControl**,
  rSerialClockDelay, **rIOClockDelay**, **rCoreClockDelay**, **rDLLClockDelay**,
  rSerialClockSource, **rIOClockSource**, **rCoreClockSource**, **rDLLClockSource**,
  rRollOver, **rEnableMatching**, **rEnablePair**, **rEnableTTLSerial**,
  rEnableTTLControl, **rEnableTTLReset**, **rEnableTTLClock**, **rEnableTTLHit**,
  rSetupParity, **rNumRegisters** }

Public Member Functions

- unsigned short **GetNumRegisters** () const
- **TDCSetup** (const TDCSetup &c)
- **TDCSetup** (const std::vector< uint8_t > &v, bool reverse=false)
- void SetEnableErrorMark (const bool em)

  Mark events with error if global error signal is set.
- bool **GetEnableErrorMark** () const
- void SetEnableErrorBypass (const bool eb)

  Bypass TDC chip if global error signal is set.
- bool **GetEnableErrorBypass** () const
- void SetEnableError (const uint16_t &err)

  Enable internal error types for generation of global error signals.
- uint16_t **GetEnableError** () const
- void SetEnableSerial (const bool es)

  Enable of serial read-out (otherwise parallel read-out)
- bool **GetEnableSerial** () const
- void SetEnableJTAGReadout (const bool jr)

  Enable of read-out via JTAG.
- bool **GetEnableJTAGReadout** () const
- void SetReadoutFIFOSize (int rfs)

  Effective size of readout FIFO.
- int **GetReadoutFIFOSize** () const
- void SetRejectCountOffset (uint16_t rco)

  Set the offset in reject counter (defines reject latency together with coarse count offset)
- uint16_t GetRejectCountOffset () const

  Extract the offset in reject counter.
- void SetSearchWindow (uint16_t sw)

  Set the search window (in multiples of clock cycles: 0=25 ns, 1=50 ns, ...)
- uint16_t GetSearchWindow () const

Extract the search window (in multiples of clock cycles: 0=25 ns, 1=50 ns, ...)

- void SetMatchWindow (uint16_t mw)

  Set the matching window (in multiples of clock cycles: 0=25 ns, 1=50 ns, ...)
- uint16_t GetMatchWindow () const

  Extract the matching window (in multiples of clock cycles: 0=25 ns, 1=50 ns, ...)
- void **SetEdgeResolution** (const EdgeResolution r)
- EdgeResolution **GetEdgeResolution** () const
- void SetMaxEventSize (int sz=-1)

  Set the maximum number of hits per event.
- uint8_t GetMaxEventSize () const

  Extract the maximum number of hits per event.
- void SetRejectFIFOFull (const bool rej=true)

  Reject hits when readout FIFO full.
- bool GetRejectFIFOFull () const

  Are hits rejected when readout FIFO is full?
- void SetEnableReadoutOccupancy (const bool ro=true)

  Enable the readout of buffer occupancies for each event (for debugging purposes)
- bool **GetEnableReadoutOccupancy** () const
- void SetEnableReadoutSeparator (const bool ro=true)

  Enable the readout of separators for each event (for debugging purposes, valid if readout of occupancies is enabled)
- bool **GetEnableReadoutSeparator** () const
- void SetEventCountOffset (uint16_t eco)

  Set offset for the event counter.
- uint16_t **GetEventCountOffset** () const
- void SetTriggerCountOffset (uint16_t tco)

  Set offset for the trigger time tag counter to set effective trigger latency.
- uint16_t GetTriggerCountOffset () const

  Extract trigger time tag count offset.
- void SetChannelOffset (int channel, uint16_t offset)

  Set the time offset for one single channel.
- uint16_t GetChannelOffset (int channel) const

  Return the offset for one single channel.
- void SetAllChannelsOffset (uint16_t offset)

  Set the time offset for all channels.
- void SetCoarseCountOffset (uint16_t cco)

  Set offset for the coarse time counter.
- uint16_t GetCoarseCountOffset () const

  Extract offset for the coarse time counter.
- void SetDLLAdjustment (int tap, uint8_t adj)

  Set the DLL taps adjustments with a resolution of ∼10 ps.
- uint8_t GetDLLAdjustment (int tap) const

  Set the adjustment of DLL taps.
- void SetAllTapsDLLAdjustment (uint8_t adj)

  Extract the adjustment of DLL taps.
- void **SetDLLAdjustmentWord** (uint16_t word)
- uint16_t **GetDLLAdjustmentWord** () const
- void SetRCAdjustment (int tap, uint8_t adj)

