|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 63 58 | 57 52 | 51 46 | 45 | 76 0 | | | | | |
| RID | TID | AGE | ACK | Payload Area | | | | | |
|  |  |  |  | 44 39 | 38 37 | 36 | 35 32 | 31 8 | 7 0 |
| RID | TID | AGE | ACK | Type | ~2 | We | ~4 | Addr24 | Data8 |
|  |  |  |  |  |  | |  |  |  |

RID – id of intended receiver ( 63= global broadcast)

* all receivers should pay attention to a global broadcast

TID – id of transmitter

ACK – acknowledge receipt of packet

AGE – age of the packet in ring cycles

* the packet gets to being too old (63) it is automatically deleted.

ID #0 means the packet is empty (no receiver)

ID #1 to #61 are used by nodes

ID #62 is the system controller – it takes care of interfacing to the outside world I/O and aging the packets as they travel around the ring.

|  |  |  |  |
| --- | --- | --- | --- |
| Regno | Read | Write |  |
| 0x00 | packet data [31:0] | packet data [31:0] | On a read this register reflects the oldest incoming packet data from the fifo. On a write the packet output buffer is updated. |
| 0x04 | packet data [63:32] | packet data [63:32] |
| 0x08 | packet data [95:64] | packet data [95:64] |
| 0x0C | reserved |  | These registers are reserved, possibly for a larger packet size. |
| 0x10 | reserved |  |
| 0x14 | reserved |  |
| 0x18 | advance fifo ptr | tx pulse | reading this register advances the fifo pointer, writing this register causes the packet data to be transmitted. |
| 0x1C | status reg  Bits 5-0 read count  bit 15 indicates transmit status | status reg | This register is a read-only status register. The low order five bits indicate how many packets are in the read fifo.  Bit 15 indicates the transmit status, 0 = ready for new transmit data, 1 = packet not transmitted yet. |

The controller automatically inserts the transmitter id into the packet.

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 000000 to 7fffff | local ram |  |
| c00000 to cfffff | RAM access to specific nodes |  |
| dff000 to dffffff | global broadcast area |  |
| e0000 to efffff | global system area |  |
| f00000 to ffffff | global ROM area |  |
|  |  |  |