ATLAS project	**Engineering Specification** **ATLAS Read Out Drivers: ID in the RODs**		
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Engineering Specification

ATLAS-Project

ATLAS Read Out Drivers: ID in the RODs

Abstract

This Note is about the ROD IDs

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The aim of this note is to explain the different IDs which have to be programmed in the configuration ROM of the RODs.

The IDs that the RODs have to worry about are:-

- *TDAQ IDs*
  - *Source ID (defined in Event Format document ref.1)*
- *VMEbus IDs*
  - *Manufacturer's ID (defined in the VME64x bus spec.)*
  - *Revision ID (defined in the VME64x bus spec.)*
  - *Board ID (defined in the VME64x bus spec.)*

TDAQ IDs

(Defined in ref 1. Section 5.2)

The structure of the Source ID, as shown below, consists of four byte fields. The combination of these four fields allows the Source ID to be unique across all sub-detectors.

Byte 3	*Byte 2*	*Byte 1*	*Byte 0*
Reserved	*Module Type*	*Sub-detector ID*	*Module ID*

For the RODs; Byte 3 is reserved and should be initialized to a value of zero. The Module Type is 0x00 for a ROD. The Sub-detector ID is defined in section 5.3 of ref 1. The Module ID should be the serial number of the board. For convenience, the serial number should be visible on the card (in bar code?) and preferably on the front panel.

The Source ID should be stored in the user defined section of the VME64x Configuration ROM starting at offset 0x1000 from the CR/CSR space base address.

VMEbus64 IDs

(defined in ref 2. Table 12. Configuration ROM Assignments – Classification)

Address offset	Bytes	Value	Definition
0x27 – 0x2F	3	08 00 30	Manufacturer's ID (CERN 080030_{16})
0x33 – 0x3F	4		Board ID
0x43 – 0x4F	4		Revision ID

If designed at CERN the Manufacturer's ID is 080030_{16}

Board IDs describe the type of board. It does not contain the serial number. The PH/ESS group offers a tool http://ess.web.cern.ch/ESS/boardIDistribution/PHP/login_next.html for distributing VME64x Board IDs (beware you have to say they are "CERN designs"). The user types in information about the board and receives a Board ID. However the Board ID is random. In order to correlate between the two, when filling in the field "Device details". I would propose to put in square brackets the same information as found in the TDAQ ID.

Experiment	*ATLAS*
Subsystem	*Name of subsystem [Sub-detector ID]*
Module name	*Name of module [Module Type]*

Revision ID is the number which represents the revision level of the board.

References

Ref 1. The raw event format in the ATLAS Trigger & DAQ http://doc.cern.ch//archive/electronic/cern/others/atlnot/Note/daq/daq-98-129.pdf

Ref 2. VMEbus recommendations http://atlas.web.cern.ch/Atlas/GROUPS/FRONTEND/documents/ROD_VME83.pdf