  Set the adjustment of the RC delay line.
- uint8_t GetRCAdjustment (int tap)

  Extract the adjustment of the RC delay line.
- void **SetRCAdjustmentWord** (uint16_t word)

- uint16_t **GetRCAdjustmentWord** () const
- void SetWidthResolution (const WidthResolution r)

  Set the pulse width resolution when paired measurements are performed.
- WidthResolution GetWidthResolution () const

  Extract the pulse width resolution when paired measurements are performed.
- void SetVernierOffset (const uint8_t vo)

  Set the offset in vernier decoding.
- uint8_t GetVernierOffset () const

  Extract the offset in vernier decoding.
- void SetDeadTime (const DeadTime dt)

  Channel dead time between hits.
- DeadTime **GetDeadTime** () const
- void SetTestInvert (const bool ti=true)

  Automatic inversion of test pattern. Only used during production testing.
- bool **GetTestInvert** () const
- void SetTestMode (const bool tm=true)

  Test mode where hit data are taken from coretest. Only used during production testing.
- bool **GetTestMode** () const
- void SetTrailingMode (const bool trail=true)

  Enable/disable the detection of trailing edges.
- bool GetTrailingMode () const

  Extract the status for the detection of trailing edges.
- void SetLeadingMode (const bool lead=true)

  Enable the detection of leading edges.
- bool GetLeadingMode () const

  Extract the status for the detection of leading edges.
- void SetTriggerMatchingMode (const bool trig=true)

  Set the enable status of trigger matching mode.
- bool GetTriggerMatchingMode () const

  Extract the enable status of trigger matching mode.
- void SetEdgesPairing (const bool pair=true)

  Enable the pairing of leading and trailing edges (overrides individual enable of leading/trailing edges)
- bool **GetEdgesPairing** () const
- void SetSetupParity (const bool sp=true)

  Set the parity of setup data (should be an even parity)
- bool GetSetupParity () const

  Extract the parity of setup data (should be an even parity)
- void SetConstantValues ()

  Ensure that the critical constant values are properly set in the setup word.
- uint16_t GetTriggerLatency () const

  Effective trigger latency in number of clock cycles (when no counter roll-over is used)
- void SetTDCId (const uint8_t id=0x0)

  Set the unique identifier of the TDC object on the board.
- uint16_t GetTDCId () const

  Get the unique identifier of the TDC object on the board.
- void SetEnableTTLSerial (const bool ts=true)

  Enable LV TTL inputs on serial registers, and disable their drivers.
- bool **GetEnableTTLSerial** () const
- void SetEnableTTLControl (const bool tc=true)

  Enable LV TTL inputs on control registers.
- bool **GetEnableTTLControl** () const

- void SetEnableTTLReset (const bool tr=true)

  Enable LV TTL input on reset, otherwise uses LVDS input levels.
- bool **GetEnableTTLReset** () const
- void SetEnableTTLClock (const bool tc=true)

  Enable LV TTL inputs on: clk, aux_clock, otherwise uses LVDS input levels.
- bool **GetEnableTTLClock** () const
- void SetEnableTTLHit (const bool th=true)

  Enable LV TTL input on hit[31:0], otherwise uses LVDS input levels.
- bool **GetEnableTTLHit** () const
- void SetRollOver (const uint16_t ro=0xFFF)

  Counter roll over value, defining maximal count value from where counters will be reset to 0.
- uint16_t **GetRollOver** () const
- void SetPLLControl (const uint8_t charge_pump_current=0x4, const bool power_down_mode=false, const bool enable_test_outputs=false, const bool invert_connection_to_status=false)

  Control of PLL.
- void **SetPLLControlWord** (uint16_t word)
- uint16_t **GetPLLControlWord** () const
- void SetDLLMode (const DLLSpeedMode dsm)

  Selection of DLL speed mode.
- DLLSpeedMode **GetDLLMode** () const
- void SetModeRC (const bool mr=true)

  Enable of RR delay lines mode (in very high resolution mode) ; only for channels 0-4-8-12-16-20-24-28 active.
- bool **GetModeRC** () const
- void SetModeRCCompression (const bool mrc=true)

  Perform RC interpolation on-chip (only valid in very high resolution mode)
- bool **GetModeRCCompression** () const
- void SetEnableRelative (const bool er=true)
- bool **GetEnableRelative** () const
- void Dump (int verb=1, std::ostream &os=std::cout) const

  Printout all useful values of this setup register into an output stream.
- std::string **GetXML** () const
- uint32_t **GetValue** (const RegisterName &v)

Additional Inherited Members

3.6.1 Detailed Description

Setup word to be sent to the HPTDC chip.

