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# Converting between hardware output files and trigger digis

Complete:

## Goal of this page

This page documents CMSSW modules for conversion between hardware ASCII dump files and trigger digis.

## TPG TextToDigi modules

ECAL and HCAL TPG TextToDigi modules

- **SimCalorimetry/EcalElectronicsEmulation/EcalFEToDigi** converts ASCII file TCC input to ECAL trigger primitive digis :
- **IORawData/CaloPatterns/HcalPatternSource** converts HCAL TPG XML pattern file to digis :
- **IORawData/CaloPatterns/HtrPatternTool** converts simulated hits to HCAL TPG XML pattern file :

## L1 Trigger TextToDigi modules

Latest tag is **V00-00-00**. To align events when using multiple files that are not synchronised, these modules take a FileEventOffset parameter that will ignore the first N events of the text file. Note that if the job attempts to read more events from a file than are present, a fatal exception will be thrown.

- **TextToRaw** converts a GCT ascii file to FEDRawData objects :
- **RawToText** reverses above module for GCT :
- **SourceCardTextToRctDigi** converts GCT Source Card ascii dump to RCT digis :
- **RctDigiToSourceCardText** converts RCT digis to GCT Source Card ascii dump (for loading patterns to Source Cards) :
- **RctTextToRctDigi** converts RCT ascii dump (for 1 crate) to RCT digis :
- **RctDigiToRctText** converts RCT digis to RCT JetCaptureCard ascii dump :

*(We may wish to include a module that will convert a GT PSB ASCII dump to GCT digis: done!)*

- **GtPsbTextToDigi** converts GT PSB ascii dump to (for now GCT) digis :
- **GtPsbTextToDigi** reverses above module :
- **RctInputTextToDigi** converts ascii file (format as from saveRctInput) to ECAL and HCAL TPG input for RCT : Complete:

## L1 Trigger RawToDigi

Use in combination with a TextToRaw module to convert an ASCII dump of a FED DAQ packet to digis.

- **SWGGuideGctRawToDigi** - GCT unpacker :  (Use tag **V00-01-03**)

## Table of modules

System	!TextToDigi	!DigiToText	Test	Status
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ECAL	<a href="#">EcalFEtoDigi</a>	<a href="#">EcalSimRawData</a>	<a href="#">d2d</a> <a href="#">t2t</a>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
HCAL	<a href="#">[[[]]]</a>	<a href="#">[[[]]]</a>	<a href="#">[[[t2d]]]</a> <a href="#">[[[d2t]]]</a>	
RCT	<a href="#">[[[]]]</a>	<a href="#">[[[]]]</a>	<a href="#">[[[t2d]]]</a> <a href="#">[[[d2t]]]</a>	
GCT	<a href="#">[[[]]]</a>	<a href="#">[[[]]]</a>	<a href="#">[[[t2d]]]</a> <a href="#">[[[d2t]]]</a>	
DT	<a href="#">[[[]]]</a>	<a href="#">[[[]]]</a>	<a href="#">[[[t2d]]]</a> <a href="#">[[[d2t]]]</a>	
DTTF	<a href="#">[[[]]]</a>	<a href="#">[[[]]]</a>	<a href="#">[[[t2d]]]</a> <a href="#">[[[d2t]]]</a>	
CSCI	<a href="#">[[[]]]</a>	<a href="#">[[[]]]</a>	<a href="#">[[[t2d]]]</a> <a href="#">[[[d2t]]]</a>	
CSCTF	<a href="#">[[[]]]</a>	<a href="#">[[[]]]</a>	<a href="#">[[[t2d]]]</a> <a href="#">[[[d2t]]]</a>	
GMT	<a href="#">[[[]]]</a>	<a href="#">[[[]]]</a>	<a href="#">[[[t2d]]]</a> <a href="#">[[[d2t]]]</a>	
GT	<a href="#">[[[]]]</a>	<a href="#">[[[]]]</a>	<a href="#">[[[t2d]]]</a> <a href="#">[[[d2t]]]</a>	

## Review Status

Editor/Reviewer and date	Comments
JimBrooke - 27 Feb 2007	page content last edited
CMSUserSupport - 12 Mar 2007	moved page into swguide
JennyWilliams - 13 Mar 2007	editing to match swguide layout
NunoLeonardo - 20 Nov 2007	global update

Responsible: JimBrooke

Last reviewed by: MostRecentReviewer and date

This topic: CMSPublic > SWGuideL1TextToDigi

Topic revision: r14 - 2009-01-22 - JimBrooke



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