GLIB Modules & Functionalities

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This document describes how to interact with the GLIB modules.

Contents

OptoHybrid Forward

This module forwards all the requests to the OptoHybrid.

Addressing

Module ID   4
Address   0x4ZYXXXXX
                0b 0100 ZZZZ YYYY XXXX XXXX XXXX XXXX XXXX

Description

All the requests made to this module are forwarded to the OptoHybrid n°Y of the GLIB. The Z parameter indicates which module on the OptoHybrid will handle the request (see *OptoHybrid Modules & Functionalities* for more information).

Tracking Data Readout

This module stores the tracking data coming from the OptoHybrid into a buffer and allows to readout the data through IPBus.

Addressing

Module ID   5
Address   0x50Y00000
               0b 0101 0000 YYYY 0000 0000 0000 0000 0000

Description

To read out data, the software must operate a FIFO read on the register. It then has to form the data packets by regrouping the 32-bits words. Writing to the register will empty the buffer which is recommended after flashing the firmware onto the GLIB or OptoHybrid.

Counters

This module holds all the counters of the GLIB. Writing to a given register will reset its value.

Addressing

Module ID   6
Address   0x600000YY
                0b 0110 0000 0000 0000 0000 0000 YYYY YYYY

Y register	Mode	Function
IPBus		
0 - 4	Read	*IPBus strobes* Order: OptoHybrid 0, OptoHybrid 1, Tracking data 0, Tracking data 1, Counters
5 - 9	Read	*IPBus acknowledgments*
T1 commands		
10 - 13	Read	*T1 from AMC13* Order: LV1A, Calpulse, Resync, BC0
GTX		
14 - 15	Read	*Tracking links error*
16 - 17	Read	*Trigger links error*