Object handling the setup word provided by/to the HPTDC chip

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Date

16 Apr 2015
May 2016

3.6.2 Member Function Documentation

3.6.2.1 bool PPSTimingMB::TDCSetup::GetRejectFIFOFull ( ) const [inline]

Are hits rejected when readout FIFO is full?

Extract whether or not hits are rejected once FIFO is full.

3.6.2.2 void PPSTimingMB::TDCSetup::SetEnableRelative (const bool *er* = true) [inline]

Enable read-out of relative time to trigger time tag. Only valid when using trigger matching mode.

3.6.2.3 void PPSTimingMB::TDCSetup::SetEnableTTLControl (const bool *tc* = true) [inline]

Enable LV TTL inputs on control registers.

Enable LV TTL input on:

- trigger,
- bunch_reset,
- event_reset,
- encoded_control, otherwise uses LVDS input levels.

3.6.2.4 void PPSTimingMB::TDCSetup::SetEnableTTLSerial (const bool *ts* = true) [inline]

Enable LV TTL inputs on serial registers, and disable their drivers.

Enable LV TTL input on:

- serial_in,
- serial_bypass_in,
- token_in,
- token_bypass_in, otherwise uses LVDS input levels. Disable LVDS drivers on:
- serial_out,
- strobe_out,
- token_out.

3.6.2.5 void PPSTimingMB::TDCSetup::SetMaxEventSize (int *sz* = −1) [inline]

Set the maximum number of hits per event.

Set the maximum number of hits that can be recorded for each event. It is always rounded to the next power of 2 (in the range 0-128), and if lower than 0 or bigger than 128 then set to unimited.

3.6.2.6 void PPSTimingMB::TDCSetup::SetRejectFIFOFull (const bool *rej* = true) [inline]

Reject hits when readout FIFO full.

Set whether or not hits are rejected once FIFO is full.

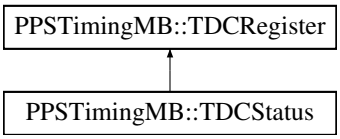
The documentation for this class was generated from the following file:

- include/TDCSetup.h

3.7 PPSTimingMB::TDCStatus Class Reference

`#include <TDCStatus.h>`

Inheritance diagram for PPSTimingMB::TDCStatus:



Classes

- struct ErrorType

  Type of error encountered by the HPTDC.

Public Types

- typedef struct PPSTimingMB::TDCStatus::ErrorType ErrorType

  Type of error encountered by the HPTDC.

Public Member Functions

- TDCStatus ()

  Initialise a status register with all hardcoded values.
- TDCStatus (const std::vector< uint8_t > &words)

  Initialise a status register from a vector of 8-bit words.
- void SetConstantValues ()

  Set the hardcoded values to the register.
- ErrorType Error () const

  Retrieve the list of errors monitored.
- bool HasToken () const

  TDC have read-out token.
- uint16_t FIFOOccupancy () const

  Occupancy of readout FIFO.
- bool FIFOFull () const

  It the readout FIFO full?
- bool FIFOEmpty () const

  It the readout FIFO empty?
- uint32_t L1Occupancy (unsigned short group=-1) const

  Occupancy of L1 buffer in channels of a group (or all groups)
- uint16_t TriggerFIFOOccupancy () const

  Occupancy of trigger FIFO.
- bool TriggerFIFOFull () const

  Is the trigger FIFO full?
- bool TriggerFIFOEmpty () const

  Is the trigger FIFO empty?
- bool DLLLock () const

  Is the DLL in lock state?
- void Dump (int verb=1, std::ostream &os=std::cout) const

  Printout all useful values of this status register into an output stream.

Friends

- std::ostream & operator<< (std::ostream &out, const ErrorType &err)
  Printout the error type(s) into the output stream.

Additional Inherited Members

3.7.1 Detailed Description

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The documentation for this class was generated from the following file:

- include/TDCStatus.h

3.8 PPSTimingMB::XMLHandler Class Reference

XML input/output handler.

`#include <XMLHandler.h>`

Classes

- class PropertiesMap
  A map of properties retrieved from a parsed XML file.

Public Member Functions

- std::string **WriteRegister** (const TDCControl &r)
- std::string **WriteRegister** (const TDCSetup &r)
- void **ReadRegister** (std::string, TDCControl *c)
- void **ReadRegister** (std::string, TDCSetup *s)

3.8.1 Detailed Description

XML input/output handler.

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- include/XMLHandler.h

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